

Gross Domestic Product: March 2013 quarter

Embargoed until 10:45am – 20 June 2013

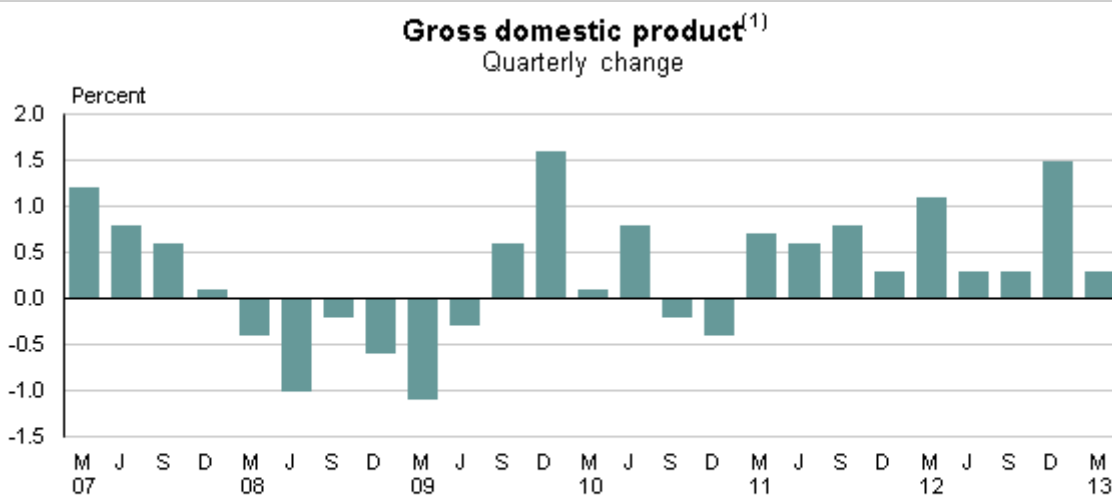
Key facts

Gross domestic product (GDP):

- Economic activity increased 0.3 percent in the March 2013 quarter.
- Business services (up 3.9 percent) and construction (up 5.5 percent) had the largest increases.
- Agriculture, forestry, and fishing (down 4.8 percent) had the largest decline.
- Economic activity for the year ended March 2013 was up 2.5 percent.

Expenditure on gross domestic product:

- The expenditure measure of GDP was up 0.3 percent in the March 2013 quarter.
- The volume of expenditure by New Zealand households was up 0.4 percent.
- Exports of goods and services (up 2.5 percent) and imports (up 2.3 percent) both rose.
- In current prices, expenditure on GDP was \$212 billion for the year ended March 2013.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

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Commentary

- New Zealand economy grows 0.3 percent
- Expenditure on GDP – main movements
- Drought causes primary industries to fall
- Construction continues to lead rise in goods-producing industries
- Service industries up
- Expenditure on GDP up 0.3 percent
- Strong increase in household consumption of non-durable goods
- Strong investment in residential building
- Build-up in inventories
- Government final consumption expenditure down
- Exports and imports both up

New Zealand economy grows 0.3 percent

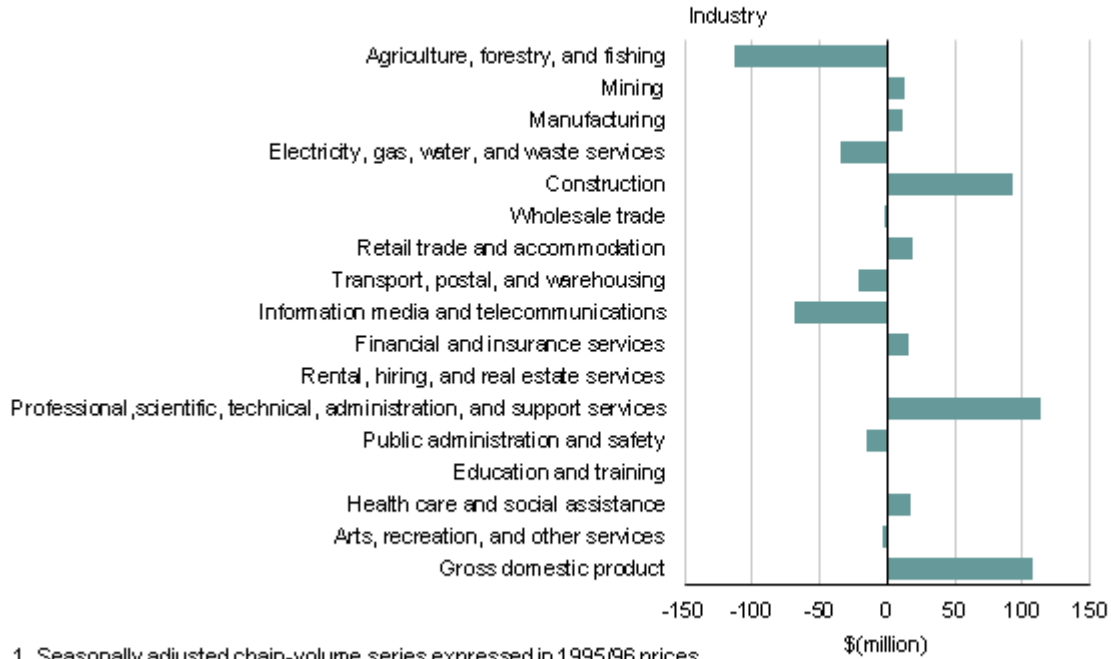
Gross domestic product (GDP) was up 0.3 percent in the March 2013 quarter, following a 1.5 percent rise in the December 2012 quarter.

The main movements by industry were:

- Professional, scientific, technical, administrative, and support services (up 3.9 percent), the largest increase in this industry since the December 2001 quarter. The latest rise was driven by engineering design and consulting services.
- Construction (up 5.5 percent), due to increased activity in residential building and construction services in Canterbury.
- Agriculture, forestry, and fishing (down 4.8 percent), mainly driven by a fall in agriculture activity. Lower dairy production – a result of the dry weather conditions during the March 2013 quarter – contributed to the fall.
- Information media and telecommunications (down 3.1 percent), as a result of fewer call minutes.

Gross domestic product by industry⁽¹⁾

Change from previous quarter
March 2013 quarter



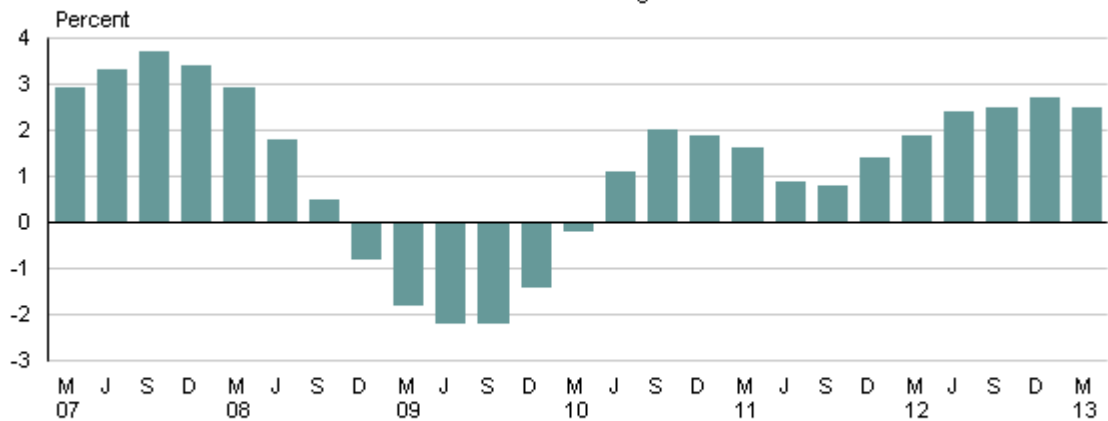
1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Economic activity for the year ended March 2013 was up 2.5 percent when compared with the March 2012 year.

Gross domestic product⁽¹⁾

Annual change



1. Actual chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

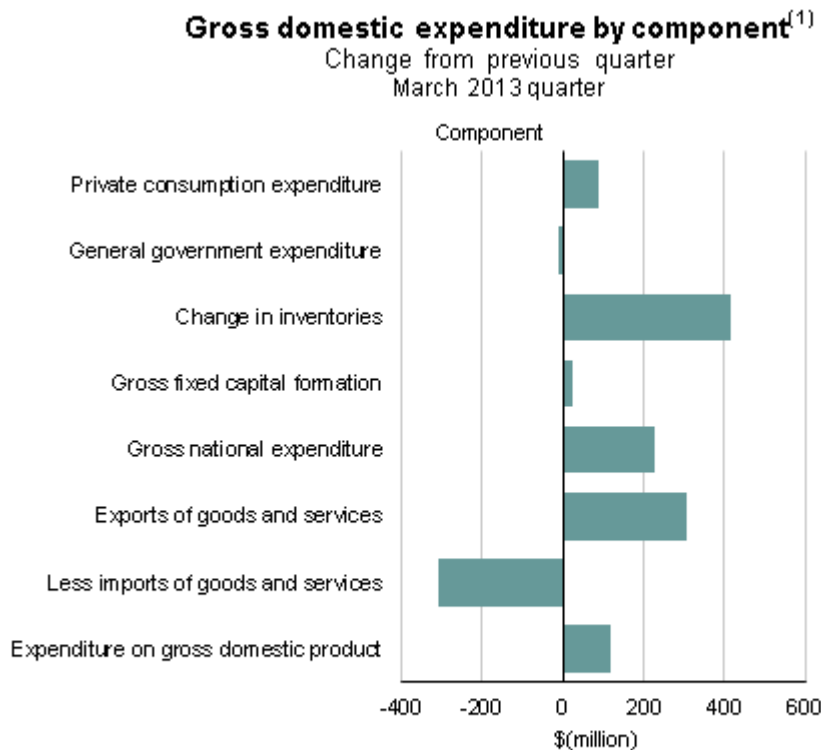
Activity in the March 2013 quarter was 2.4 percent higher than in the March 2012 quarter.

Expenditure on GDP – main movements

The expenditure measure of GDP (GDE) rose 0.3 percent in the March 2013 quarter. The expenditure and production measure of GDP are conceptually the same. The production measure of GDP measures the volume of goods and services produced in the economy, while the expenditure measure shows how these goods and services were used.

The main movements in GDE this quarter were:

- Household consumption expenditure (up 0.4 percent), due to increased spending on non-durable goods such as food and non-alcoholic beverages. Spending on durables and services was also up. This quarter's increase in household spending on non-durable goods is the largest since the September 2011 quarter.
- Gross fixed capital formation (up 0.3 percent), with residential building investment (up 9.6 percent) the largest contributor. This is the largest increase in residential building investment since the September 2002 quarter.
- Inventories were built up \$340 million, with a build-up in manufacturing stocks.
- Exports of goods and services (up 2.5 percent) rose for the third consecutive quarter. Increased exports of agriculture and fishing primary products were the main driver behind this quarter's rise.
- Imports of goods and services (up 2.3 percent), after a 0.7 percent fall in the December 2012 quarter. The rise this quarter was led by more imports of capital and intermediate goods.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

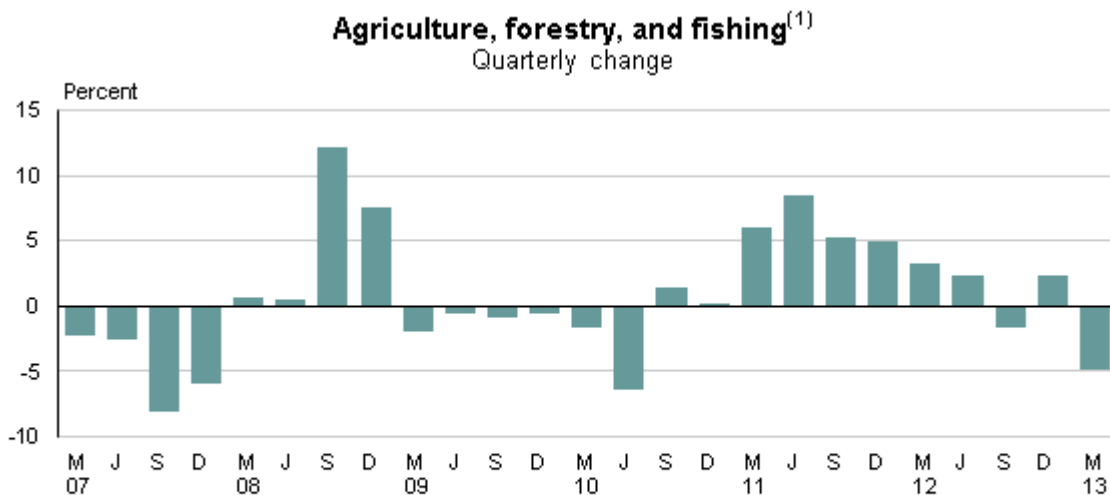
GDE for the March 2013 year rose 3.1 percent when compared with the March 2012 year.

Drought causes primary industries to fall

Activity in the primary industries fell 3.0 percent in the March 2013 quarter. This was driven by a 4.7 percent decline in agriculture and a 2.5 percent fall in forestry and logging. These falls were partly offset by a 4.2 percent increase in mining.

Dairy pulls agriculture down

Agriculture fell 4.7 percent in the March 2013 quarter. The biggest contributor to this decrease was dairy production. Cattle farming was also down, although there was an increase in slaughter numbers.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

In the March 2013 quarter, there were dry weather conditions across the country. As a result, milk production declined as dairy herds were dried off earlier than usual. Slaughter numbers were up for dairy and also other cattle. These two factors are typical of periods of drought.

In the 2008 drought, there was information to suggest a significant increase in intermediate consumption such as the purchasing of additional feed. This information was used to alter the methodology used for measuring growth in the agriculture industry to better measure the impact of the drought. However, the effects of the 2013 drought have been more significant for output. Milk production has declined, rather than intermediate consumption rising. Therefore, there have been no changes to the methodology used for measuring agriculture this quarter, as the current quarterly indicators have captured the impact of the dry weather conditions on economic growth.

The drought may lead to further falls in production in future quarters. This is because of lower stock levels and poor stock condition which could impact on lambing and calving rates. The full impact of the drought will not be known until the quarterly indicators are reconciled to more comprehensive annual data.

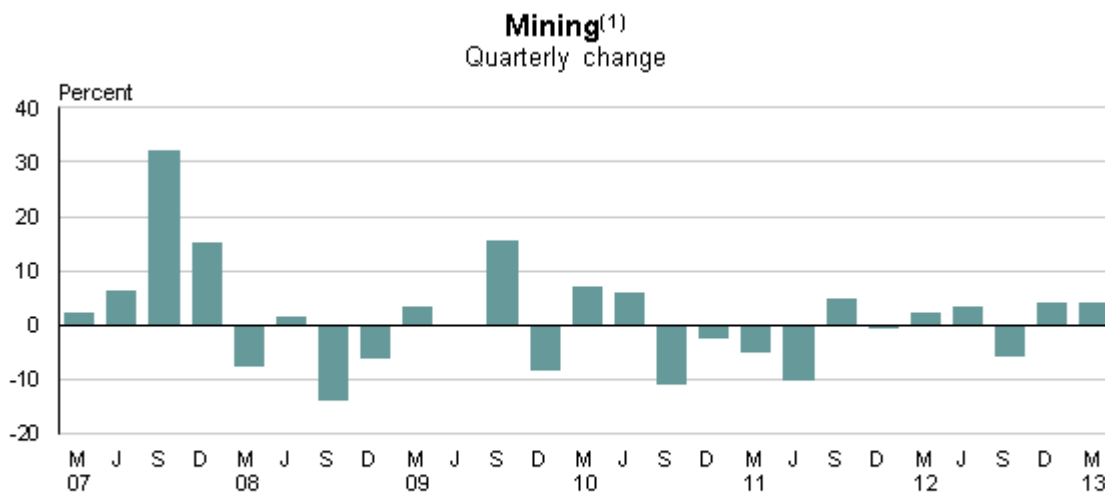
Forestry down

Forestry and logging fell 2.5 percent in the March 2013 quarter. This is after it reached a record-high level in the December 2012 quarter. Over the same period, there was also a fall in forestry

exports. Despite the fall in the March 2013 quarter, the level of activity for forestry and logging in the March 2013 year is at its highest.

Extraction drives mining up

Mining increased 4.2 percent in the March 2013 quarter. The increase was driven by extraction, which rose after two consecutive quarters of decline.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Primary industries still up for the year despite drought

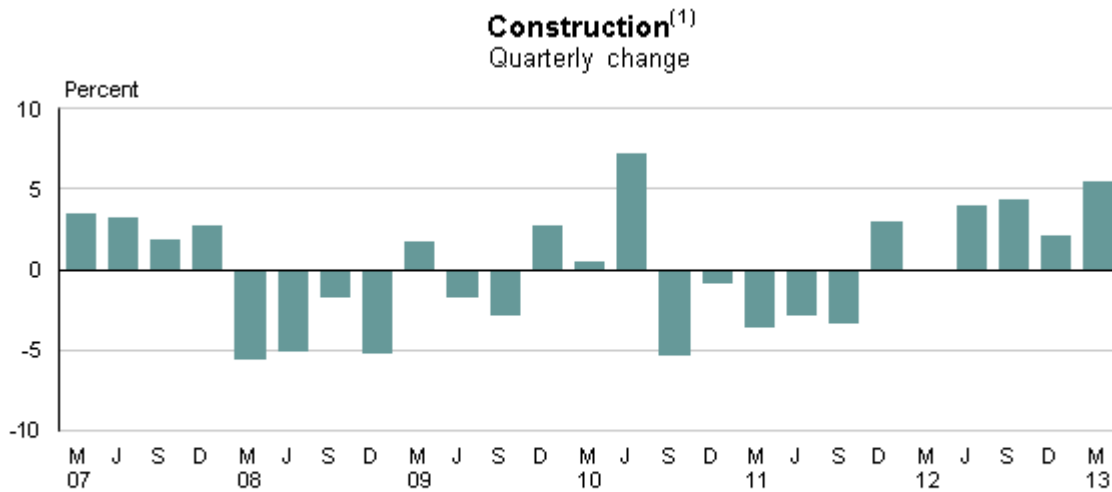
For the March 2013 year, growth in the primary industries was up 6.0 percent when compared with the March 2012 year. Favourable growing conditions in 2012, which contributed to the March 2013 year, led to an increase in agricultural activity, particularly in dairy production. As a result, agricultural activity rose 7.7 percent for the March 2013 year, despite the fall in the latest quarter.

Construction continues to lead rise in goods-producing industries

Activity in the goods-producing industries was up 1.0 percent in the March 2013 quarter, driven by construction (up by 5.5 percent). This increase was partly offset by a fall in electricity, gas, water, and waste services, which was down 4.4 percent.

Canterbury rebuild leads to construction growth

Construction grew 5.5 percent in the March 2013 quarter, due to large increases in residential building and construction services. Both these industries were boosted by the Canterbury rebuild. Construction activity has grown for four consecutive quarters, and is at its highest level since March 2008. However, construction levels are still 8.0 percent lower than the December 2007 quarter peak.

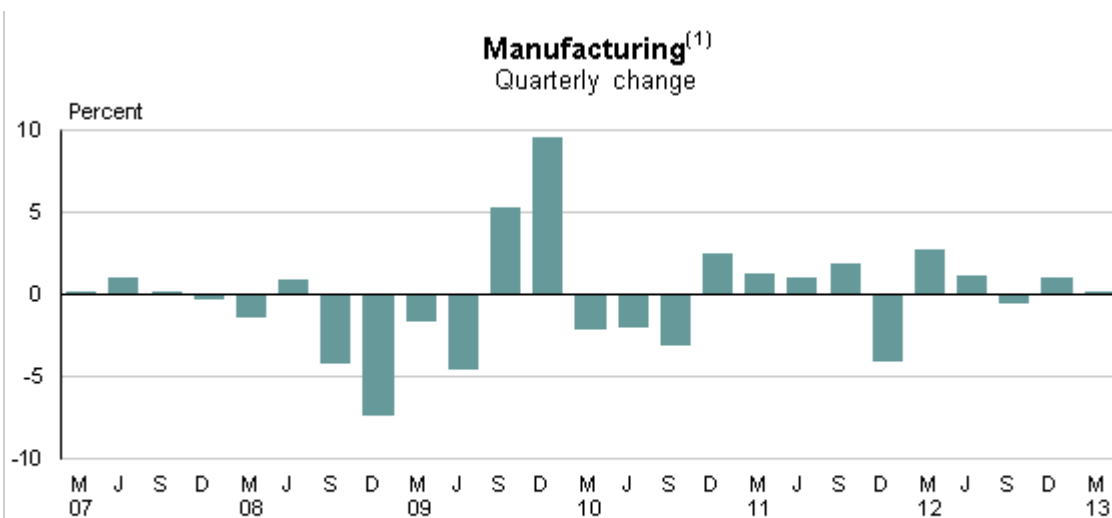


1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Manufacturing continues to grow

Activity in the manufacturing industry grew 0.2 percent in the March 2013 quarter, following a 1.0 percent rise in the December 2012 quarter. The increase was driven by food, beverage, and tobacco manufacturing (up 3.0 percent) partly due to increased meat product manufacturing. The rise in meat manufacturing reflects higher slaughter numbers. There was also an increase in exports of meat products. Petroleum, chemical, plastic, and rubber product manufacturing (up 2.5 percent) also contributed to the increase this quarter. These increases were partly offset by declines in metal product manufacturing; and transport equipment, machinery, and equipment manufacturing. Manufacturing activity in the March 2013 quarter is the highest since the December 2009 quarter.

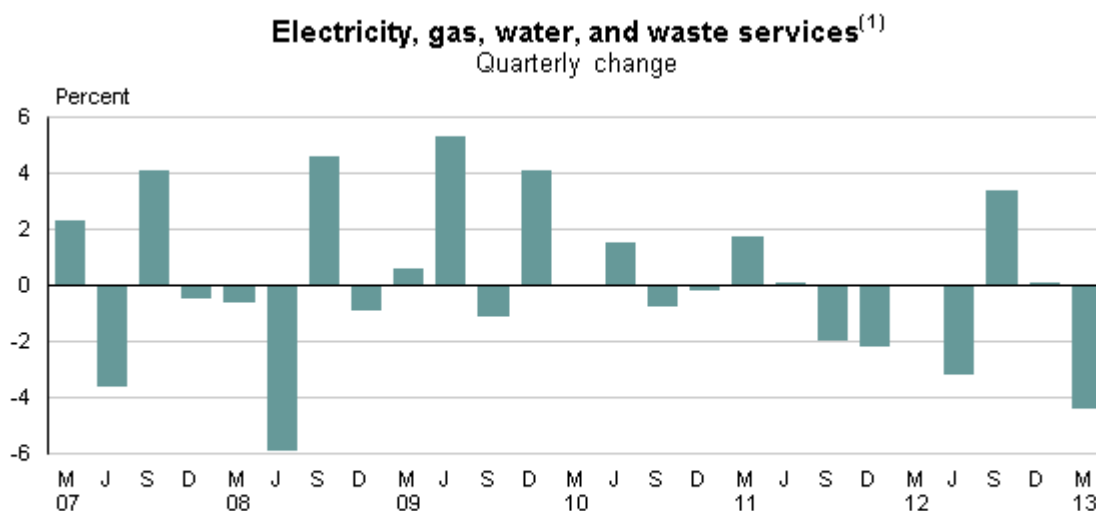


1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Electricity, gas, water, and waste services was down 4.4 percent in the March 2013 quarter. This is the largest quarterly fall for this industry since June 2008. The decline was due to a fall in

electricity generation, which is linked to the fall in metal product manufacturing. With less activity in metal product manufacturing, the demand for electricity was lower, resulting in less activity for electricity generation and on-selling.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Goods-producing industries up for the year

Goods producing industries grew 3.1 percent in the March 2013 year. Construction was the biggest contributor, up 10.8 percent. Manufacturing was up 1.6 percent.

Service industries up

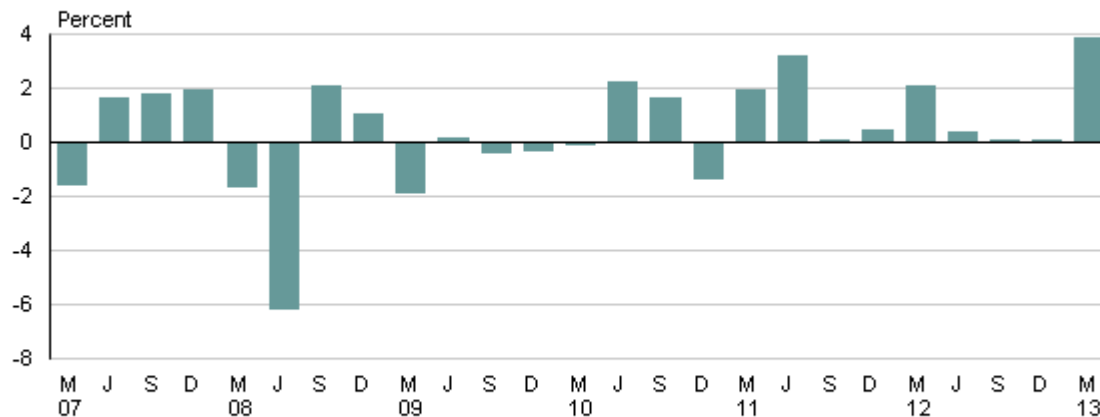
Activity in the service industries was up 0.5 percent in the March 2013 quarter, driven by a strong increase in professional, scientific, technical, administrative, and support services (up 3.9 percent). Retail trade and accommodation also contributed to the rise, up 0.8 percent. These increases were offset by falls in information media and telecommunications (down 3.1 percent), and transport, postal, and warehousing (down 1.1 percent).

Business services leads the way

Professional, scientific, technical, administrative, and support services grew 3.9 percent in the March 2013 quarter, the largest quarterly increase in this industry since the December 2001 quarter. The main reason for this was significant growth in architectural and engineering services, particularly in Canterbury and Auckland. To a lesser extent, the 2013 Census of Population and Dwellings also contributed to this growth. Activity from the census is classified as market research, which contributes to this industry.

Professional, scientific, technical, administration, and support services⁽¹⁾

Quarterly change



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

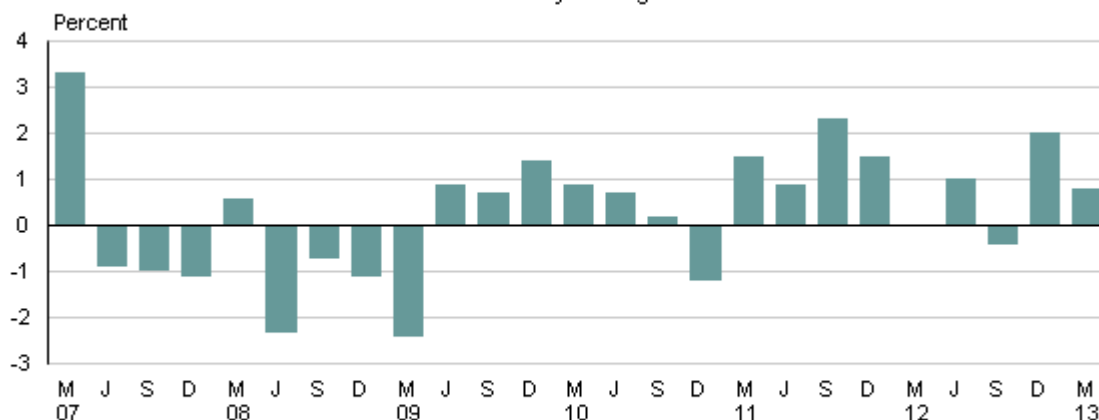
Source: Statistics New Zealand

Retail up

Activity in retail trade and accommodation grew 0.8 percent in the March 2013 quarter. This was driven by an increase in retail trade (up 0.4 percent) due to supermarkets, and pharmaceuticals and other store-based retailing. The increase is reflected in a rise in household consumption expenditure on food and beverages.

Retail trade and accommodation⁽¹⁾

Quarterly change



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

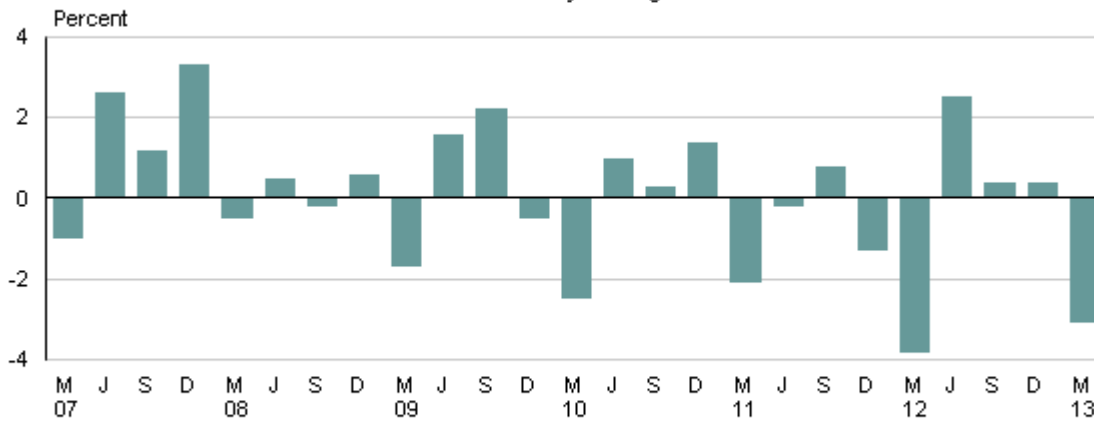
Source: Statistics New Zealand

Communications and transport down

Information media and telecommunications fell 3.1 percent in the March 2013 quarter, due to fewer call minutes. Transport, postal, and warehousing fell 1.1 percent in the March 2013 quarter, mainly due to falls in road transport and transport support services.

Information media and telecommunications⁽¹⁾

Quarterly change



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Services up for the year

The service industries grew 1.7 percent in the March 2013 year. This rise was mainly due to a 3.4 percent growth in the professional, scientific, technical, administrative, and support services, and also strong growth in retail trade and accommodation.

Expenditure on GDP up 0.3 percent

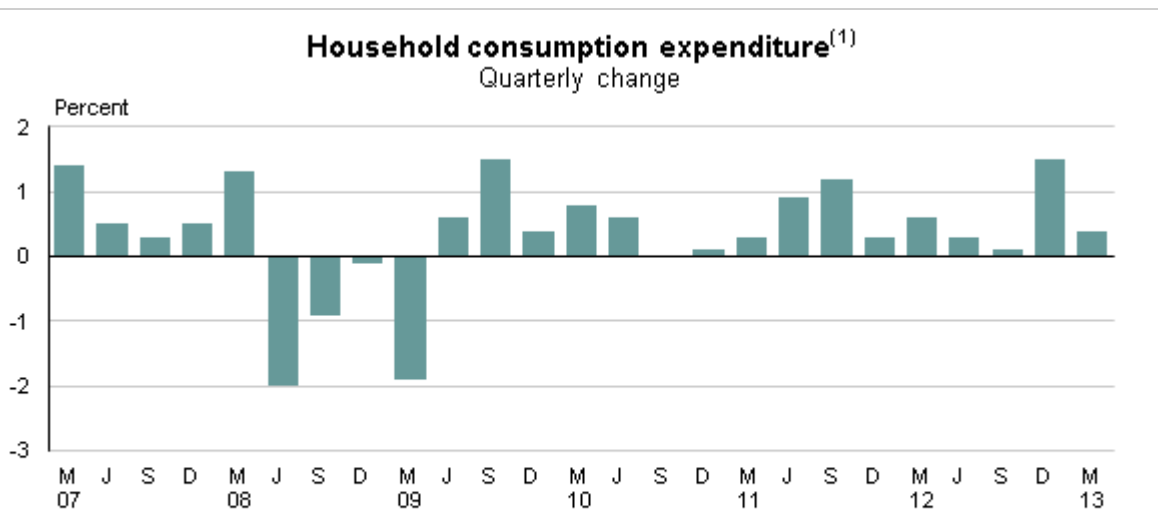
GDE rose 0.3 percent in the March 2013 quarter, after a revised increase of 1.3 percent in the December 2012 quarter.

For the March 2013 year, GDE increased 3.1 percent compared with the March 2012 year.

While the production-based and the expenditure-based measures are both official series, the production-based measure historically shows less volatility and is the preferred series for the quarter-on-quarter changes. The expenditure-based measure uses a different range of data sources and is more susceptible to timing and valuation changes in the short-term.

Strong increase in household consumption of non-durable goods

Household final consumption expenditure increased 0.4 percent in the March 2013 quarter, compared with an increase of 1.5 percent in the December 2012 quarter. Within household consumption expenditure, spending on durable goods, non-durable goods, and services were all up. Household consumption expenditure measures the volume of spending on goods and services by New Zealand-resident households.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

The volume of spending on non-durable goods increased 1.0 percent in the March 2013 quarter, the strongest increase since the September 2011 quarter. Spending on non-durable goods rose in five of the last seven quarters. In the March 2013 quarter, spending on food and non-alcoholic beverages was up. This rise is reflected in a 0.8 percent increase in retail trade and accommodation activity as measured in the production measure of GDP.

The volume of durable goods purchased by New Zealand households increased 0.4 percent in the March 2013 quarter. This is the ninth consecutive quarterly increase since the December 2010 quarter. Spending on audio-visual equipment, and furniture and floor coverings contributed to the latest rise.

Household consumption of services increased 0.2 percent in the March 2013 quarter, after a 1.5 percent increase in the December 2012 quarter. Spending on restaurant meals and international air passenger services was up.

The total volume of spending in New Zealand was up 0.3 percent, after an increase of 0.8 percent in the December 2012 quarter. Spending by New Zealand residents overseas increased 7.1 percent during the March 2013 quarter, while spending by overseas visitors in New Zealand increased 4.8 percent.

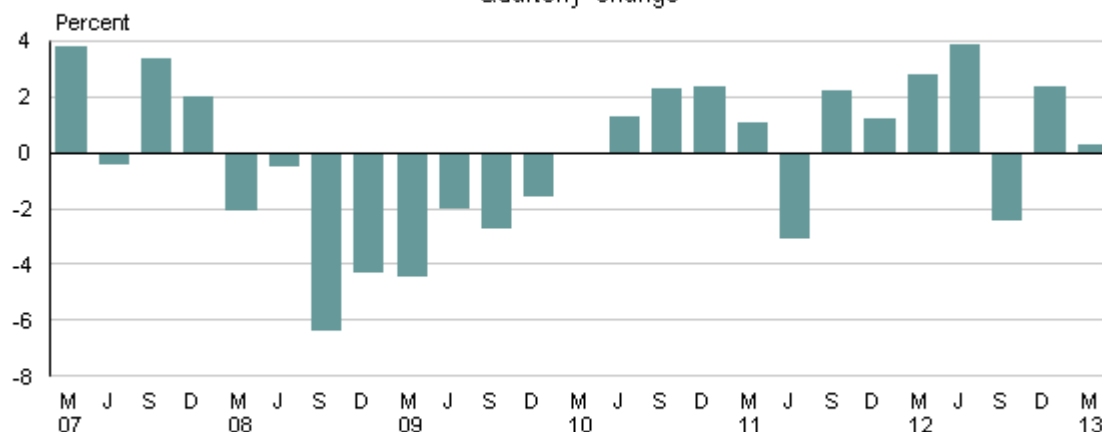
Household expenditure up 2.2 percent for the year

For the March 2013 year, the volume of household consumption expenditure increased 2.2 percent compared with the March 2012 year. The latest rise was due to increased spending on durables (up 5.1 percent), non-durables (up 0.8 percent), and services (up 2.0 percent).

Strong investment in residential building

Gross fixed capital formation (GFKF) increased 0.3 percent in the March 2013 quarter, after an increase of 2.4 percent in the December 2012 quarter. GFKF consists of business investment plus residential building investment.

Gross fixed capital formation⁽¹⁾ Quarterly change

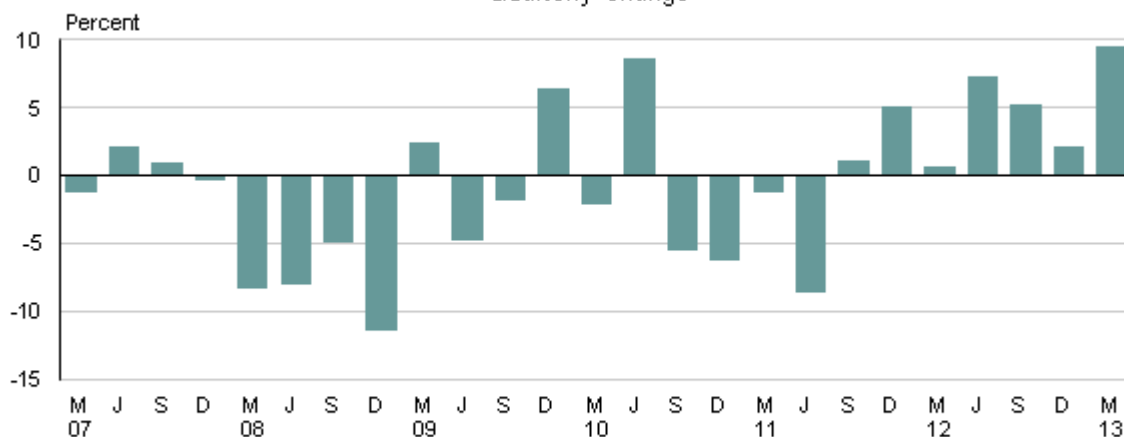


1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Investment in residential building (up 9.6 percent), drove the GFKF rise this quarter. This is the seventh consecutive quarter of growth, and the largest increase in residential building investment since the September 2002 quarter, when it grew 12.7 percent. Value of Building Work Put in Place: March 2013 quarter reported a 12.0 percent increase in residential building activity, driven by Canterbury. In GDP, investment in residential buildings includes the value of work put in place and transfer costs, which are the costs incurred when the ownership of land, buildings, and other structures is transferred.

Gross fixed capital formation – residential building⁽¹⁾ Quarterly change



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

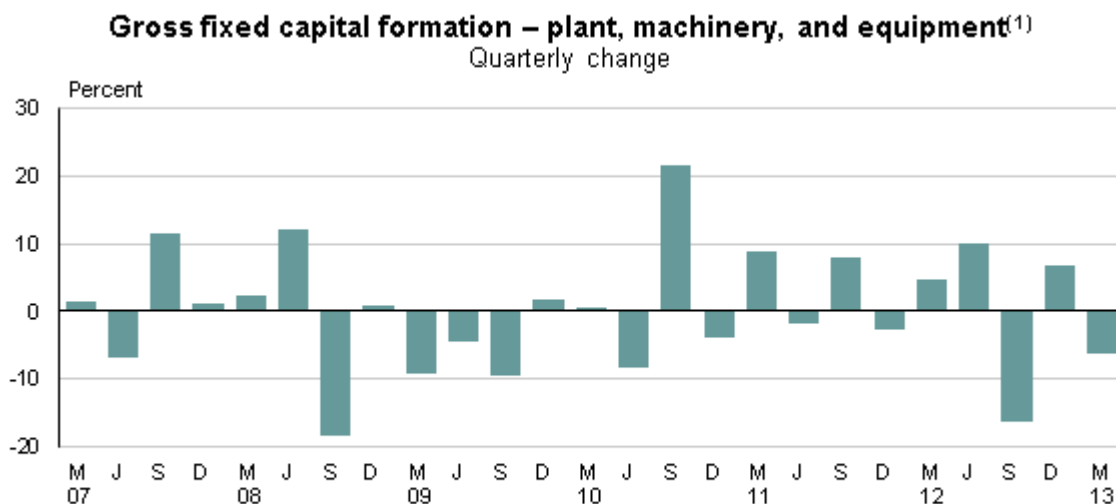
Source: Statistics New Zealand

For the March 2013 year, residential building investment increased 19.2 percent.

Fall in business investment

Business investment in fixed assets, which is total GFKF excluding residential building, fell 2.2 percent in the March 2013 quarter, after an increase of 2.2 percent in the December 2012 quarter. Investment in plant, machinery, and equipment (down 6.2 percent) was the largest

contributor to the fall, following a 6.9 percent increase in the December 2012 quarter. Investment in plant, machinery, and equipment consists of the domestic production, net imports, and net change in inventories of these types of goods. Imports of machinery and plant were up in the March 2013 quarter. Some of these imports were held as distribution inventories rather than being used for investment in plant, machinery and equipment.



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Other contributors to this quarter's decrease were investment in:

- intangible fixed assets (down 2.9 percent)
- other construction (down 2.8 percent)
- transport equipment (down 3.8 percent).

Non-residential building was up 0.4 percent.

Investment in fixed assets up for the year

For the March 2013 year, GFKF increased 6.7 percent and business investment increased 3.7 percent compared with the March 2012 year.

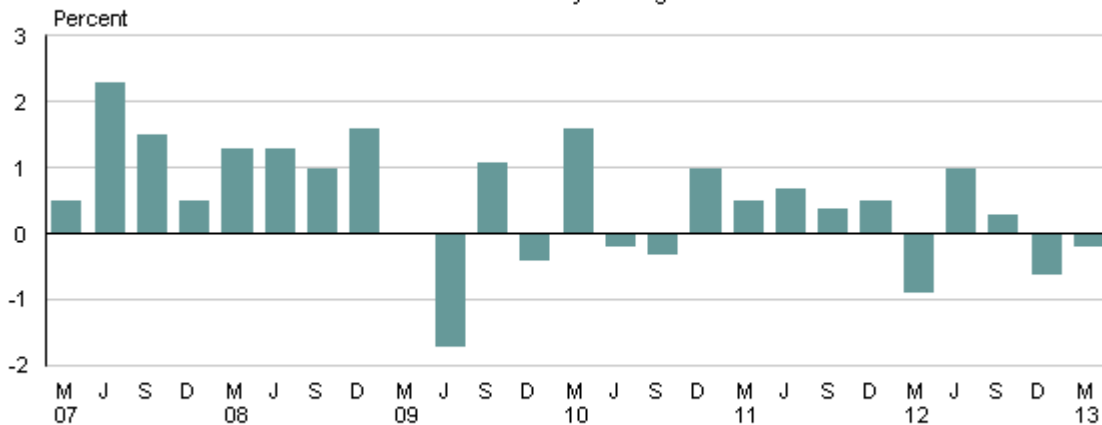
Build-up in inventories

In the March 2013 quarter, the supply of goods produced exceeded demand leading to a \$340 million build-up in inventories, following a rundown of \$78 million in the December 2012 quarter. The rise this quarter was driven by increases in manufacturing, and forestry and logging. Partly offsetting this build-up were rundowns in distribution and agriculture inventories.

Government final consumption expenditure down

General government final consumption expenditure decreased 0.2 percent in the March 2013 quarter, after a decrease of 0.6 percent in the December 2012 quarter. In the latest quarter, central government expenditure was down 0.1 percent and local government was down 1.0 percent. The 2013 Census of Population and Dwellings, which took place in March, is included in central government expenditure.

General government expenditure⁽¹⁾ Quarterly change



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Annual general government expenditure up

For the March 2013 year, general government final consumption expenditure increased 0.6 percent.

Exports and imports both up

Export of goods and services up due to agricultural products

Export volumes of goods and services increased 2.5 percent in the March 2013 quarter, after a 1.4 percent increase in the December 2012 quarter.

The volume of goods exported increased 2.5 percent in the March 2013 quarter, after a 2.1 percent increase in the December 2012 quarter. The main drivers of the latest increase were:

- agriculture and fishing primary products (up 15.5 percent), the largest increase since the March 2004 quarter when it was up 18.2 percent
- dairy products (up 3.0 percent)
- meat products (up 5.0 percent) with meat manufacturing also up due to increased slaughter numbers.

Partly offsetting the increase this quarter were decreases in:

- coal, crude petroleum and ores, minerals, and gases (down 16.5 percent)
- forestry primary products (down 4.7 percent) after volatile quarters in the last year. Forestry and logging production also fell in the March 2013 quarter as measured in the production measure of GDP.

Exports of services increased 7.0 percent in the March 2013 quarter, after a 2.9 percent fall in the December 2012 quarter. In the latest quarter, exports of travel services was up 7.1 percent.

Imports and exports of goods and services⁽¹⁾

Quarterly



1. Seasonally adjusted chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

Import of goods and services up due to machinery and plant

Import volumes of goods and services increased 2.3 percent in the March 2013 quarter, after a 0.7 percent decrease in the December 2012 quarter.

The volume of goods imported increased 2.8 percent in the March 2013 quarter, after a 1.7 percent decrease in the December 2012 quarter. The main contributors to the increase were capital goods imported (up 3.6 percent), driven by machinery and plant (up 3.7 percent) and imports of intermediate goods (up 2.9 percent). Investment in plant, machinery, and equipment fell this quarter. Some of the additional imports were held in distribution inventories rather than being used for investment in plant, machinery and equipment.

The volume of services imported was up 2.2 percent in the March 2013 quarter, after a 0.8 percent increase in the December 2012 quarter. The latest rise was driven by imports of travel services (up 6.6 percent).

Export and import volumes both up for the year

For the March 2013 year, export volumes increased 3.4 percent, driven mainly by dairy products (up 16.4 percent). Over the same period, import volumes increased 0.5 percent, driven mainly by imports of machinery and plant (up 13.0 percent).

Implicit price deflators

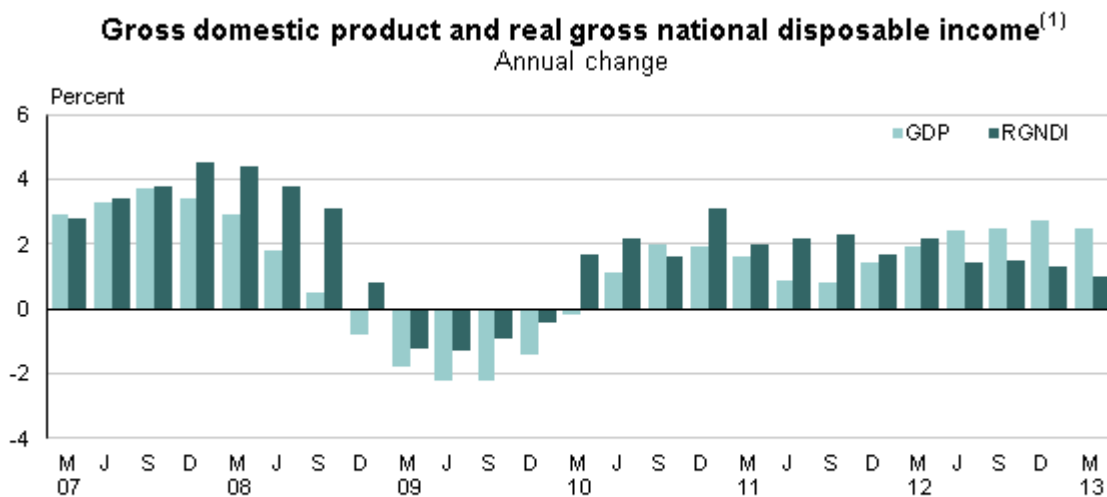
The GDP implicit price deflator (IPD) for the March 2013 year decreased 0.4 percent. The GDP IPD is a broad measure of the overall price change for final goods and services produced in New Zealand.

The IPD for gross national expenditure increased 1.0 percent for the March 2013 year. This provides a broad measure of the overall price change for final goods and services purchased in New Zealand.

The consumers price index (CPI) increased 0.9 percent for the year ended March 2013 (see [Consumers Price Index: March 2013 quarter](#)). The CPI measures the rate of price change of goods and services purchased by households.

Real gross national disposable income up 1.0 percent for the year

Real gross national disposable income (RGNDI) increased 1.0 percent for the March 2013 year, compared with an increase in GDP of 2.5 percent over the same period. While GDP is a measure of domestic production or economic activity over a given time period, RGNDI can be viewed as a broad welfare indicator. For more information about RGNDI see the [definitions](#) section.



1. Actual chain-volume series expressed in 1995/96 prices.

Source: Statistics New Zealand

The merchandise terms of trade index increased in the March 2013 quarter after decreasing in the previous six quarters (see [Overseas Trade Indexes \(Prices\): March 2013 quarter \(provisional\)](#)). The fall in the terms of trade for the March 2013 year resulted in lower annual RGNDI growth than GDP growth.

For more detailed data see the Excel tables in the 'Downloads' box.

Definitions

About gross domestic product

Gross domestic product (GDP) is New Zealand's official measure of economic growth.

Three different approaches can be taken to calculate GDP – the production approach, the expenditure approach, and the income approach. The production and expenditure approaches are used to calculate New Zealand's GDP on a quarterly basis. The production approach is available on a chain-volume basis, while the expenditure approach is on a chain-volume basis, and in current prices. Chain-volume estimates have the effect of price change (inflation) removed from them.

The **production approach** to GDP measures the total value of goods and services produced in New Zealand, after deducting the cost of goods and services used in the production process. This is also known as the value-added approach.

The **expenditure approach** to GDP (also known as GDE) measures the final purchases of goods and services produced in the New Zealand domestic territory. Exports are added to domestic consumption, as they represent goods and services produced in New Zealand, while imports are subtracted. Imports represent goods and services produced by other economies.

Conceptually, both the production-based and expenditure-based GDP series should produce the same growth rates, because what is produced by an economy should equal what is used. However, as each series uses independent data and estimation techniques, some differences between the alternative measures arise. The expenditure-based series has historically shown more quarterly volatility and is more likely to be subject to timing and valuation problems. For these reasons, the production-based measure is the preferred measure for quarter-on-quarter and annual changes.

More definitions

Broad industry groups: in tables 3, 4, 5, 6, 25, and 26 industry groups are combined to form the following broad groupings, based on the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06):

- primary industries (agriculture, forestry, and fishing; mining)
- goods-producing industries (manufacturing; electricity, gas, water, and waste services; construction)
- service industries (wholesale trade; retail, accommodation, and restaurants; transport, storage and warehousing; finance and insurance services; rental, hiring, and real estate services; professional, scientific, technical, administration, and support services; public administration and safety; education and training; health care and social assistance; arts, recreation and other services).

As well as these industrial groupings, there is an 'unallocated' category. This category includes taxes on production and imports (import duties, GST, and taxes on capital transactions) that are not allocated to industries.

Business investment: measures the investment of producers in land improvements; non-residential building; other construction; transport equipment; plant, machinery, and equipment; and intangibles (mining exploration and computer software).

Change in inventories: Change in the value of inventories of raw materials, work-in-progress, and finished goods, over a given period. The change is measured in the appropriate prices in the market at the time additions and withdrawals are made. The correct valuation of the change in inventories requires continually updated data on the quantities of individual commodities held in stock together with appropriate prices. As this data is rarely available, the usual practice is to revalue stocks at the end of the period. This is the best estimate of the physical change in stocks during a given period.

Chain-volume series expressed in 1995/96 prices: The series in this release are chain-linked and expressed in the average prices of the 1995/96 year. They are best described as annually reweighted, chained Laspeyres volume indexes. Series are expressed in 1995/96 dollars rather than as index numbers, since this has the advantage of showing the relative size of each component. For more information on chain-volume series, see 'Constructing a chain-volume series' in the [data quality](#) section of this release.

Durable goods: are goods that are not consumed in one use (eg appliances and electronic goods).

Gross fixed capital formation: Outlays of producers on durable fixed assets, such as buildings, motor vehicles, plant and machinery, hydro-electric construction, roading, and improvements to land. 'Gross' indicates that consumption of fixed capital is not deducted from the value of the outlays.

Gross national disposable income (GNDI): is the income received (less income payable) by New Zealand residents, from both domestic and overseas sources, after taking account of income redistribution by way of international transfers, or gross national income (GNI) plus international transfers.

Household consumption expenditure (HCE): is an estimate of total expenditure by New Zealand resident households. It includes expenditure by New Zealand households overseas but does not include expenditure by overseas tourists in New Zealand.

Implicit price deflators: Tables 23 and 24 contain implicit price deflators (IPDs) for expenditure on GDP and its components. IPDs provide a broad measure of price change for total economic activity and each of the expenditure components.

Non-durable goods: are goods that are either consumed immediately in one use or within 3 years.

Real gross national disposable income (RGNDI): measures the real purchasing power of national disposable income, taking into account changes in the terms of trade, and real gains from net investment and transfer income with the rest of the world. Effectively, it is a measure of the volume of goods and services New Zealand residents have command over. For more information on calculating RGNDI, please refer to 'Calculating real gross national disposable income' in the [data quality](#) section of this release.

Services: products other than tangible goods. Services result from production activity that changes the conditions of the consuming units, or makes the exchange of products or financial assets possible.

Value added: income formed in the production process. Value added equals output minus intermediate consumption. Value added is the income available to reward the production factors involved.

Related links

Upcoming releases

Gross Domestic Product: June 2013 quarter will be released on 19 September 2013.

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[The release calendar](#) lists all our upcoming information releases by date of release.

Recent releases

The quarterly production measure of GDP has been reconciled to balanced annuals data from [National Accounts \(Industry Benchmarks\): Year ended March 2010](#). For more information about the reconciliation process, see [revisions](#).

The quarterly expenditure measure of GDP has been reconciled to annual data from [National Accounts \(Income and Expenditure\): Year ended March 2012](#).

Past releases

[Gross Domestic Product – information releases](#) has links to past releases.

Related information

[National accounts](#) provide an annual measure of economic aggregates in the New Zealand economy.

Data quality

Period-specific information

This section contains information that has changed since the last release.

- [Reference period](#)

General information

This section contains information that does not change between releases.

- [Data source](#)
- [Incorporating annual data](#)
- [The System of National Accounts](#)
- [Australian and New Zealand Standard Industrial Classification 2006](#)
- [Constructing a chain-volume series](#)
- [Revisions resulting from chain-linking](#)
- [Calculating real gross national disposable income](#)
- [Calculating implicit price deflators](#)
- [Revisions policy](#)
- [Interpreting the data](#)
- [Confidentiality and accessing the data](#)
- [More information](#)

Period-specific information

Reference period

Information for this release was collected for the period January–March 2013.

General information

Data source

[Quarterly Gross Domestic Product: Sources and Methods \(Third edition\)](#) presents the sources and methods used in compiling quarterly GDP. Contact the Information Centre (toll-free at 0508 525 525 or email info@stats.govt.nz) for hard copies.

Incorporating annual data

[National Accounts \(Industry Benchmarks\): Year ended March 2010](#) was released on 21 November 2012. As annual data has a wider range of data sources, it is more complete. We reconciled the quarterly estimates of industries in GDP and the components of gross domestic expenditure (GDE) to annual estimates to ensure we show the most robust picture of economic activity.

We incorporated annual benchmarks for the production measure of GDP up to the year ended March 2010, and to the year ended March 2012 for GDE.

See [National Accounts \(Income and Expenditure\): Year ended March 2012](#) for more information.

The System of National Accounts

The conceptual framework we use to compile New Zealand's national accounts and GDP is based on the System of National Accounts 1993 (SNA93). The SNA93 is jointly published by the United Nations, The Commission of the European Communities, the International Monetary Fund, the Organisation for Economic Co-operation and Development, and the World Bank.

The latest SNA is for 2008 (SNA08). So far, Australia is the only country to use this. New Zealand will introduce SNA08 into the New Zealand accounts at the end of 2014.

Australian and New Zealand Standard Industrial Classification 2006

The production measure of GDP is presented by industry. The industry classification we use for GDP is the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06).

See [ANZSIC 2006 – industry classification](#) for more information about implementing ANZSIC06.

[Gross Domestic Product: December 2011 quarter](#) was the last GDP release to use ANZSIC96.

Constructing a chain-volume series

We constructed the chain-volume measures of GDP and GDE by:

(a) compiling a Laspeyres volume index of the component in question, using the previous year's prices as weights; then

(b) chaining the sequence of annual movements to produce a continuous time series.

This procedure is used at different levels within the accounts. For example, GDP is compiled by weighting together the individual industry value-added components to produce a Laspeyres volume index for each quarter, and then linking the resulting indexes to produce the GDP time series. Each industry component, such as transport, postal, and warehousing, is also a chained-volume series. At the lowest level, the 'elemental series' are not chained and are either single series in their own right or fixed-weight series comprising many components. Chaining is not adopted, either because the details needed for annual weights are not available, or relative price changes are not significant.

Note that chain-volume series are not additive (ie the chain-volume series for an aggregate will not equal the sum of the values of its components). See [Chain volume measures in national accounts](#) for a full explanation of the concepts and procedures used to compile chain-volume series.

Usually, the industry 'elemental series' estimates that make up the production-based GDP are calculated by extrapolating value added using indicator series that represent the quantities of output produced. The technique known as double deflation, by which volume value added is calculated as the difference between volume outputs and inputs, is not widely used. Double deflation on an annual basis is currently used for these industries: agriculture; electricity and water transport; owner-occupied dwellings; healthcare and social assistance; education and training; professional, scientific, and technical services; administration and support services; arts and recreation services; and other services.

Revisions resulting from chain-linking

One of the key benefits of adopting chain-volume measures in place of fixed-weight series is that the relative weights of the component series are more up-to-date. This reduces the likelihood of introducing biases in the volume measures, which would otherwise become progressively unrepresentative as relative prices change. The disadvantage is that the annual reweighting introduces another cause for revision.

Reweighting is part of the annual revisions cycle and is usually timed to coincide with the introduction of other new annual data from the current price GDP accounts. See 'Incorporating annual data' section above.

The current price annual accounts provide the detailed component series needed for weighting the production-based series of GDP. There is usually a two-year time lag before these detailed series are available. The latest year for which up-to-date weights were used for the production-based series is for the year ended 31 March 2010, and all subsequent quarters use these weights.

Current price data for GDE components are timelier. As a result, the latest year for which up-to-date weights were used for the GDE series is for the year ended 31 March 2012. All subsequent quarters use these weights.

When the weights are updated, this procedure results in revisions to all periods beyond the latest year for which detailed series are available (currently 2009/10 for the production-based measure and 2011/12 for the expenditure-based measure).

Calculating real gross national disposable income

RGNDI is calculated as follows:

chain-volume measure of **gross domestic product** (production-based measure)
plus a terms of trade effect (trading gain/loss)
equals real gross domestic income
plus real value of total net investment income
equals real gross national income
plus real value of total net transfers
equals real gross national disposable income

where the terms of trade effect is defined as:
current price exports deflated by an imports implicit price index
less chain-volume measure of exports

and the real value of total net investment income equals:
investment income credits
less investment income debits
all deflated by an imports implicit price index

and the real value of total net transfers equals:
transfers credits
less transfers debits
all deflated by an imports implicit price index.

A per capita measure is simply the series in question divided by the projected population of New Zealand. From the March 1991 quarter onwards, we used the 'estimated resident population of New Zealand'. This is defined as New Zealand residents currently in New Zealand plus those temporarily overseas. Overseas tourists visiting New Zealand are excluded. Before March 1991, we used the 'de facto' population, which excludes New Zealand residents temporarily overseas and includes overseas tourists in New Zealand.

Calculating implicit price deflators

We calculate implicit price deflators (IPDs) by dividing the seasonally adjusted current price quarterly series by the equivalent chain-volume series. This provides a broad estimate of price change between the base period and any other period. Significant compositional changes may result in the IPDs being a less precise estimate of price change. This problem is more likely to occur in the gross national expenditure and expenditure on GDP aggregates. This is because both measures include the change in inventories item, which is highly subject to compositional changes, including a change in sign.

Revisions policy

We may revise previously published series each quarter. The frequency and cause of these revisions are listed below.

- **Quarterly** – more data becoming available for the latest quarters, which is used to replace existing estimates. Revisions to quarterly data (eg revisions to the balance of Payments or Retail Trade Survey), which will be incorporated as soon as possible to maintain consistency between published macroeconomic statistics.
- **Annual** – introduction of annual data after the release of the latest annual national accounts; annual updating of the weights used to link component series to totals and subsequent chaining (see 'Revisions resulting from chain-linking' above).
- **Irregular** – for example, methodological changes. Note that as far as possible, revisions of this nature are incorporated to coincide with the annual cycle of revisions outlined above or are discussed in a separate paper ahead of the changes.

Each of the above causes for revision, and/or the addition of a new point in the actual quarterly series, can alter seasonal factors and may lead to a revision in the seasonally adjusted series.

Interpreting the data

Annual percentage changes

When using annual percentage changes, care should be taken to ensure the measures used are correctly understood. Annual measures are calculated by summing the actual series for a four-quarter period. Unless otherwise stated, the annual percentage change is the most recent four-quarter period compared with the previous four-quarter period.

Direct and indirect seasonal adjustment

The level at which a series is seasonally adjusted is important, since it has the potential to affect its quality. The individual component series of the main economic variables can be seasonally adjusted and then summed to derive totals. This is called an indirect seasonal adjustment. Alternatively, the main economic variables can be seasonally adjusted at the total level, independently of the seasonal adjustment of their components. The adjustment of the total of an aggregate series is called a direct seasonal adjustment. The indirect approach has the

advantage of retaining additivity, but this applies only to the current price series. While the indirect approach conceptually also provides additivity for volume series, additivity is lost by chain-linking.

The direct approach will often give better results if the component series show similar seasonal patterns. At the most detailed level, the irregular factor may be large compared with the seasonal factor and therefore may make it difficult to perform a proper seasonal adjustment. In a small country like New Zealand, irregular events can have a strong impact on particular data. However, if the component series show the same seasonal pattern, aggregation often reduces the impact of the irregular factors in the component series. This is relevant for New Zealand, where seasonal fluctuations in the primary industries affect economic series.

We analysed both direct and indirect approaches for the two quarterly GDP aggregates, the production and expenditure on GDP. We prefer to use the direct approach because the resulting series are smoother and more stable.

The residual between the seasonally adjusted components and the aggregates is referred to as the balancing item. The balancing item will often show significant seasonal variations. This is expected, as it captures the undetected seasonality in the component series.

The level at which seasonal adjustment is applied to quarterly GDP series may differ from other Statistics NZ surveys (eg the Economic Survey of Manufacturing and the Wholesale Trade Survey). These may contribute to differences in the aggregate seasonally adjusted series.

Explanation of the seasonally adjusted balancing item

Seasonal adjustment removes seasonal variation from a statistical series. By removing seasonal effects from GDP, we can better understand the underlying economic activity. Examples of seasonal variation in economic activity are milking and lambing seasons, Christmas shopping, and peak periods for visitors to New Zealand.

The seasonal adjustment balancing item is the difference between directly seasonally adjusting total GDP and seasonally adjusting each component of GDP and adding them together. Directly seasonally adjusting total GDP is the preferred method. The seasonal adjustment balancing item does not contribute to GDP and therefore should not be interpreted as an economic variable. It should also not be interpreted as a margin of error for the headline measure of GDP, as over the course of a year it balances out to zero.

We have always seasonally adjusted quarterly GDP in line with international best practice.

Confidentiality and accessing the data

Data collected and information contained in this publication must conform to the provisions of the Statistics Act 1975. This requires that published information maintains the confidentiality of individual respondents.

More information

See more [information about the quarterly gross domestic product](#).

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Revisions

- [Chain-linking](#)
- [Financial intermediation services indirectly measured](#)
- [Revisions to GDP](#)
- [Revisions to expenditure on GDP](#)

Chain-linking

Revisions were made because a new complete March year of data was used for calculating chain-volume measures. These revisions affect all industries in the production measure of GDP and all components of the expenditure measure of GDP. They are particularly noticeable in the chain-volume measures of exports and imports.

Financial intermediation services indirectly measured

Updated input data for financial intermediation services indirectly measured (FISIM) resulted in revisions to financial and insurance services in the production measure of GDP, and household consumption expenditure, private non-profit final consumption expenditure, central and local government final consumption expenditure, and exports and imports of services in the expenditure measure of GDP.

Revisions to GDP

- Agriculture was revised due to the incorporation of new benchmarks from [Agricultural Production Statistics: June 2012 \(final\)](#).
- Manufacturing was revised due to updated Economic Survey of Manufacturing data, and a correction in the chain-linking for the industry.
- Wholesale trade was revised due to updated Wholesale Trade Survey data.
- Accommodation services revised due to updated Retail Trade Survey data.
- Healthcare and social assistance was revised due to a correction to the calculation of the industry
- Agriculture, forestry, and fishing; mining; construction; electricity, gas, water, and waste services; information media and telecommunications; financial and insurance services; and rental, hiring, and real estate services were revised due to updated input data.

Revisions to expenditure on GDP

- Household consumption expenditure was revised due to updated input data.
- Private non-profit final consumption expenditure revised due to a methodology correction.
- Gross fixed capital formation revised due to updated input data for other construction and transfer costs.
- Inventories revised due to the incorporation of new benchmarks from [Agricultural Production Statistics: June 2012 \(final\)](#), updated forestry input data, updated data from the Economic Survey of Manufacturing, and updated data from the Wholesale Trade Survey.
- Exports and imports of goods and services were revised due to updated Overseas Trade and Balance of Payments data.

The following table shows the previously published and revised quarterly movements for GDP and expenditure on GDP.

Quarter	Gross domestic product – percent change from previous quarter		Expenditure on gross domestic product – percent change from previous quarter	
	Previously published	Revised	Previously published	Revised
June 2007	0.8	0.8	1.7	1.7
September 2007	0.7	0.6	0.7	0.7
December 2007	0.1	0.1	0.4	0.4
March 2008	-0.4	-0.4	-0.4	-0.4
June 2008	-1.1	-1.0	-1.7	-1.7
September 2008	-0.2	-0.2	-0.2	-0.2
December 2008	-0.6	-0.6	-0.1	-0.1
March 2009	-1.1	-1.1	-0.3	-0.3
June 2009	-0.4	-0.3	1.0	1.0
September 2009	0.6	0.6	0.6	0.6
December 2009	1.6	1.6	0.5	0.5
March 2010	0.1	0.1	0.5	0.5
June 2010	0.7	0.8	0.1	0.1
September 2010	-0.3	-0.2	-1.3	-1.3
December 2010	-0.4	-0.4	0.2	0.2
March 2011	0.7	0.7	0.7	0.7
June 2011	0.5	0.6	0.7	0.7
September 2011	0.8	0.8	1.0	1.0
December 2011	0.4	0.3	0.5	0.4
March 2012	1.0	1.1	1.0	1.0
June 2012	0.2	0.3	0.4	0.6
September 2012	0.2	0.3	0.5	0.7
December 2012	1.5	1.5	1.4	1.3

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Tables

The following tables are available in Excel format from the 'Downloads' box. If you have problems viewing the files, see [opening files and PDFs](#).

- 1 Gross domestic product by industry – March 2013 quarter
- 2 Expenditure on gross domestic product – March 2013 quarter
- 3 Gross domestic product by industry – quarterly value
- 4 Gross domestic product by industry – quarterly percentage change
- 5 Gross domestic product by industry – annual value
- 6 Gross domestic product by industry – annual percentage change
- 7 Expenditure on gross domestic product – quarterly value
- 8 Expenditure on gross domestic product – quarterly percentage change
- 9 Expenditure on gross domestic product – annual value
- 10 Expenditure on gross domestic product – annual percentage change
- 11 Household consumption expenditure – quarterly value and percentage change
- 12 Household consumption expenditure – annual value and percentage change
- 13 Gross fixed capital formation – quarterly value and percentage change
- 14 Gross fixed capital formation – annual value and percentage change
- 15 Exports of goods and services – quarterly value and percentage change
- 16 Imports of goods and services – quarterly value and percentage change
- 17 Expenditure on gross domestic product current price – quarterly value
- 18 Expenditure on gross domestic product current price – quarterly percentage change
- 19 Expenditure on gross domestic product current price – annual value
- 20 Expenditure on gross domestic product current price – annual percentage change
- 21 Per capita measures – quarterly value and percentage change
- 22 Per capita measures – annual value and percentage change
- 23 Implicit price deflators – quarterly index values and percentage change
- 24 Implicit price deflators – annual index values and percentage change
- 25 Gross domestic product by industry – percentage change from same quarter of previous year

Supplementary tables

These tables show a longer time series for expenditure on gross domestic product and gross domestic product by industry than is included in the March 2013 quarter tables. See the 'Downloads' box.

- 1 Expenditure on gross domestic product – annual value
- 2 Expenditure on gross domestic product components – quarterly value
- 3 Expenditure on gross domestic product components – quarterly percentage change
- 4 Gross domestic product by industry – annual value
- 5 Gross domestic product by industry – quarterly value
- 6 Gross domestic product by industry – quarterly percentage change

Access more data on Infoshare

Use [Infoshare](#) to access time-series data specific to your needs. For this release, select the following categories from the Infoshare homepage:

Subject category: **Economic indicators**

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