

A horizontal teal bar with a white circular icon containing a smaller teal circle.

Annual national accounts sources and methods



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List of abbreviations

2008SNA – System of National Accounts 2008

AES – Annual Enterprise Survey

ANZSIC06 – Australia and New Zealand Standard Industrial Classification 2006

ANZSIC96 – Australia and New Zealand Standard Industrial Classification 1996

BoP – balance of payments

CFIS – Crown Financial Information System

CoFC – consumption of fixed capital

CPI – consumers price index

FCE – final consumption expenditure

FISIM – financial intermediation services indirectly measured

GDP – gross domestic product

GFCF – gross fixed capital formation

GST – goods and services tax

HES – Household Economic Survey

IMF – International Monetary Fund

LAC – Local Authority Census

NZSNA – New Zealand System of National Accounts

OECD – Organisation for Economic Co-operation and Development

PIM – Perpetual Inventory Model (capital stock model)

RBNZ – Reserve Bank of New Zealand

RTS – Retail Trade Survey



1 Introduction to national accounts sources and methods

Purpose

This overview of sources and methods is the pilot of a guide to the data and methods we use to compile the annual national accounts in New Zealand. The primary purpose is to specify the data and methods we currently use to compile particular published statistics, released as the National Accounts (Industry Benchmarks) and National Accounts (Income and Expenditure).

This document and the associated tables provide a reference for users of New Zealand's national accounts.

Feedback

We encourage user feedback about what other information about concepts, sources, and methods they need. This feedback will help us target future updates.

Please email info@stats.govt.nz, with 'NA sources and methods' in the subject line, to give us feedback on how your information needs are met by this document.

Our data users

A wide range of users require information about where the national accounts data comes from and how it is used to compile the accounts. Some have broad, general needs for information about the main aggregates (eg media, those involved in teaching and research, and secondary and tertiary students).

Other technical users have highly specialised needs. Government agencies such as the Treasury and the Reserve Bank, and economists from research organisations and major banks, need to understand the sources and methods to interpret the published data they may use in their forecasting. International agencies such as the International Monetary Fund (IMF), World Bank, United Nations Statistical Division, the Organisation for Economic Co-operation and Development (OECD), and rating agencies require detailed information to monitor our adherence to international standards. Other statistical agencies can use the detail to compare against their own practices.

Scope

This document provides an overview of the conceptual framework of the national accounts, and other information, to help interpret the sources and methods in the three attached sets of tables:

1. Industry
2. Expenditure
3. Institutional sector accounts.

Some outputs related to the annual national accounts are outside this document's scope. They have existing sources and methods documents (see appendix 2):

- annual and quarterly chain volume measure of gross domestic product (GDP)
- productivity statistics
- balance of payments (BoP)
- regional GDP
- tourism satellite account.

Annual national accounts' outputs

New Zealand's annual national accounts provide annual time series of economic statistics. They include our publication of industry benchmarks, and sectoral measures of income, expenditure, and savings.

National Accounts (Industry Benchmarks)

This information release presents detailed annual industry data on production, investment, and capital stock. The data is analysed in a supply-use balancing framework to reconcile the production and expenditure GDP measures. It provides benchmarks for the level of economic activity within each industry, which update and maintain the quality of quarterly GDP statistics. Each release contains tables on:

- GDP: production, income, and expenditure measures
- industry output, intermediate consumption, value added, compensation of employees, and gross operating surplus
- gross fixed capital formation and net capital stock, by asset type and industry
- taxes on production and imports
- agriculture outputs and inputs by product.

This release presents detailed information up to the latest balanced year ending March. There is a time lag of about two and half years. For example, the release in November 2014 contains balanced data up to the year ending March 2012.

See [National Accounts \(Industry Benchmarks\) – information releases](#) for more about the industry benchmarks.

See [Supply and use tables](#) for more information about supply/use balancing.

National Accounts (Income and Expenditure)

This release provides key annual information on:

- institutional sector accounts (ISAs)
- consolidated accounts of the nation
- gross fixed capital formation and capital stock, by asset type and sector of ownership.

The ISAs present information about income, expenditure, and saving for the six sectors of the economy: producer enterprises, financial intermediaries, government, non-profit institutions serving households, households, and the rest of the world. The detailed and inter-related information in this release informs studies on the source and disposal of incomes, income distribution, the origin of savings, savings behaviour, capital investment and its financing, government expenditure, and taxation. It can be linked to other accounts, such as GDP by industry and BoP, to make informed economic and monetary policy decisions. Apart from the data for the latest balanced year, the release also contains provisional estimates for selected sectors and variables for the two most recent years ending March. For example, the release in November 2014 contains provisional estimates for the years ending March 2013 and 2014.

The consolidated accounts of the nation contain data up to the latest March year. They record the incomes earned by various groups within the economy, their consumption and investment, and the country's economic relationship with the rest of the world.

The capital tables present information about the stocks and flows of investment in fixed assets (in current prices) for the latest March years.

See [National Accounts \(Income and Expenditure\) – information releases](#) for more information.

Background on conceptual framework

The national accounts are based on an international framework, with standards agreed to, published, and promoted by international agencies – the United Nations, IMF, World Bank, OECD, and Eurostat. This framework allows cross-country comparison, but also allows countries to measure things in different ways, according to the available data. Periodically, the standards are revised to reflect new agreements on long-standing aspects, and responses to changes in global economies.

The *System of National Accounts 2008* (2008SNA) is the latest version of the international statistical standard for the national accounts. It underlies the annual national accounts measures we publish from November 2014.

Latest improvements to national accounts

This sources and methods document reflects 2008SNA. The new standards meet the changing information needs for our modern economy, improves relevance, and maintains international comparability.

Here is a brief summary of the 2008SNA changes affecting our annual national accounts.

Assets

The most substantive change to the international standards is that the asset boundary expands to include new types of assets. This better reflects that durable items are not used up in the production process but provide a flow of capital services over time.

Research and development

Research and development (R&D) is the most predominant new type of asset. Capitalising R&D expenditure reflects the increasing importance of intangible assets, which are termed intellectual property products within the standards. R&D assets are often seen as a hallmark of a modern economy.

Weapons systems

Previously, we treated weapons delivery systems (eg fighter aircraft or tanks) as an expense. Under the new standards, this expenditure becomes an investment, because we now recognise weapons systems as providing services beyond the time they were purchased.

Valuing assets produced in-house

We often measure the value of assets produced in-house by enterprises as the sum of the cost of inputs used in producing the asset, as market prices are often not available. The updated standards revise the recommended valuation method to also include a return to capital in the costs.

An example: a farmer constructing fences uses post-hole boring machinery. The cost of fence construction needs to include a rate of return on investment in the machinery. This rate reflects the cost of funds used to invest in machinery.

Financial sector

The standards are updated to reflect developments in a fast-changing segment of many economies.

Service fees on non-life insurance

The new standards take account of the longer-term view of claims behaviour, and exceptionally large claims (eg following an irregular or exceptional event).

Unfunded pension schemes

For defined-benefit employer pension schemes we record the true liability of the employers, and match it to a household pension asset, whether or not the schemes themselves may be over- or under-funded. This treatment applies to both funded and unfunded schemes. For New Zealand, the main effect is from revising the treatment of the Government Superannuation Fund – our fully recording the evolution of the employer liability leads to higher household saving that is offset by a fall in government saving.

Investment funds

Retained earnings of investment funds, which include collective investment schemes (eg mutual funds and unit trusts), are earnings that are not distributed to unit holders and are kept by the fund instead. We now attribute the retained earnings of the funds to unit or shareholders, who are then deemed to reinvest them back into the funds. Previously, we recorded the retained earnings as a revaluation of the investment and the savings attributed to the fund, rather than the investors. The change in treatment brings this in line with the treatment applied to other collective investment schemes (eg life insurance and pension funds) where we attribute all earnings to the beneficiaries.

See [Preview of 2014 national accounts improvements](#) for further details of the changes to sources and methods from implementing 2008SNA.



2 Key concepts and overview of the compilation process

This section describes some key concepts in the *System of National Accounts* (SNA), and provides a high-level overview of the process we use for compiling New Zealand's annual national accounts.

The *New Zealand System of National Accounts* (NZSNA) provides a comprehensive picture of our economy and is based on the internationally agreed 2008SNA framework to analyse economic activity. The national accounts have a very similar role to business accounts but on a larger scale. The national accounts summarise all transactions taking place in the whole economy, using consistent definitions and concepts, and present this information in an agreed structure. The general conceptual difference is that business accounts are based on financial accounting standards, and the national accounts are based on an economic framework.

The key parts of this overview are:

- the conceptual elements of the SNA: transactions and transactors
- the sequence of accounts and their corresponding economic activities
- three measures of gross domestic product (GDP)
- annual benchmarks from supply and use balancing
- provisional estimates
- revisions in the national accounts statistics.

SNA conceptual elements: transactions and transactors

The SNA provides information about the behaviour of institutional units and the activities in which they engage – production, consumption, and the accumulation of assets – in an analytically useful form. We achieve this by recording the exchange of goods, services, and assets between institutional units (as transactions). At the same time, we record other transactions that represent the form of payment for the exchange. This may be goods, a service, or an asset of similar value, but is often some form of financial claim – including notes and coins.

The defining characteristic of an institutional unit (a transactor) is that it is capable of owning goods and assets, incurring liabilities, and engaging in economic activities and transactions with other units – in its own right. The SNA distinguishes two main kinds of institutional units – households and legal entities. Legal entities are either entities created for production purposes, mainly corporations and non-profit institutions (NPIs), or entities created by political processes, specifically government units. (2008SNA paragraph 1.9)

For SNA purposes, we group together institutional units that are resident in the economy into five mutually exclusive sectors:

- non-financial corporations
- financial corporations
- government units, including social security funds
- NPIs serving households (NPISHs)
- households.

These five sectors make up a country's total domestic economy. Each sector may be divided into subsectors (2008SNA 1.10). Institutional units resident abroad form the 'rest of the world'. Transactions between residents and non-residents are grouped together as the rest of the world account (2008SNA 1.11).

A new Standard Classification for Institutional Sectors (SCIS) better aligns New Zealand's classifications with the 2008SNA sectors above. We have not yet implemented the new classification into our national accounts (see section 5 for an outline of our current classification system).

See [Institutional sector](#) for more about SCIS.

Sequence of accounts and corresponding economic activities

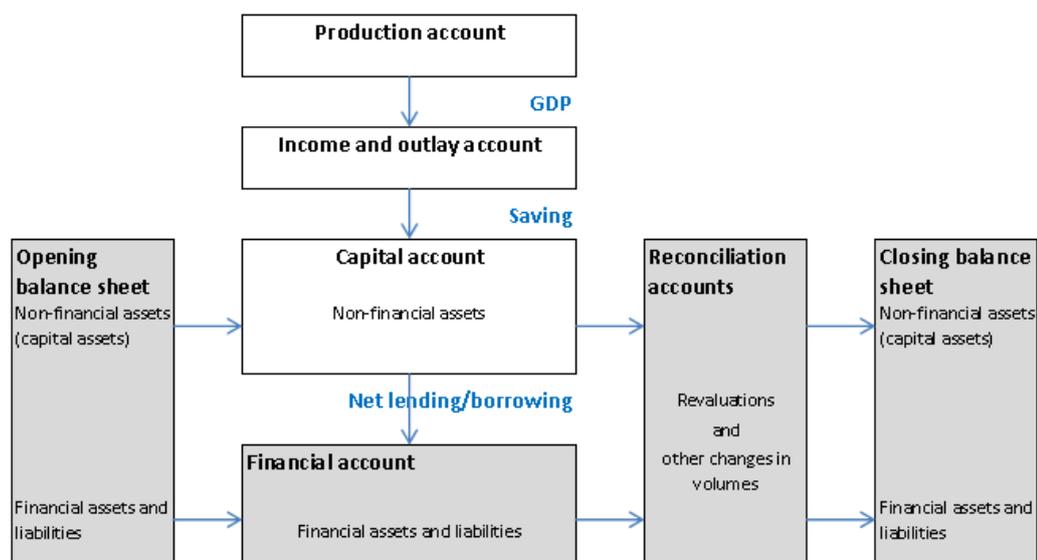
This section briefly summarises the sequence of accounts in the SNA. This sequence can be used for institutional units, institutional sectors, or the whole economy.

Fundamental to the SNA is that goods and services produced in the economy must be consumed, used for capital formation, or exported; all goods and services used within the economy must be produced in the economy or imported. (2008SNA 1.13)

The SNA elaborates this point into a sequence of interconnected flow accounts. This sequence links to different types of economic activity that occur within a given time period. Balance sheets record the values of the stocks of assets and liabilities held by institutional units or sectors at the beginning and end of the period. Each flow relates to a particular kind of activity (eg production, or income generation, distribution, redistribution, or use). Each account shows the resources available to the institutional units and how they use these resources.

Figure 1 shows an overview of the sequence of accounts.

Figure 1
Overview of SNA sequence of accounts



We balance an account by introducing a balancing item, defined residually as the difference between the total resources recorded on one side of the account and the total uses recorded on the other side. We carry forward the balancing item from one account as the first item in the following account, on the opposite side, which makes the accounts an articulated whole. Because the balancing item encapsulates the net result of the

activities covered by the account, it is an economic construct of considerable interest and analytical significance.

Examples of balancing items include value added (or GDP), disposable income, and saving. The flow accounts and balance sheets are also strongly linked, as we record all the changes over time that affect the assets or liabilities held by institutional units or sectors in one of the flow accounts (2008SNA 1.14).

We call the set of accounts described above the 'sequence of accounts'. Although the accounts need to be presented in a particular order, the activities they describe should not be interpreted as taking place sequentially in time (2008SNA 1.15).

Types of account

The current accounts in figure 1 are the production account, and the income and outlay account. They record the goods and services we produce, the income generated by production, the subsequent distribution and redistribution of income among institutional units, and income used for consumption or saving.

The accumulation accounts are flows that affect entries in the balance sheets at the start and end of the accounting period. The SNA has four accumulation accounts: the capital account, the financial account, and two reconciliation accounts (the 'other change in the volume of assets' account and the revaluation account).

In the NZSNA we compile the national and institutional sector accounts as far as the capital account. The other three accumulation accounts and full balance sheets are still to be developed in New Zealand.

Three gross domestic product measures

Gross domestic product (GDP) measures the goods and services produced by an economy during a given period. It also shows how those goods and services are used, and whether consumed, exported, or stored in inventories for sale in the future.

If all production is aggregated, we would have considerable duplication, because many goods and services produced by one establishment are purchased by another to use in subsequent production. This results in the value of some goods and services becoming incorporated in that of other goods and services.

For the national accounts value added is what's important, so we need to remove the value of intermediate consumption to gain a production value that is free of duplication. This is the concept of production GDP.

For individual producers, output less intermediate consumption measures value added and represents the producers' contribution to GDP. We obtain total GDP by summing the value added of all producers in the economy, and adding taxes and subsidies on production. Alternatively, we can measure GDP through the incomes arising from production during a period, or as the value of goods and services flowing into final uses (eg spending by households and government, investments).

The three different approaches we use to calculate GDP are:

- GDP(P) – in the **production** approach we measure the total value of goods and services produced in New Zealand, after deducting the cost of goods and services used in production. This is also known as the value-added approach.
- GDP(I) – in the **income** approach we directly measure the income received by the owners of the factors of production. These represent the returns to the labour and capital employed (eg wages, salaries, and profits).

- GDP(E) – in the **expenditure** approach to GDP (also known as GDE) we measure the final purchases of goods and services by New Zealand residents. We add exports to domestic consumption, as they represent goods and services produced in New Zealand, while imports are subtracted – they represent goods and services produced by other economies.

New Zealand's national accounts jointly measure GDP(P) and GDP(I) components because there is no independent data to measure all components of GDP(I) directly. Consequently we measure key components of GDP(I) as residuals.

Details of the sources and methods for each GDP measure are in section 3 (GDP(P) and GDP(I), table 1), and section 4 (GDP(E), table 2).

Note: GDP is not a complete measure of welfare. For welfare measures, indicators that include social and environmental statistics need to be looked at alongside economic measures such as GDP.

Annual benchmarks from supply-use balancing

We independently estimate the components making up the GDP production and expenditure measures, using diverse data sources. The combination of survey and other measurement and timing errors in the various components results in a difference between the estimates, known as the statistical discrepancy. We reconcile the components within the supply and use framework, which provides the basis for checking the consistency of the supply and use measures of goods and services. This data confrontation results in balanced GDP and expenditure accounts.

Balancing process

The balancing process basically has three phases. In the first phase we analyse the key aggregates for industry and expenditure components. For the second phase the supply and use framework is filled with detailed data. Aggregate industry data for sales and purchases is split into detailed groups of goods and services, initially using proportions from the previous balanced year. Analysts reduce the largest product imbalances by confronting various data sources, and using their expertise to make adjustments – to reflect a plausible description of economic activity.

In the third phase we use an automated mathematical procedure to remove the remaining product imbalances. The accounts are balanced when, for all industries, total inputs equal total outputs; for commodities, total supply equals total demand. As a result, the statistical discrepancy between the measures of GDP is zero in the years for which we carry out balancing.

Supply-use analysis and balancing are integral parts of compiling the NZSNA. A benefit of analysing flows of products through the economy in a systematic way, simultaneously with analysis of incomes generated by production, is that it improves the accuracy and coherence of the national accounts as a system.

The balanced data (at current prices, or nominal values) provides annual benchmarks for the national accounts and related statistics (eg provisional estimates, quarterly GDP volume measures, regional GDP statistics, productivity statistics, and the tourism satellite accounts).

Provisional estimates

To produce timely estimates of annual GDP, we calculate provisional estimates for components of income and expenditure GDP, and the institutional sector accounts. The estimates are considered provisional because much of the data needed for the full supply-use balancing process and ISAs is not yet available.

The accompanying Excel tables 2 and 3 describe provisional estimate sources and methods for each component. Table 1 has a footnote describing the general process for provisional estimates of income components. In the annual release in November 2014, we have provisional estimates for national accounts components for the years ended March 2013 and March 2014.

Revisions to the national accounts outputs

Revisions to Statistics NZ's macroeconomic outputs are part of our compilation and publication cycle, and they improve the quality of the statistics. We communicate foreseeable and significant revisions in advance.

We have three main reasons for revision:

- receiving new or updated information (eg replacing provisional estimates by annual benchmarks from supply-use balancing)
- data or process errors
- major conceptual or methodological changes, including introducing new data sources (eg implementing the new international standard 2008SNA).



3 Production and income measures of GDP

This section provides definitions of the key components of the GDP production and income measures, and other information to help interpret Excel table 1.

The production measure of GDP is based on the concept of value added – the unduplicated value of goods and services produced in a given time period. It includes value added contributions by all industries, plus taxes on production and import duties.

The GDP production measure represents the income available to distribute to employees, business owners, and government. The income measure of GDP also accounts for taxes directly associated with the production process, net of government subsidies on production.

Key components of GDP production and income measures

Output

Output is defined as the goods and services an enterprise (or part of one) produces that become available for use outside that unit, plus any goods and services produced for its own final use.

As a concept, output applies to a producer unit rather than a production process. Therefore output sits in the context of production accounts – which are compiled for producer units, not production processes. Certain goods and services produced by a production process, including services produced by ancillary activities, are used up within the same accounting period by other processes within the same producer unit. Since these goods and services do not leave the unit they are not part of that unit's output.

Disposing of outputs

Goods or services, apart from certain outputs that have special characteristics (eg financial intermediation and wholesale and retail margins), may be disposed of by their owners by:

- being sold at economically significant prices, meaning they have a significant influence on the amount the producers are willing to supply and the amount purchasers wish to buy. For example, if the income from sales over a longer period is far below the costs of production, the price would be economically insignificant
- being bartered in exchange for other goods, services, or assets provided to their employees as compensation in kind, or used for other payments in kind
- entering the producer's inventories before their eventual sale, barter, or other use; uncompleted outputs enter as additions to work-in-progress
- being supplied to another unit belonging to the same enterprise, for use as intermediate inputs into the latter's production
- being retained for the owner's own final consumption or gross fixed capital formation
- being supplied free, or sold at prices that are not economically significant.

In practice, part of the output for any given period may have been withdrawn from inventories of goods produced in previous periods. Therefore we need to deduct the value of such withdrawals from total sales to obtain the value of output produced for the specified period. The accounting identity is:

Value of output = Value of total sales or other uses of goods and services produced as outputs + Value of changes in inventories of goods and services produced as outputs.

Where goods and services are provided to employees free of charge or at a markedly reduced cost, the goods and services (or fringe benefits) are valued at the cost of production in output.

Intermediate consumption

Intermediate consumption consists of the value of the goods and services consumed as inputs by a production process, excluding fixed assets (whose consumption we record as fixed capital consumption). The goods and services may be either transformed or used up by the production process. Some inputs re-emerge after being transformed and incorporated into the outputs (eg grain is transformed into flour, which is transformed into bread).

Other inputs are completely consumed or used up (eg electricity and most services). However, costs incurred by gradually using up fixed assets owned by the enterprise are not included – we record their value's decline as consumption of fixed capital. In contrast, intermediate consumption does include rentals paid to use fixed assets leased from other enterprises, unless the lease requires the lessee to be responsible for costs normally associated with owning the assets.

Intermediate consumption does not include the cost of labour (salaries, wages, or other costs associated with an employment relationship). This is a key distinction between intermediate consumption and compensation of employees. Compensation of employees is a component of GDP(I), and represents the return for input of labour into the production process.

Just as output comprises sales of goods and services plus the net change in inventories, intermediate consumption of goods is not simply the purchase of goods and services. Some goods purchased (in the reference period) are not consumed during the period but are held as inventories at the end of the year. Likewise, some goods are purchased in previous periods and consumed in the reference period. Increases (decreases) in raw material inventories are therefore subtracted (added) to purchases to calculate intermediate consumption.

Taxes on production and imports

We assess taxes on production and imports on producers for the production, sale, purchase, and use of goods and services, and which add to their market prices. These include sales tax, local authority rates, import and excise duties, and fringe benefit tax. In the consolidated accounts of the nation, we include goods and services tax (GST). There are three main categories.

Taxes on products

Taxes on products are taxes payable on goods and services when they are produced, delivered, sold, transferred, or otherwise disposed of by their producers. These taxes are payable per unit of goods or a service. It may be a specific amount per unit of quantity (eg volume, weight), or a specified percentage of the price per unit or value of the goods and services transacted. GST is imposed on all goods and services supplied in New Zealand, other than those exempted.

Registered suppliers of taxable goods and services pay GST on their intermediate purchases but they can claim credit for this tax. As a result of this credit-offset mechanism, the final GST expense levied on registered producers' supplies is generally borne by the domestic consumer. GST is not a cost to businesses unless the business deals in or purchases exempt goods and services, provides employee fringe benefits, or does not register. The NZSNA reflects these valuations. Registered producers' transactions are recorded excluding GST, while those of final consumers (including

producers of exempt goods and services) are recorded at actual market prices (including GST). We remove the potential imbalance between the value produced and the value ultimately consumed by including the item 'GST on production' in the GDP account. This item produces a measure of the GST included in the valuation of the final demand categories.

Taxes and duties on imports become payable when goods cross the border or when services are delivered to resident units by non-resident units. The purchaser of the taxed commodity pays the import duties, not the seller, so we do not record duties in the production accounts as a charge against the value of output. Import duties also appear as part of intermediate and final consumption.

Other taxes on production are all other taxes that enterprises incur from engaging in production. They are payable irrespective of profitability and may be payable on the land, fixed assets, or labour employed in the production process, or on certain activities or transactions. Stamp duty on purchases of commercial land and buildings is part of gross fixed capital formation.

Subsidies

Subsidies are payments government makes to market-oriented producers, who regard them as an addition to income from current production. Subsidies include payments to ensure a guaranteed price, or to enable market prices of goods and services to be held below the cost of production. Only market producers receive subsidies – we regard current grants government makes to households, and producers of private non-profit services make to households and to government non-market producers, as current transfers. Transfers for investment purposes or to cover damage or loss of capital are excluded. We classify these as capital transfers

We regard grants made to government enterprises to compensate for losses in the current year as subsidies, but not those to compensate for past losses. Transfers that local authorities make from rate receipts to finance the their trading departments' losses, and deliberately incurred losses of government trading organisations resulting from government policies to keep prices below the cost of production, are also treated as subsidies.

To counter unemployment, government may establish special or temporary employment schemes. Employers who qualify under these schemes are partly reimbursed for the wages paid to their additional staff. We include the full amount of these wages has been included as 'compensation of employees' in the production account. Where the special work was done in a market-oriented production group, we record the government reimbursement to the employer as a subsidy. Where the work provides non-market government or non-profit services, we treat the reimbursement as a current transfer from government (and record it in the income and outlay account of the recipient) and not as a subsidy, which, by definition, non-market producers cannot receive.

However, the difference between market rents and subsidised rents is treated as 'social benefits in kind' provided by government, and is therefore part of the final consumption expenditure of government. The convention is that government payments for goods and services to market producers should be treated as social benefits in kind rather than subsidies – if those market producers provide the products directly and individually to households, due to social risk or need, and households are legally entitled to them.

Income measure of GDP

The income measure of GDP, the sum of primary incomes distributed by resident producer units, has the following components.

Compensation of employees

Compensation of employees is the total remuneration, in cash or in kind, payable by an enterprise to employees in return for work done. This includes salary and wage payments, whether in cash or in kind (eg fringe benefits) to employees. It also includes contributions paid on employees' behalf to superannuation funds, private pension schemes, the Accident Compensation Corporation, and casualty and life insurance schemes.

When used solely for work purposes, we exclude reimbursements for items such as tools, clothing, and cars from compensation of employees – they are regarded as intermediate consumption.

Operating surplus

Operating surplus measures the surplus or deficit accruing from production before taking account of any interest, rent, or similar charges payable and receivable on financial or tangible non-produced assets the enterprise borrows or rents. Operating surplus is a residual item – it is output at producer's values, less the sum of intermediate consumption, compensation of employees, consumption of fixed capital, and taxes on production and imports net of subsidies. It is approximately equal to accounting profit before direct taxes, dividends, interest paid, and bad debts are deducted, and before interest and dividends received are added. For unincorporated enterprises, this component is called 'mixed income'.

Data sources

This section provides an overview of the main data sources. Table 1 in the accompanying Excel file has a more comprehensive list of data sources used in the production and income measures. Appendix 3 has further specific sources. Standardised sources and methods are outlined below.

Annual Enterprise Survey

The Annual Enterprise Survey (AES), carried out since 1988, is New Zealand's most comprehensive source of financial statistics. It provides annual information on the financial performance and position of businesses operating in New Zealand, and covers most areas of economic activity. The industries surveyed contribute approximately 90 percent of New Zealand's GDP.

AES output variables include: income, expenditure, profits, purchases of fixed assets and equity. These are the basis of national accounting variables such as value added, output, and gross fixed capital formation. AES variables are compiled from sources that include:

- a sample survey of business financial data
- business financial data from Inland Revenue (IR 10)
- superannuation data from the New Zealand Companies Office (Ministry of Business, Innovation and Employment)
- not-for-profit data from the Charities Commission.

Additional AES data processing

Additional processes use AES data to adjust the financial data to become consistent with national accounts economic concepts. The key processes are outlined here.

Financial reports and other information in the public domain

National accounts variables collected through AES (for key entities) are analysed and confronted with published financial reports and other industry information. We make

adjustments to AES values for reasons such as differing financial years or changes in corporate structures.

Non-life insurance

We use data from the insurance industry, mainly through AES, to measure the full economic picture of non-life insurance activity. This includes data on premiums received, claims paid, and income on reserves held to meet future claims. We separate premium payments into funds set aside for future claims and the charge for providing insurance services (referred to as the insurance service charge). The methods used to calculate the insurance service charge take into account long-term expectations, and one-off catastrophic events such as floods or earthquakes.

Life insurance and pension funds

We derive an insurance service charge on life insurance policies from AES data. This is also determined from premiums, claims, and income on reserves held for future claims. This charge is based on premiums and claims within a year, and requires no adjustments for longer-term expectations. We use AES data to measure a management fee on pension funds, which is derived from the sum of operational costs reported through AES.

Non-AES data sources

Given the wide scope of AES, the remaining sources for each industry's production and income components are supplementary to AES. Additional data sources are listed here.

Agriculture

We measure the production of the agriculture industries by collecting volumes and prices of key commodities from a wide range of industry sources. Intermediate consumption and other income variables are measured from data that provides industry benchmarks. Although AES collects agriculture data, this has limited suitability for national accounts purposes.

See table 1 in the accompanying Excel file for more details of data used for specific agriculture activity.

Banking and finance

This industry includes banks and other organisations whose primary activity is financial services – through providing loans, deposits, and other financial instruments. We use AES data to measure the value of financial services charged for directly. However, most financial services are measured indirectly, and charged through interest margins on loans and deposits. In the SNA, this is known as financial intermediation services indirectly measured (FISIM). The Reserve Bank of New Zealand (RBNZ) is the main data provider for measuring FISIM we include in the national accounts. RBNZ collects financial disclosures of New Zealand banking institutions and publishes aggregated financial reports of the banking system.

See [Financial intermediation services indirectly measured \(FISIM\) in the national accounts](#) for more details.

Residential rental services

For the national accounts, we derive annual measures of the number of dwellings from the census and annual population projections. Other data (eg rental costs) is used to measure rental services on all dwellings. The total rental services are included in the output of several industries within rental, hiring, and real estate services.

See table 1 for the industries that include residential rental services.

Owner-occupied dwellings

This industry comprises households that own their own homes and notionally rent them back to themselves. It includes private dwellings such as houses, flats, and farm houses, if they are owned by the people who occupy them. We define output as the imputed rental value of owner-occupied dwellings (ie the gross rents that would be collected if the dwellings were rented in an unfurnished state). The inputs of the industry are home-ownership expenses, such as repairs and maintenance, insurance service charges, bank service charges associated with home loans, rates, and depreciation. We include the imputed rental payment in final consumption expenditure of households.

In-house software development

For several industries, output includes software being produced in-house. We use additional data to measure the value of labour and other inputs used to develop this software. Labour is the predominant input cost, which we measure by extrapolating earnings reported in the census. We adjust labour values using other data to estimate the value of capital inputs and other overhead costs.

Capitalised in-house research and development

We include in-house R&D as an output, measured as the sum of the input costs. The value of input costs is derived from expenditure measures reported in the R&D Survey.

Central government

Data on central government financial transactions is collected through the Treasury's Crown Financial Information System (CFIS), the main source for measuring central government non-market activity.

Local government

Data on local government financial transactions is collected through the Local Authority Census, which is the main source for measuring local government non-market activity.

Commodity data collection

In the balancing process we reconcile supply and use components at a detailed commodity level. A key source of the supply and use of goods and services (called commodities or products) is the Commodity Data Collection Survey. This sample survey establishes a commodity breakdown of sales and purchases by industry (excluding investment in capital goods). We survey a subset of industries each year, on a rolling basis, to achieve full industry coverage.

Commodity breakdowns of household consumption are primarily derived from the Household Expenditure Survey.

We obtain goods imports and exports data, on a commodity basis, from Customs data. Commodity breakdowns of imported and exported services are available through survey collections. Our main data source for traded services is the International Trade in Services Survey. A commodity breakdown of capital investment is generally required only for machinery, computers, and transport equipment. These types of capital goods are usually imported, and disaggregated using customs data.

General methods for compiling income components

We derive many of the production and income components of GDP using a general method and a common data source.

Table 1 refers to the following general methods. Table 1 also provides more detail about sources and methods that are specific to particular industries or components.

AES general method

The AES general method applies to industries where we mainly derive variables of all accounts from AES and supplementary data (see [Data sources](#)). For the industry components that use this general method, the production measure derives output and intermediate consumption from AES.

See [Key components of GDP production and income measures](#) for definitions of output and intermediate consumption.

Each industry using the AES general method has a breakdown of the income measures within value added.

See [Income measure of GDP](#) for definitions of compensation of employees and gross operating surplus, two income components derived from AES.

Production and income components for non-market industries

The non-market general methodology applies to industries that do not primarily sell what they produce. We measure the output of non-market industries as the sum of these input cost components:

- intermediate consumption
- compensation of employees
- consumption of fixed capital
- taxes less subsidies.

Non-market industries have a zero operating surplus.

Taxes and subsidies general method

We measure taxes and subsidies on production in a standard way across all industries. We derive national totals through CFIS, and allocate them on a proportional basis to industries. The proportions are mainly derived from taxes and subsidies data collected through AES.



4 Expenditure measure of GDP

This section defines the key components of expenditure GDP, and provides other information helpful to interpret table 2 in the accompanying Excel file.

The expenditure GDP measure captures the components of final purchases of goods and services produced in New Zealand's economy.

Key components of the expenditure measure

Final consumption expenditure

The disposable income of households, government, and private non-profit institutions serving households is available either for final consumption expenditure (current spending) or saving. We can analyse disposable income in two ways:

- according to which sector actually pays for the goods and services and therefore decides on the expenditure – termed final consumption expenditure (FCE)
- according to which sector acquires the goods and services – termed actual final consumption.

We consider actual final consumption to be a better indicator of living standards. Certain goods and services purchased by non-market enterprises but destined for individual consumption are shifted to households and recorded in households' actual consumption (eg pharmaceutical subsidies, medical care paid directly by ACC, and education services provided in public schools).

Under either presentation, total FCE for the economy is the same. However, actual final consumption of households exceeds its FCE and, conversely, actual final consumption for general government and NPISHs is less than their FCE. The difference between FCE and actual final consumption is social transfers in kind, which can be social benefits in kind, or transfers of individual non-market goods and services.

Final consumption expenditure of households

This expenditure covers resident households' outlay on new and second-hand goods and services, less their sales of second-hand goods. Households consist of New Zealand-resident individuals and families, and their final consumption expenditure relates to their outlay within New Zealand and overseas (ie includes expenditure overseas as tourists).

The main data sources we use to measure household consumption expenditure are the Retail Trade Survey (RTS) and Household Economic Survey (HES).

Using Retail Trade Survey data

A large proportion of household final consumption expenditure comes from retail stores. The point-of-purchase information from HES allows us to convert from industry or storetype data to a product dimension. For provisional years (ie not yet balanced within the supply-use framework), and for the quarterly indicator series that are reconciled to these annual values, we derive estimates using movements in sales by storetype from the RTS. We use this method for all commodities purchased from retail trade outlets, except motor vehicles and alcohol and tobacco products where alternative information is available. We derive quarterly chain-volume series by price deflating commodities, using CPI sub-indexes and RTS storetype deflators.

Using Household Economic Survey data

We use HES point-of-purchase tables to provide proportionate breakdowns of the commodities sold by the different storetypes, which are sourced from the quarterly sales data in the RTS. In this way, storetypes can be broken down into commodities. HES provides annual movements in household purchase of commodities, which we use to rate forward a benchmark level of household consumption of each commodity. HES also provides a way to split HCE into national accounts commodities (NA06CC).

Special treatments

Special treatments we use are listed here.

- All expenditure associated with purchasing, altering, and maintaining owner-occupied dwellings is excluded. But we include rent imputed to owner-occupiers in their capacity as 'landlords', which is paid by householders in their capacity as 'lessees'.
- Purchases employees make, for which they are reimbursed, are excluded and treated as employers' intermediate consumption (eg expenses incurred while travelling on business for an employer). However, where the employer provides salaries and wages in kind, or fringe benefits, we include the value in compensation of employees; we show employees as having purchased the goods for that amount.
- Farm production for own consumption is included. We include an estimate of the value of livestock killed on farms in the output of agricultural industries; the 'purchase' of that livestock is included in household consumption.
- Payments made by government on behalf of households for private health and educational services are regarded as social benefits in kind and we exclude them.
- Only the service charge component of insurance premiums paid by households and the administration charge of pension funds are included.
- Only the FISIM component of interest on household deposits and consumer credit is included.
- Gambling expenditure is recorded on a net basis, that is bets laid or lottery tickets purchased less winnings. We restrict the scope of gambling to Totalisator Agency Board betting and lotteries organised under the control of the New Zealand Lottery Board. We treat the net expenditure associated with all forms of private gambling (eg raffles, bingo) as transfer payments.

Private non-profit institutions serving households

Non-market non-profit organisations provide goods or services to households (NPISHs), either free or at prices or fees that are not economically significant. They mainly provide services to their own members (eg trade unions, professional or learned societies, consumers' associations, and political parties). NPISHs are characterised by the legal prohibition on profit distribution. Their FCE equals their current expenditure less the value of any sales or own-account capital formation.

Final consumption expenditure of general government services

Central and local government units whose output is predominantly not sold on the market are classified as producers of government services. We calculate their FCE as for NPISHs. FCE represents the value of goods and services provided by the producers of government services for current consumption by the community. The convention is that the government itself is the final consumer (on behalf of the community). Since the goods and services are not sold on the market we value them at cost. We include any goods and services destined for individual consumption by households, but paid or reimbursed by government (eg pharmaceutical subsidies and medical care paid by ACC – both are social transfers in kind).

Gross fixed capital formation

Gross fixed capital formation (GFCF) is defined as what resident producers outlay on adding durable goods to their stock of fixed assets, less their sales of such goods during a period. The value is gross in that we make no deduction for the consumption of fixed capital. Producers may record GFCF before the period it is ready for use. Thus outlays on, for example, sites or machinery may be included though the plant is not yet in production.

Capital formation must be durable; that is, have a usable lifetime of one year or more. We include expenditure on fixed assets that significantly extend the asset's expected lifetime or increase its productivity. However, repairs and maintenance to keep fixed assets in working order is current expenditure – a vehicle's new engine forms capital but ongoing engine maintenance does not.

Own-account capital formation

In addition to purchased assets, GFCF includes own-account capital formation. This is the value of construction work a firm's own employees do to produce capital goods to be used in future production, or to install capital goods purchased from another producer.

Work-in-progress

With buildings, roads, dams, and other works, we consider the buyers own any work put in place on the project. This means we do not classify work-in-progress on buildings and construction works as inventories but as GFCF of the client who commissioned the work.

Value of fixed capital formation

The value of fixed capital formation covers all costs directly connected with acquiring and installing the fixed asset for use. This includes the original purchase price plus any customs duty or other taxes such as stamp duty; transport, delivery, and installation charges; fees of architects, designers and engineers; and legal fees not associated with financing.

Second-hand fixed assets

When a transaction relating to a second-hand fixed asset occurs, we record the purchase price as positive GFCF by the purchaser, and as negative GFCF by the seller. The value we use is the actual price or consideration received and not the book value in the accounts of the seller. Purchasing second-hand assets may involve installation, transportation, and transfer costs, which we record as GFCF by the party that incurred them. Therefore transactions in second-hand assets may make a positive contribution to the value of GFCF even though the economy's holdings of physical assets is unchanged.

Exclusions from gross fixed capital formation

Expenditure relating to the following is excluded from GFCF.

- Durable goods purchased by households. Dwellings are the only asset type owned by a household regarded as capital. We include all other durable goods purchased by households (eg motor vehicles) in final consumption expenditure.
- All financial assets.
- The purchase and sale of land, patent rights, trademarks, goodwill, and mining rights are not classed as fixed assets. However, we include the transfer costs associated with these transactions. Although transactions in land are excluded, we include reclamation and improvements to land
- Interest on progress payments.

Broad types of gross fixed capital formation

These are the broad types of GFCF.

Residential buildings are firm structures intended for permanent or semi-permanent habitation. We include: houses, flats, garages for domestic use, and hostels and boarding houses where the occupants regard them as their regular abode. Married quarters belonging to the armed forces are also included.

Non-residential buildings are firm structures for non-residential use. They include buildings that provide non-permanent shelter, such as hotels and motels. This asset type also includes hospitals, schools, halls, shops, warehouses, and factories.

Other construction covers construction associated with civil engineering. It includes major earth-moving activities but excludes site excavation for residential and non-residential buildings. While site excavation is classified to the relevant building type, we include expenditure on demolition and preliminary site clearance in other construction.

For practical reasons 'other construction' includes unhoused plant and equipment, which is an integral part of development schemes such as powerhouses or pipeline reticulation systems. We also include structures that are generally immovable and not commonly called machinery (eg pylons, television towers, bridges, 'ornamental' assets such as fountains and memorials, and construction expenditure associated with oil and gas exploration and extraction). Major upgrading of roads and bridges is included but not routine resealing.

Land improvements is an asset type covering expenditure that increases the availability or productivity of land itself. We include expenses associated with the initial land development (eg clearing, drainage, contouring) and any subsequent redevelopment that improves fertility and carrying capacity (eg initial fertiliser application and sowing). Expenditures on new farm fencing is included, but not its repair.

We include expenditure on irrigation works, reclamation, erosion and flood control, and tree planting for conservation or shelter belts, but not afforestation. We include the initial outlay on planting and cultivating fruit trees, and grapevines until they yield a return – we treat subsequent expenditure as current.

Transport equipment covers equipment where the main function is to carry passengers or goods, or to tow other vehicles and machinery outside the producing unit's boundaries. Secondly, the equipment primarily moves on road, rail, water, or by air. Therefore we exclude equipment such as tractors or logging vehicles that are designed to move on farmland or in forests. Similarly, we exclude vessels where navigability is not their main function, such as floating cranes, dredges, oil rigs, and towable platforms.

Fishing vessels are included and, where foreign-owned vessels participate in a joint venture with a New Zealand partner, we classify them to capital formation if they operate in New Zealand for more than one year. We also include them if they operate in New Zealand for two or more consecutive complete seasons, where the seasons are less than one year, even if they leave in the off-season. Otherwise we regard the vessel as leased to the joint venture by its non-resident owner.

Plant, machinery, and equipment covers machinery and all durable goods not included in the other tangible fixed asset types. Included are: agricultural type tractors and other farm equipment, crawler tractors, construction and industrial machinery, and durable containers.

Weapons systems now includes more military equipment expenditure as capital, due to changes in 2008SNA – it better defines the treatment of durable goods such as ammunition, missiles, bombs, and spare parts. Large items of equipment (eg warships, fighter aircraft, armoured vehicles, and tanks), are defined as 'defence weapons platforms' – systems from which weapons systems operate. Since we now view this

equipment as providing service beyond the period in which it was purchased, we record it as gross fixed capital formation, consistent with capital formation in other industries. The weapons themselves remain as intermediate consumption. We record expenditure on other durable, single-use military items (eg ammunition, bombs, and spare parts) as inventories until used, when they are recorded as intermediate consumption and withdrawals from inventories.

Intangible fixed assets include expenditure on oil and gas exploration, computer software, and research and development. The SNA treats systems and standard-application computer software that a producer expects to use in production for more than one year as an intangible fixed asset, whether the computer software is purchased in the market – separately or together with the hardware – or developed in-house. It also includes databases the enterprise expects to use for more than one year. We record expenditure on ‘in-house’ software development as own-account capital formation.

Ownership transfer costs include fees to real estate agents, other sales commissions, and fees paid to lawyers. The SNA treats these costs as part of investment expenditure. In practice, the transfer and acquisition costs of some assets are inseparable. Ownership transfer costs on residential and non-residential buildings and unoccupied land are the most significant separately measured component in the New Zealand accounts.

Change in inventories

Capital formation consists of GFCF and change in inventories. We define the change in inventories for a period as the value of the physical change in inventories owned by a producer, as measured in the market prices at the time additions and withdrawals are made. Inventories cover materials and supplies intended for use in production, work-in-progress, and finished goods held for sale or resale.

Ideally the principles used to value gross additions to, and withdrawals from, inventories are the same as those used to value output and intermediate consumption (ie the prices prevailing at the time of addition or withdrawal). Generally, inventory data are the book values at the end of each period. Changes in book values can include holding gains or losses resulting from price changes during the period. To remove the effect of these price changes, we make an inventory valuation adjustment. The adjusted value is the value of physical increase in inventories.

The general process is that we:

- obtain volumes of opening and closing inventories by dividing book values by deflators, which reflect the prevailing prices – by taking account of turnover rates and assumptions on valuation and accounting practices
- calculate the inventory change as the difference between the opening and closing volumes
- revalue (ie reflate) the volume change to the average prices of the period.

Exports

Exports of goods and services are exports produced by New Zealand residents and purchased by non-residents. We include merchandise, transport, communication, insurance, and other services, as well as direct purchases made in New Zealand by foreign embassies. Also included are outlays incurred by: visiting trade missions, government officials, foreign crews of ships and aircraft, tourists, visitors on business, and other non-resident individuals in New Zealand for less than one year.

However, where an institutional unit (including people) is engaged in economic activities and transactions in New Zealand for one year or more, or intends to be, then it is deemed a New Zealand resident. Foreign students and medical patients are exceptions to this. We treat students as residents of their origin country however long they study abroad, provided they maintain an economic attachment to their country. This is because most

students studying abroad return to their origin country after completing their studies. The same applies to medical patients.

Goods – we value exported goods at fob (free on board) prices, which include all transportation costs to New Zealand’s customs frontier and loading on board the carrier. We make conceptual adjustments for goods exported on consignment – for timing and valuation differences. In the balance of payments and national accounts, economic ownership does not necessarily change when the goods are recorded in customs data. For example, goods sent on consignment (eg kiwifruit) are sometimes exported before they are sold. As a result, we make adjustments for these goods.

Services – exports of services include:

- sea and air freight and air passenger transportation, and port services
- royalties
- insurance services (measures the value of insurance services provided by New Zealand-resident insurers to foreign residents)
- travel services (includes expenditure in New Zealand by tourists and business visitors)
- government services (includes expenditure on commodities by foreign embassies and consulates in New Zealand)
- miscellaneous commercial services (includes advertising and communication services, and rent other than operational leases on transport equipment).

Imports

Imports cover all goods and services produced by the rest of the world and purchased by New Zealand residents. We include direct purchases of goods and services by New Zealand embassies abroad, and by New Zealand residents overseas for less than one year (as tourists, on business, or for other reasons).

Goods – we value imported goods at cif prices (cost including insurance and freight). This includes all transportation and insurance services involved in freighting the goods to New Zealand, regardless of whether residents or non-residents provide the services. Merchandise trade data is classified using the Harmonised System Classification (HS).

Services – imports of services include:

- sea and air freight and air passenger transportation, and port services
- insurance services (measures the value of insurance services purchased by New Zealand residents from foreign-resident insurers)
- travel services (measures expenditure on travel services by New Zealand residents overseas)
- government services (includes expenditure on commodities by New Zealand embassies and consulates overseas)
- miscellaneous commercial services (includes advertising and communication services, and rent other than operational leases on transport equipment).

Data sources

Data sources and methods for the expenditure GDP components are less standardised than those for production and income GDP. Table 2 has these details; appendix 3 has further specific data sources.



5 Institutional sector accounts

This section defines the key components of the institutional sector accounts and provides other helpful information to interpret Excel table 3.

The institutional sector accounts record the incomes earned by each sector, their consumption and investment, and their economic relationship with the rest of the world. We split national totals for GDP components by institutional sector groups. Additional components in the accounts represent transfers between the following sectors:

- producer enterprises
- financial intermediaries
- general government
- private non-profit institutions serving households
- households
- rest of the world.

Our main purpose in classifying statistics by institutional sectors is to provide information that supports economic analysis and macroeconomic management. We do this by grouping economic units that have similar roles and which respond to economic events and interventions in a similar manner.

Relationship between unincorporated businesses and households

The relationship between households and businesses, especially small, owner-operated businesses, may be blurred in many ways.

- Household owners of businesses may hold property through years of losses, expecting a capital gains sale.
- Business debts may be held within the household sector rather than the business sector.
- Some final consumption of households that operate farms may be reported as business (farm) expenses.

Statistics NZ classifies unincorporated enterprises to the producer (business) sector. We include only the net entrepreneurial income from the business as a profit transfer in the household account – no retained earnings (saving) of unincorporated businesses are included in the producer sector. We record total net earnings as being transferred to the household owners, where they mix with other sources of household income before income tax is assessed. While we make every effort to ensure that business-related expenses are excluded from household consumption expenditure, any that remain will overstate household outlays.

Since household owners withdraw all net current income from unincorporated businesses, we show any actual retained earnings of these businesses as a capital contribution from householders. Consequently, household saving is also a source of finance for capital accumulation in the unincorporated producer sector. Net lending for the household sector therefore reflects lending to the unincorporated businesses households own.

An exception occurs where households with rental property businesses hold property through years of losses, expecting capital gains when they sell. This is the reason we record negative saving in the unincorporated producer sector.

Additional components of the sector accounts

This section provides information on components in the institutional sector accounts that we have not yet explained. It covers the income and outlay account, the capital account, and the external account. The income and outlay account distinguishes primary and secondary income.

Income and outlay account – primary income

Primary income in the income and outlay account relates to the generation and distribution of income. It has several components.

Entrepreneurial income

Entrepreneurial income consists of the operating surplus, plus property income receivable, less property income payable, of unincorporated businesses (ie businesses owned and operated by individuals or partnerships). We also include the salaries and wages of working proprietors of private companies – which we treat as operating surplus in the New Zealand national accounts because they are more in the nature of profit withdrawals than payments to paid employees in return for their labour.

Entrepreneurial income in the household sector accounts is split into ‘farm’ and ‘non-farm’ entrepreneurial income.

We derive farm entrepreneurial income from the annual agriculture industry estimates. Table 1 lists the sources and methods for estimating the components for each agriculture industry. We split their income and expenditure estimates for into two institutional sectors – ‘1111 Private corporate producer enterprises’ and ‘1121 Private non-corporate producer enterprises’, based on ownership proportions derived from the Annual Enterprise Survey (AES) and IR10 tax data. We include all operating surplus and property income of the 1121 Private non-corporate units in the agriculture industry in the entrepreneurial income estimates. For 1111 Private producer enterprises, only salaries and wages of working proprietors of closely held private companies and cooperatives are within the scope of entrepreneurial income estimation.

The non-farm estimates for entrepreneurial income are based mainly on AES data.

Property income

Property income is often referred to as investment income. This includes income received from owning financial assets, land, and other intangible non-produced assets. It consists of:

- interest
- corporations’ distributed income (dividends and withdrawals from income of unincorporated businesses)
- reinvested earnings on direct foreign investment
- property income attributed to insurance policy holders
- rent on land and natural assets.

Total property income is the sum of all five components, less an adjustment for financial intermediation services indirectly measured (FISIM).

Interest

Interest is the amount that a debtor is liable to pay to a creditor in a given time period without reducing the amount of principal outstanding. There are many kinds of financial instruments apart from traditional deposits, securities, and loans. Interest on these instruments may be paid in various different ways. In the macroeconomic accounts, we record interest continuously on an accrual basis, not according to the amount paid or due to be paid. The amount of interest payable to, or receivable from, financial intermediaries

includes two elements: the true interest and the cost of providing services for which no explicit charges are made. We regard the cost of services as sales output (known as FISIM), and record it as such in the production accounts.

Dividends

Dividends are actual distributions to owners paid by incorporated enterprises, including imputation credits and tax payable by dividend recipients. Under accruals, dividends should be recorded when they are declared rather than when they are paid.

Earnings attributable to insurance and pensions policy holder

Insurance and pension providers maintain reserves to meet future claims and benefits. The earnings are attributable to the policy holders or beneficiaries, and we record them this way in the national accounts.

Rent on natural assets

In recent years, most rent payments on natural resources have been from energy royalties and Crown forest licences, with payments generally coming from producer enterprises to central government.

Income and outlay account – secondary income

Secondary income in the income and outlay account relates to the redistribution of income. The relevant components are described below.

Current transfers

Transfers are secondary incomes in which one institutional unit provides goods, a service, or an asset to another unit without receiving anything in return. Current transfers do not relate to fixed assets or financial assets.

Income tax

Income tax is the taxes on incomes and profits paid (net of refunds) to government.

Other taxes

The other taxes component consists of a wide array of taxes, fines, and levies (eg motor vehicle registration).

Social security contributions

Social security contributions are paid by employers to the Accident Compensation Corporation (ACC), which we classify as a social security fund.

Social security benefits

Social insurance benefits are payable in cash to households by social security funds. These consist of receipts from, and contributions to, ACC.

Social assistance benefits

Social assistance benefits are education, welfare, and other benefits paid to individuals and households. They include unemployment benefit, domestic purposes benefit, New Zealand Superannuation, and disability allowances.

Pension fund benefits

Pension fund benefits are payable to households by enterprises administering privately funded pension schemes, and Government Superannuation Fund (GFS) benefits.

Pension fund contributions

Households make pension fund payments (or contributions) to enterprises administering privately funded pension schemes, plus GSF contributions.

Net non-life insurance premiums

The total non-life insurance premiums net of the service charge includes general insurance and health insurance only. We treat the service charge as sales output and record it in the production account.

Non-life insurance claims

Non-life insurance claims are those accrued by insurance providers on general and health policies.

Adjustment for net-equity on pension funds

In the household sector accounts we treat contributions to and pensions from privately funded schemes as current transfers that affect disposable income. However, logically they should be seen as 'acquisition and disposal of financial assets' as the pension reserves are owned by the households with claims on them (this is recognised in the financial accounts and balance sheets). To reconcile these two approaches we need to add back pension contributions to, and subtract pension receipts from, household disposable income. This means measured saving will reflect any change in households' net equity in pension funds. We make the opposite adjustment to pension providers' use of income accounts.

Income and outlay account – disposable income and saving

Disposable income and saving are balancing items in the income and outlay account. Disposable income is what remains after income is distributed and redistributed. Savings is what remains after income is used.

Gross disposable income

Gross disposable income is the total primary and secondary income receipts less the total primary and secondary income payments. This is the income available for final consumption and saving.

Gross saving

Gross saving is gross disposable income after deducting final consumption. This represents the resources available for investment.

Net saving and net worth

Saving is a derived variable, at the broadest level, that we estimate as:

Income receivable, less
income payable, less
consumption of fixed capital.

The sum of the savings of the domestic sectors (all sectors excluding the rest of the world) equals national saving. In addition to the income variables (described in the 'income and outlay' section above), gross operating surplus is a major income variable in the domestic sectors. In the household sector, we include compensation of employees as the largest component of total income receivable.

If we produced the full set of institutional accounts, including balance sheets, we could derive an estimate of net worth. Net worth is, for example, the market value of a sector's stock of assets less the market value of its stock of liabilities (capital gains). However, wealth estimates are outside the current scope of the institutional sector accounts.

Saving excludes these items that affect net worth:

- capital gains (or holding gains), which reflect changes in the prices of existing assets and therefore do not represent additions to real stock of produced assets
- capital transfers, which reflect changes in ownership of existing assets
- events such as the 2010/11 Christchurch earthquakes, which result in changes in the real stock of existing assets but do not reflect an economic transaction.

Capital account

The link between the income accounts and accumulation accounts is that savings must be used to acquire financial or non-financial assets. New Zealand has not developed a financial account, so the institutional sector accounts only show the non-financial assets acquired. When saving is insufficient, this is financed by disposing of assets or incurring liabilities.

Consumption of fixed capital

In the macroeconomic accounts we capture economic depreciation of fixed assets as consumption of fixed capital (CoFC). This term distinguishes depreciation reported in financial accounts from CoFC, which incorporates other economic concepts. A major conceptual difference is that CoFC accounts for the effect of outdated technology as well as wear and tear.

See [Measuring capital stock in the New Zealand economy](#) for more about how we calculate CoFC.

Net capital taxes

Net capital taxes are those levied at irregular and very infrequent intervals on the values of the assets or net worth owned by institutional units, or on the values of assets transferred between institutional units as a result of legacies, gifts, or other transfers.

Net capital transfers

Net capital transfers are transactions (either cash or in kind) in which: ownership of an asset (other than cash or inventories) transfers from one institutional unit to another, or cash is transferred so the recipient can acquire another asset, or funds realised by disposing of another asset are transferred. The asset may be a fixed or financial asset. In practice, capital transfers tend to be large, infrequent, and irregular. They do not affect disposable income. Capital transfers are unrequited and they do not add to current income for the recipient, or reduce income for the donor. They are designed to finance accumulation and only indirectly to influence consumption through changing the recipient or donor's wealth or assets. Examples are unilateral transfers, or capital goods, legacies, and investment grants.

Net purchases of land

Land is the ground, including the soil covering it and any associated surface waters, over which ownership rights are enforced; major improvements that cannot be physically separated from the land itself are included. Land excludes: any buildings or other structures situated on it or running through it; cultivated crops, trees, and animals; subsoil assets; non-cultivated biological resources; and water resources below the ground.

Net lending/borrowing

Net/lending borrowing is the balancing item of the capital account. A surplus represents funds available to lend to other sectors, and a deficit represents borrowing needed to fund investment.

External account

The external account shows the links between the New Zealand economy and the rest of the world. This account distinguishes current and capital flows. Reinvested earnings are displayed as memorandum items of investment income.

Investment income to the rest of the world

Earnings of foreign residents on their investments in New Zealand that are paid out to foreign residents or retained in New Zealand.

Investment income from the rest of the world

Earnings of New Zealand residents on their investments overseas that are received by New Zealanders or retained overseas.

Reinvested earnings on overseas direct investment

Earnings of New Zealand residents on their investments overseas (eg share equity, deposits, and other financial instruments) and that are retained overseas.

Reinvested earnings on direct investment in New Zealand

Earnings of foreign residents on their investments in New Zealand and that are retained in New Zealand.

General methods

Many of the institutional sector account variables use a general method. This indicates that we use standardised methods for these components, and predominantly a common suitable data source.

For most variables in the sector accounts, we use a mix of survey and administrative data. Different source data can have inconsistent reporting, but consistency issues can also arise from: balance date or other timing issues, reporting standards, or from particular transactions not being covered by the business surveys. Therefore reconciliation is common when we consolidate the final sector accounts. Where the data sources are inconsistent, we consult other sources (eg annual reports), and then adjust the source data.

Table 3 refers to the following general methods.

AES general method

The AES general method applies to sector account variables where the data is primarily derived from AES (see [Annual Enterprise Survey](#) for a description).

The financial accounting information AES collects coincides with national accounts standards for most variables, so the information is readily available and easily usable. The Statistics NZ Business Register contains codes that provide the sector breakdown we apply to the AES data. This AES 'industry by sector' dataset provides data on variables by sector that we use directly to compile the sector accounts, including important financial flows (eg interest, dividends) and production and capital accounts information.

We mainly use the AES general method to compile all market financial and non-financial institutional units (excluding households), and for the non-profit institutions serving households sector.

General government non-market

We apply the general government method to the central and local government non-market sectors, where financial information comes primarily from the following data sources.

Central government

Data on central government financial transactions is collected through the Treasury's Crown Financial Information System (CFISnet), a secure website that collects actual and forecast information from government departments, Crown entities, and state-owned enterprises.

CFISnet is the main source for measuring central government's non-market activity. Data from CFIS is confronted against and supplemented by other information sources, including Statistics NZ's Central Government Enterprises Survey, annual reports, and data requests we send to specific central government institutional units.

Local government

We collect data on local government financial transactions through our Local Authority Census (LAC). LAC includes all district, city and regional councils, and unitary authorities. LAC is the main source for measuring local government's non-market activity.

Households

The household sector is predominantly based on administrative data sources (eg aggregated Inland Revenue tax data) and annual reports. This sector also has significant interest receipt and payment flows, which we model using data for household claims and funding, and weighted interest rates from the Reserve Bank of New Zealand.

While we compile variables in the household sector accounts separately, we check and reconcile the transactions against other sectors where appropriate. Compiling the household sector also incorporates information from the national accounts balanced industry estimates, and data from the government sector accounts and balance of payments.

There are differences in coverage, timing, and scope between the household sector account and survey-based measures of household income and expenditure (eg the Household Economic Survey (HES)). HES is specifically designed to measure household income and spending, not saving. The national accounts statistics present a broader measure of household income and expenditure, which is consistent with other macroeconomic statistics.

Data sources

See table 3 for the data sources and methods for the components of the institutional sector accounts. Appendix 3 has further specific data sources.



Appendix 1: New Zealand's national accounts history

The Department of Statistics produced the first official New Zealand national income totals in 1948, covering the period 1938/39 to 1947/48. We added expenditure data in 1949, which marked the beginning of the national income and expenditure series that continued to 1976/77. The first production-type account was produced for manufacturing; we included it in the national income and expenditure series in 1951.

The number of industry accounts gradually expanded. Reconciling these accounts for 1952/53 resulted in our publishing a 12-industry inter-industry study in 1956. By 1966, a computer helped us present a four-volume publication with inter-industry transactions and derived tables for 44 and 110 industries, respectively, for the 1959/60 year.

In 1968, the government established the National Development Council. In the following year, its Technical Committee on Statistics, chaired by the Government Statistician, initiated development of the New Zealand System of National Accounts (NZSNA).

By 1975, the essential economic data and technical capability was available for us to work on the national accounts in earnest. We released the first NZSNA accounts in 1978, based on the international standard on compiling GDP statistics – the United Nations System of National Accounts 1968 (SNA68).

Following eight years development by international agencies such as the United Nations, IMF, World Bank, OECD, and Eurostat, a revised System of National Accounts was released in 1993 (SNA93). We adopted this version in 2000, and at the same time introduced several major improvements and a new industry classification, the Australia and New Zealand Standard Industrial Classification 1996 (ANZSIC96). Apart from incorporating new source data, we also introduced new methods (eg chain-linking quarterly GDP series) and developed new measures (eg capital stock and consumption of fixed capital (depreciation) at replacement costs).

In 2012, we upgraded the industry classification of industries to ANZSIC06, to reflect changes to the economy over the last 15 years or so – service industries are playing an increasingly important role.



Appendix 2: Related national accounts outputs

This section contains links to other sources and methods documentation.

Gross domestic product information releases provide quarterly snapshots of the economy's performance. We publish the production and expenditure-based measures as chain-volume measures in prices of a specific expression period (year ended March 2010 from December 2014). The expenditure-based measure is also expressed in current prices.

[Quarterly gross domestic product: Sources and methods \(3rd edition\)](#), published 2013 reflects the SNA93 concepts for the November 2014 annual release.

Measuring capital stock in the New Zealand economy is a report explaining the concepts and methodology for developing the two measures of capital stock, and the corresponding consumption of fixed capital.

Productivity statistics: Sources and methods (ninth edition) outlines the data sources, definitions, and methodologies we use to compile the annual labour, capital, and multifactor productivity indexes.

Balance of Payments: Sources and methods (fourth edition) describes the conceptual framework of New Zealand's balance of payments and international investment position statistics, and the data sources and methods we use to compile them. The fifth edition will be published in 2015, and reflect changes we've made to implement the *Balance of Payments Manual* Version 6 and the 2008SNA.

Regional GDP is a geographic breakdown of national GDP. Regional GDP indicates the size and structure of regional economies and provides a benchmark for measuring changes to regional economies over time.

See [Regional Gross Domestic Product: Year ended March 2013](#)

Tourism satellite accounts provide information about the tourism industry in New Zealand. Tourism statistics include expenditure by domestic and international visitors, contribution to GDP, tourism employment, and arrivals and departures by overseas visitors and New Zealand-resident travellers. Statistics about tourism also include information on total expenditure by international students in New Zealand, expenditure by New Zealand travellers abroad, and English language student expenditure on tuition, related expenses, and accommodation.

See [Tourism Satellite Account: 2014](#)

Input-output tables. Our latest publication is [National Accounts input-output tables: year ended March 2007](#).



Appendix 3: Data sources glossary

This section contains a glossary of other outputs that feed into the national accounts.

Agricultural Production Survey: Collects information from businesses engaged in 'agricultural production activity', including livestock, cropping, horticulture, and forestry.

Annual Enterprise Survey: Provides annual information on the financial performance and financial position for industry and sector groups operating in New Zealand.

Business Operations Survey: Collects information on the operations of New Zealand businesses. We use this information to quantify business behaviour, capacity, and performance. The survey gives insights into business activities, barriers, motivations, and other factors affecting New Zealand business operations.

Census of Population and Dwellings: The official count of how many people and dwellings are in New Zealand. It takes a snapshot of the people, and the places we live.

Central Government Enterprise Survey: Collects data on the financial transactions of Crown entities with all other sectors of New Zealand's economy.

Commodity Data Collections Survey: Collects data in a rolling survey for detailed product breakdowns of sales and purchases by industry. This data is used in the supply and use product balancing process in the national accounts. Information is also used to update lower-level weights for the business price indexes.

Consumers Price Index: Gives information about changes to the prices of consumer items New Zealand households buy, and provides a measure of household inflation.

Crown Financial Information System: Information about the Crown's financial institutions – Crown entities with specific responsibilities relating to the management and investment of significant Crown financial assets. The Treasury administers this source.

See [Crown Financial Institutions](#)

Economic Survey of Manufacturing: Provides short-term economic indicators for the manufacturing sector. We use this data to compile the manufacturing sector component of the quarterly national accounts. Published values exclude GST.

Household Economic Survey: Collects information on household expenditure and income, as well as a wide range of demographic information on individuals and households.

Household Labour Force Survey: Provides a regular, timely, and comprehensive portrayal of New Zealand's labour force.

Information and Communication Technology (ICT) Supply Survey: Information collected every two years about the sales of ICT goods and services, including exports by businesses in ICT industries.

International Visitor Survey: Measures the travel patterns and expenditure of international visitors to New Zealand. Data includes expenditure, places visited, activities/attractions, accommodation and transport. Run by a marketing company for the Ministry of Business, Innovation, and Employment.

Linked Employer-Employee Data: Provides statistics on filled jobs, job flows, worker flows, mean and median earnings for continuing jobs and new hires, and total earnings.

Local Authority Census: Collects annual accounting-based income, expenditure, and financial position information for each local authority in New Zealand.

See [Local Authority Financial Statistics – information releases](#)

Overseas trade data: Provides statistical information on merchandise imports and exports between New Zealand and other countries.

See [Overseas merchandise trade](#)

Perpetual Inventory Model (PIM): See [Measuring capital stock in the New Zealand economy](#)

Producers Price Index: Measures changes in prices of outputs that generate operating income and inputs that incur operating expense. It measures changes in prices for the supply (output) and use (inputs) of goods and/or services by the productive sector.

Quarterly Building Activity Survey: Data on building authorisations obtained each quarter by postal survey of builders, owners, and other applicants.

See [Value of Building Work Put in Place – information releases](#)

Quarterly Economic Survey: Estimates the demand for labour by New Zealand businesses. From the survey responses, we estimate the levels and changes in employment, total weekly gross earnings, total weekly paid hours, average hourly and average weekly earnings, and average weekly paid hours in the industries we survey. The QES replaced the Earnings and Employment Survey (EES), which used the ANZSIC96 classification.

Quarterly International Investment Survey: The main source of data on primary income, financial account flows, and the stock of overseas assets and liabilities.

Quarterly Local Authority Survey: Collects quarterly accounting-based estimates of the money local authorities in New Zealand earn and spend on their core business.

See [Local Authority Statistics – information releases](#)

Research and Development Survey: Provides information on research and development (R&D) in New Zealand, including level of R&D activity, employment, and expenditure by private sector enterprises, government departments, government-owned trading entities, and universities.

Retail Trade Survey: Provides short-term economic indicators of the retail trade sector.

Selected Services Survey: Covers activity previously collected in the ANZSIC96-based Retail Trade Survey.

See [Implementing ANZSIC 2006 in manufacturing, wholesale, and selected other services.](#)

Wholesale Trade Survey: Provides short-term economic indicators for the wholesale trade sector.