



Preview of 2016 national accounts improvements



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1 Purpose and summary

Preview of 2016 national accounts improvements presents the improvements we will make to New Zealand's national accounts over the remainder of 2016. It provides information and analysis to help users interpret the revised data and indicates the size of the revisions.

Our aim is to help technical users of national accounts and gross domestic product (GDP) data anticipate the impact of revisions to economic models. Note that the data and graphs in this paper are broad indications of the revisions that can be expected. These revisions are subject to changes in the final publications.

Background to the improvements

The improvements to the national accounts in 2016 are due to changes that have occurred and new data and information that have become available since the 2015 annual release.

The main changes and new information available are:

- from 2017, the timeliness of the Balanced National Accounts will be improved by one year – however, as an interim solution with this year's release we will be publishing provisional nominal GDP industry contributions for the year ended March 2015
- updated data measuring unconsented construction arising from the Canterbury earthquakes
- updates to nominal data from 2013, due to the regular annual update cycle
- annual real and quarterly GDP methodological updates
- updated benchmarks for 2013 and 2014 will be reflected in volume benchmarks with the release of *Gross Domestic Product: September 2016 quarter*.

National accounts statistics are consistent with an international framework discussed in more detail in [Preview of 2014 national accounts improvements](#). This framework underpins the statistical releases discussed in this paper and is linked to the accounting frameworks of other macroeconomic statistics, such as trade and consumer prices.

The updates also reflect a reconciliation of goods and service flows across the economy within the national accounts framework for all years up to 2014.

When the improvements will occur

We will include the improvements in the following information releases.

Publication title	Publication date
<i>National Accounts (Industry Production and Investment): Year ended March 2014</i>	18 November 2016
<i>National Accounts (Income and Expenditure): Year ended March 2016</i>	18 November 2016
<i>Gross Domestic Product: September 2016 quarter</i>	15 December 2016

Structure of the paper

Chapter 2 provides an analysis of the main improvements to national accounts and nominal GDP statistics.

- Updated data for unconsented construction arising from the Canterbury earthquakes.
- Introduction of provisional annual estimates of nominal GDP industry contributions for the year ended March 2015.

Chapter 3 outlines the improvements to measures of economic growth in real terms. The improvements fall into two broad categories:

- improved measures of annual growth in real terms
- improved measures of quarterly growth.

The most significant revisions to real GDP growth are due to an improved methodology for measuring construction services.

The appendix describes lower-level technical aspects of the improvements, which fall into three broad categories:

- annual nominal data and methodology updates
- annual real GDP methodology updates
- quarterly GDP methodology updates.

2 Main improvements to national accounts statistics

This chapter provides an analysis of the main improvements to national accounts and nominal GDP statistics.

Overview of the national accounts annual publications

[National Accounts \(Industry Production and Investment\)](#) – formerly called National Accounts (Industry Benchmarks) – provides comprehensive industry data on production, investment, and capital stocks. It focuses on industry data and the benchmarks for the nominal level of activity, which update and maintain the quality of quarterly GDP-P statistics.

[National Accounts \(Income and Expenditure\)](#) provides information on the national income available for spending and saving, in nominal terms. The release gives an insight into how saving is used and invested between different sectors of the economy. Income and expenditure items provide the basis of updated benchmarks for measuring quarterly GDP-E statistics.

Annual nominal benchmark updates

Annual benchmark updates are the result of applying the supply-use framework, which is a core part of the national accounts framework. The updates affect nearly all statistics published in the national accounts release. The supply-use framework captures the flow of goods and services across the economy. The overall framework ensures that data and methodology updates are reflected in other components affected by the changes.

Applying the supply-use framework requires an extensive process to reconcile goods and service flows, which we undertake annually when the data becomes available. For the first time we will reconcile the goods and service flows occurring over the March 2014 year with the release of the 2016 national accounts. The complete process reflects these additional data needs and the analysis required to interpret conflicting data sources.

A reconciliation process for financial flows, such as interest payments and receipts, is also needed to complete the picture of income and expenditure flows between sectors of the economy. Information is available for the initial reconciliation of financial flows between sectors up to 2016.

Improvements to measuring industry production

We will publish new provisional estimates of industry contributions to GDP for 2015 in this year's annual national accounts. This reflects a step forward in a longer-term programme of work to increase timeliness of balanced national accounts. Provisional industry data provides customers with a more timely view of industry-level economic activity than previous publications. It has been made possible by making more comprehensive and timely use of 2015 Annual Enterprise Survey data within the annual national accounts cycle.

Because 2015 data is provisional in this year's nominal industry estimates, it will not be used to benchmark the volume measures of GDP that will be released in December. Provisional estimates are also subject to more revision than final reconciled data. While the provisional industry estimates reflect the best available picture of industry activity, customers can expect some changes to 2015 data once it is fully reconciled within the supply use framework in next year's release. We aim to deliver more timely reconciled data at the industry level in 2017.

Improvements to measuring expenditure components

The most significant improvement to measuring expenditure on GDP is an update of the data used to measure unconsented building construction arising from the Canterbury earthquakes. Our estimates have been updated due to better housing insurance data becoming available, which has been used to improve our residential building gross fixed capital formation series. The data updates cause upwards revisions of about 3 percent to residential building investment for the years from 2013 to 2015.

3 Main updates to quarterly gross domestic product

This chapter outlines the improvements we made to the quarterly measures of economic growth.

Overview of quarterly GDP publication

GDP is New Zealand's official measure of economic growth. The production measure of GDP (GDP-P) refers to the volume of goods and services produced in the economy, while the expenditure measure of GDP (GDP-E) shows how these goods and services were used. We express quarterly GDP-P in volume terms only (with the effects of price changes removed), and we express GDP-E in both volume terms and current price terms.

This chapter describes changes we have made to data and methodology that will affect our estimates of GDP growth. More detailed analysis of the changes and the revisions to total GDP growth will be published in the September 2016 quarter GDP release on 15 December 2016.

Annual benchmark updates

Updating annual benchmarks is essential for measuring quarterly economic growth. These updates ensure that our quarterly estimates capture changes in the structure of the economy. The quarterly growth rates are based on short-term indicators of change relating to a particular industry contribution to GDP-P, or an expenditure component of GDP-E. To measure overall growth, we weight the indicators of change according to the annual benchmark values derived in the national accounts. We update the weights used to measure economic growth as we update the national accounts, which includes the revisions outlined above.

Annual benchmark updates have a very significant effect over the long term. The impact of structural changes and updated data result in revised growth rates for the most recent periods. We are currently incorporating regular annual benchmarks for 2013 and 2014 into the GDP-P volume measure. The GDP-E statistics will also be updated with new 2013 and 2014 benchmarks, and additional benchmarks for 2015 and 2016. We will publish the effect of these changes in the September 2016 quarter GDP release on 15 December 2016.

Methodology improvements

In addition to the annual benchmark updates, we implemented improvements that led to revisions to GDP series. The largest of these is improvements in our methodology for measuring construction industry activity.

Construction industry improvements

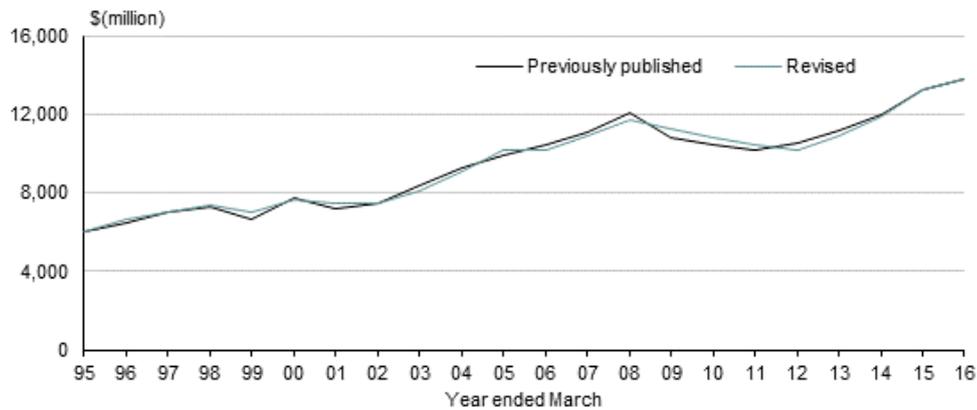
The main change to the construction industry methodology is that we will benchmark the construction services sub-industry to annual value added (where previously there was no annual benchmark). The new annual volume benchmarks are created by deflating current price value added using the construction services output sub-index of the producer price index (PPI). This new methodology will cause revisions to annual construction volumes from the year ended March 1996, with annual growth estimates that show considerably less volatility on a year-to-year basis. Quarterly movements will be largely preserved.

The following figures (1a and 1b) indicate the changes to annual volume estimates that can be expected as a result of implementing this new method. The data in these figures

does not yet include the effect of updated annual benchmarks. The updated benchmarks will result in additional revisions only for years after 2012.

Figure 1a

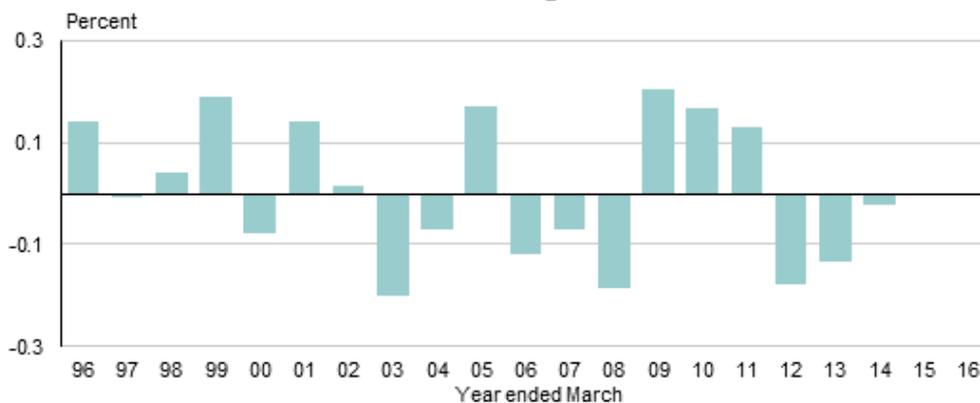
Effect of new construction services annual method on annual construction industry volumes



Source: Statistics New Zealand

Figure 1b

Effect of new construction services annual method on annual GDP volume growth rates



Source: Statistics New Zealand

A number of smaller changes will also cause revisions to construction series:

- Revisions to input data relating to heavy and civil construction in the March and June 2016 quarters will cause downward revisions to the construction industry, and investment in other construction.
- Quarterly indicator data for residential building construction and residential building investment will be revised back to 2012, so that in future seasonally adjusted outputs will be more closely aligned to those published in the Value of Building Work Put in Place release.
- The seasonal adjustment for the construction industry will change from indirect to direct.
- Investment in other construction (including roading and telecommunications infrastructure) will now be seasonally adjusted, which will remove considerable volatility from the affected series.

Removal of fixed weights

We introduced chain-linking to replace fixed 2010 weights for lower-level series in the mining and business services on the production side of GDP. This means that we now annually update the current price weights used to aggregate sub-industries into industry totals (see [Quarterly gross domestic product: Sources and methods \(fourth edition\)](#) for further detail on chain linking). We also introduced chain-linking of FISIM into the export and import components, and some parts of non-residential gross fixed capital formation, on the expenditure side of GDP.

Central government final consumption expenditure

Revisions to central government final consumption expenditure are primarily due to updates to data and classifications, along with removing the small number of remaining fixed 2010 weights. The changes result in revisions to the quarterly movements of both current price and volume estimates from June 1994 onwards. They change the GDP-E quarterly seasonally adjusted movements by up to 0.1 percentage points. They do not affect the annual movements as the annual benchmarks are unchanged. There is no impact on GDP-P.

Changes to data sources

We made several small changes to data used for quarterly GDP:

- We aligned oil and gas production indicators more closely with those published in MBIE's Quarterly Energy Report.
- Updated travel credit proportions have been incorporated into our measures of household consumption expenditure, although these changes have no effect on household consumption totals.
- We updated the annual data for school education (for the period from 2011 to 2015), with data sourced from the Ministry of Education. This replaces the previous estimates, which were derived from a population-based method.

All changes to quarterly GDP methodology will be reflected in the fifth edition of the quarterly GDP sources and methods, due to be released at the end of 2016.