

# Wholesale Trade Survey: December 2015 quarter

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## Key facts

For the December 2015 quarter, compared with the September 2015 quarter:

- Total wholesale trade sales **fell** 0.2 percent (\$55 million).
- Four of the six industries had decreased sales.
- The largest fall in sales was in basic material wholesaling, **down** 2.7 percent (\$140 million).

Total actual wholesale stocks were **up** 5.6 percent (\$572 million) when compared with the December 2014 quarter.



Source: Statistics New Zealand

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## Commentary

- Wholesale sales fall slightly in December quarter
- Sales fall for most industries
- Actual sales up from December 2014 quarter
- Stock values rise

Sales figures are seasonally adjusted unless otherwise stated. We make no adjustment for changes in price level in this release.

### Wholesale sales fall slightly in December quarter

Total wholesale trade sales fell 0.2 percent (\$55 million) in the December 2015 quarter. This follows a 3.0 percent rise (\$678 million) in the September 2015 quarter, and a 0.2 percent rise (\$56 million) in the June 2015 quarter.



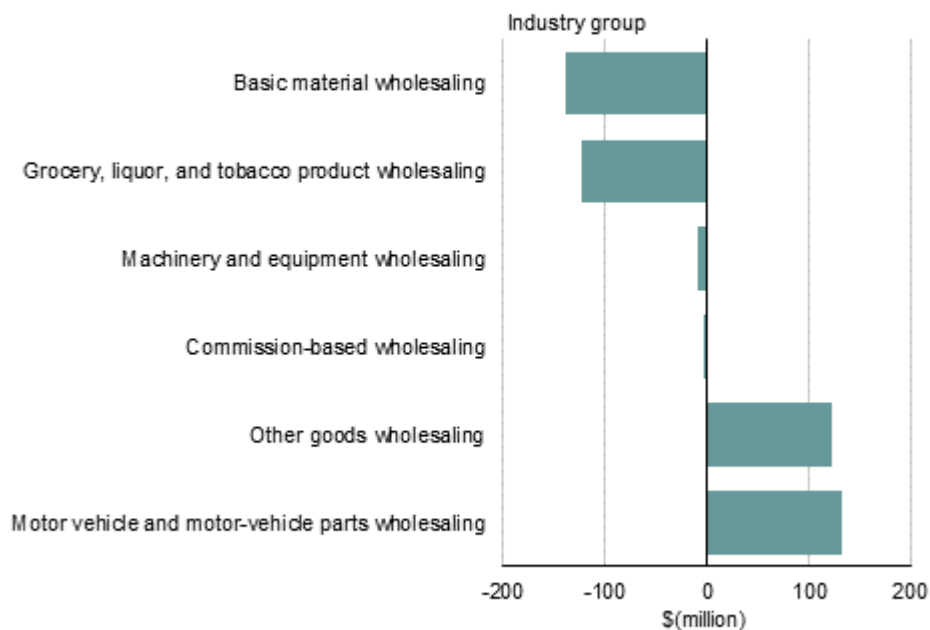
Source: Statistics New Zealand

The trend for wholesale trade sales has steadily been increasing, and it remains at a high level.

## Sales fall for most industries

### Industry contributions to change in seasonally adjusted sales

Change from the September 2015 quarter



Source: Statistics New Zealand

Four wholesale industries had sales decreases in the December 2015 quarter, compared with the September 2015 quarter:

- basic materials – down 2.7 percent (\$140 million)
- grocery, liquor, and tobacco product – down 1.6 percent (\$123 million)
- machinery and equipment – down 0.2 percent (\$8.5 million)
- commission-based – down 0.8 percent (\$3.2 million)

The remaining industries had higher sales:

- motor vehicle and motor-vehicle parts – up 6.0 percent (\$133 million).
- other goods – up 3.3 percent (\$123 million)

See [Wholesale Trade Survey in DataInfo+](#) for details about the industries.

## Actual sales up from December 2014 quarter

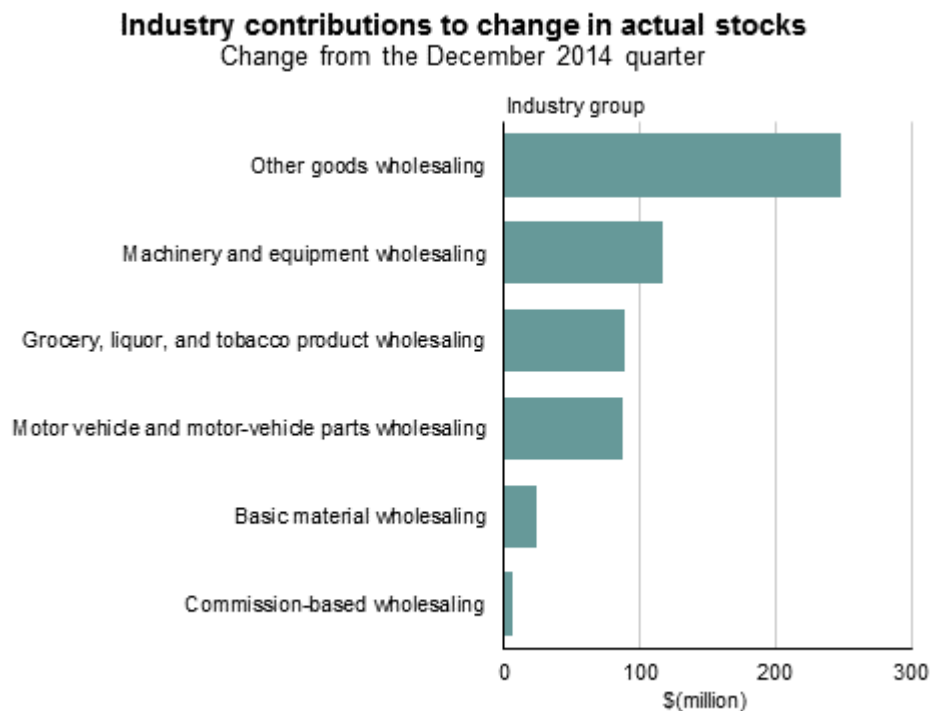
The actual value of wholesale trade sales was \$25.0 billion in the December 2015 quarter, up \$578 million (2.4 percent) from the December 2014 quarter.

## Stock values rise

Stock figures are not adjusted for seasonal effects unless otherwise specified.

The total value of wholesale trade stocks held at 31 December 2015 was \$10.8 billion, up 5.6 percent (\$572 million) when compared with 31 December 2014.

Stocks rose in all six wholesale industries in the December 2015 quarter, compared with the December 2014 quarter.



Source: Statistics New Zealand

The largest annual increase was in the other goods wholesaling industry, **up** 11 percent (\$248 million).

When adjusted for seasonal effects, total wholesale trade stocks were worth \$10.8 billion at 31 December 2015, **up** 2.6 percent (\$269 million) from 30 September 2015.

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

# Definitions

## About the Wholesale Trade Survey

The Wholesale Trade Survey (WTS) provides short-term economic indicators for the wholesale trade sector. We also use WTS data to compile the wholesale trade sector component of quarterly national accounts. The survey was last redesigned in the September 2002 quarter.

## More definitions

**ANZSIC06:** Australian and New Zealand Standard Industrial Classification 2006.

**Business Frame:** a register of all economically significant businesses operating in New Zealand. The WTS population is drawn from the Business Frame.

**Enterprise:** a business entity operating in New Zealand either as a legally constituted body such as a company, partnership, trust, local or central government trading organisation, or as a self-employed individual.

**Kind-of-activity unit (KAU):** an enterprise subdivision that is engaged in predominantly one activity and for which a single set of accounting records is available.

**NZSIOC:** New Zealand Standard Industrial Output Categories. NZSIOC is the primary output view for all aggregated outputs for industry data collected using ANZSIC06.

**Operating income:** income from total sales. This includes:

- sales of processed goods
- sales of goods purchased for resale
- sales of services
- repair services
- processing fees
- management fees
- rental income
- leasing income
- royalties
- patent fees.

Operating income excludes:

- interest/dividends received
- donations
- insurance claims
- subsidies
- government grants
- exchange rate gains
- extraordinary items
- gains on sales of fixed assets
- excise duties
- bad debts.

**Rolling mean employment (RME):** a 12-month moving average of the monthly employee-count figure.

**Total stocks:** closing stocks of raw materials for use in production, plus the closing stocks of finished goods, work in progress, and trading stocks.

## **Related links**

### **Next release**

*Wholesale Trade Survey: March 2016 quarter* will be released on 7 June 2016.

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### **Past releases**

See [Wholesale Trade Survey](#) for links to past releases.

### **Related information**

[Wholesale Trade Survey: December 2015 – data collection methodology](#) details the methodology used, and the postal and tax contributions, for this release.

[Wholesale Trade Survey – data collection methodology](#) details the general methodology used to produce wholesale trade survey statistics.

[Wholesale Trade Survey](#) – provides the definitions of terms used in this release.

## Data quality

The information in this section has been updated as a result of changes to the methodology used in the Wholesale Trade Survey.

### Period-specific information

- [Postal and tax contributions for December 2015 quarter](#)

### General information

- [Changes to the methodology for wholesale trade](#)
- [Population](#)
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## Period-specific information

### Postal and tax contributions for December 2015 quarter

<b>Collections data quality for Wholesale Trade Survey</b>				
December 2015 quarter				
Industry	Postal collection		Tax modelled	
	Contribution to industry	Value from imputed postal collection	Contribution to industry	Value from imputed tax
	Percentage of sales			
Basic material wholesaling	57.3	1.4	42.7	0.8
Machinery and equipment wholesaling	36.4	0.7	63.6	1.2
Motor vehicle and motor-vehicle parts wholesaling	63.7	0.4	36.3	1.1
Grocery, liquor, and tobacco product wholesaling	73.3	1.6	26.7	0.8
Other goods wholesaling	30.0	0.6	70.0	1.6
Commission-based wholesaling	59.4	0.0	40.6	1.3
<b>Total wholesale trade</b>	<b>54.2</b>	<b>1.1</b>	<b>45.8</b>	<b>1.0</b>

### General information

#### Changes to the methodology for wholesale trade

See [Wholesale Trade Survey: September 2015 quarter](#) for changes we made to the methodology used in the Wholesale Trade Survey. The changes:

- make greater use of administrative data sources



- reduce respondent burden
- introduce a consistent methodology and processing system across the quarterly Wholesale Trade Survey, quarterly Manufacturing Survey, and quarterly Selected Services Survey.
- enable the delivery of information at lower levels of detail for research and customised requests
- improve the quality of the published series.

Under the old design, we surveyed all the large businesses in each industry, plus a sample of medium-sized businesses. We supplemented this with modelled tax data for the smaller businesses.

Under the new design, we use administrative data (goods and services tax (GST) data, sourced from Inland Revenue) wherever possible, and supplement this by surveying only the largest and most complex businesses. With this new design, we have eliminated most small and medium-sized businesses from the survey entirely.

The methodology changes improve the quality of the series we publish. This is largely because we effectively have full coverage of all businesses within an industry, rather than relying on a smaller sample to represent the entire population.

We have also reduced the number of variables being collected for the Wholesale Trade Survey. We no longer collect or publish separate figures for stocks of finished goods and stocks of raw materials.

See [Methodology changes to manufacturing, wholesale trade, and selected services statistics](#) for more information.

## **Population**

The target population for this survey is all kind-of-activity units (KAUs) operating in New Zealand that are classified as Wholesale Trade (Australian and New Zealand Standard Industrial Classification – ANZSIC06 Division F) on Statistics NZ's Business Frame.

## Industry descriptions

We include a KAU in an industry based on its main activity for its operating income.

The six industries are defined as follows:

<b>ANZSIC06 group name</b>	<b>ANZSIC06 group number</b>
<b>Basic material wholesaling</b>	
Agricultural product wholesaling	331
Mineral, metal, and chemical wholesaling	332
Timber and hardware goods wholesaling	333
<b>Machinery and equipment wholesaling</b>	
Specialised industrial machinery and equipment wholesaling	341
Other machinery and equipment wholesaling	349
<b>Motor vehicle and motor-vehicle parts wholesaling</b>	
Motor vehicle and motor-vehicle parts wholesaling	350
<b>Grocery, liquor, and tobacco product wholesaling</b>	
Grocery, liquor, and tobacco product wholesaling	360
<b>Other goods wholesaling</b>	
Textile, clothing, and footwear wholesaling	371
Pharmaceutical and toiletry goods wholesaling	372
Furniture, floor covering, and other goods wholesaling	373
<b>Commission-based wholesaling</b>	
Commission-based wholesaling	380

## Statistical design

The series we publish for this survey are produced using GST data wherever possible. After extensive work on GST data, we established that it is a reliable measure of activity in these industries, apart from the largest and most complex businesses.

We supplement the GST data for each series with survey data for large and complex businesses that meet the following criteria:

- A \$100 million significance rule – if an enterprise, or group of enterprises linked by ownership, have an annual GST turnover of more than \$100 million.
- A 3 percent industry dominance rule – if an enterprise makes more than a 3 percent contribution to annual total income for an industry.
- All enterprises that have a significant level of activity across multiple industries.

## Sales

We have developed robust methods of transforming the data, which is submitted at different frequencies, to a quarterly frequency. In addition, we have developed methods of detecting and removing sales and purchases of large capital items, which can at times occur in the GST data. These are not part of the conceptual measure of sales required for national accounts purposes.

Where a business reports GST on behalf of other businesses (referred to as GST groups), we apportion GST data between these different businesses using data from Inland Revenue's employer monthly schedule.

## **Stocks**

Under the new design, we collect stocks data for large and complex businesses. However, no quarterly stocks data is available for other businesses from administrative sources.

We have a range of methods to estimate stocks for businesses that are not surveyed. Different methods are better suited to different conditions depending on the size of the industry and the contribution of the surveyed units. The aim is to use the best method available for each industry.

See [Methodology changes to manufacturing, wholesale trade, and selected services statistics](#) for more detail on the GST data assessment and methodology changes.

## **Non-response imputation**

### **Postal data imputation**

Although we attempt to achieve a 100 percent response rate, in practice this does not occur. We estimate values for these non-responding businesses using methods that include:

- historic imputation
- ratio imputation
- mean imputation.

Historic imputation involves multiplying the unit's response in the previous period by a non-response factor. The non-response factor is the average movement over the quarter for similar businesses.

Ratio imputation involves estimating the variable of interest from the unit's administrative data (GST sales), based on the relationship shown by similar businesses.

Mean imputation involves estimating a value for a unit by using the average value for a set of similar businesses.

### **Tax data imputation**

In the administrative data (GST) we have late filers, which are not received in time for publication. We impute the GST data using the historic and mean methods described above. We also use median imputation for a small number of units, where we take a median response from the unit's previous GST history.

## **Measurement errors**

### **Model errors**

Statistics NZ uses models to standardise the GST reference period to quarterly, which may include model errors. These errors measure the variability that occurs due to a statistical model being applied to produce estimates. It quantifies the cumulative effect of model 'imperfections'.

## **Other measurement errors**

Errors can arise from biases in the patterns of response and non-response, inaccuracies in reporting by respondents, and errors in recording and coding data. The size of these errors is difficult to quantify. We revise data if significant errors are detected in subsequent quarters.

## **Seasonally adjusted series**

We produce the seasonally adjusted and trend series using the X-13ARIMA-SEATS package developed by the U.S. Census Bureau, to comply with international best practice.

Seasonal adjustment aims to eliminate the impact of regular seasonal events (such as annual cycles in agricultural production, winter, or annual holidays) on time series. This makes the data for adjacent quarters more comparable.

We revise all seasonally adjusted figures each quarter. This enables the seasonal component to be better estimated and removed from the series.

The X-13ARIMA-SEATS seasonal adjustment package is very robust. However, problems occur when there is an abrupt change in the seasonal variation, as with other seasonal adjustment packages.

## **Estimated trend**

For any series, we can break the survey estimates down into three components: trend, seasonal, and irregular. While seasonally adjusted series have the seasonal component removed, trend series have both the seasonal and the irregular components removed. Trend estimates reveal the underlying direction of movement in a series, and are likely to indicate turning points more accurately than seasonally adjusted estimates.

We calculate the trend series using the X-13ARIMA-SEATS seasonal adjustment package. They are based on a five-term moving average of the seasonally adjusted series, with an adjustment for outlying values.

Trend estimates towards the end of the series incorporate new data as it becomes available. Therefore, they can change as we add more observations to the series. Revisions can be particularly large if an observation is treated as an outlier in one quarter, but we find it to be part of the underlying trend as we add further observations to the series. Typically, only the estimates for the most-recent quarter are substantially revised.

## **More information**

Statistics in the release have been produced in accordance with the Official Statistics System principles and protocols for producers of Tier 1 statistics for quality. They conform to the Statistics NZ Methodological Standard for Reporting for Data Quality.

See Wholesale Trade Survey in DataInfo+ for more information.

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## Revisions

### Revision to the 'other goods' wholesale stock series

The stock series for the other goods wholesaling industry was revised for the September and June 2015 quarters after we received more information from the businesses we surveyed.

We used the June 2015 quarter to link the new methodology data with the previous wholesale data. As a result, we have back-cast the level of the relevant series based on the new information, and maintained previously published percentage movements at the industry level.

The revision affected the following series:

- Other goods wholesaling stocks – WTSQ.SFE9CA
- Total wholesaling stocks – WTSQ.SFZ9CA.

The following table shows the revision's effect on the relevant series for recent quarters.

Quarter	Published 7 Dec 2015		Published 7 Mar 2016		Change		Percentage change from previously published	
	\$ (million)							
	Other goods	Total	Other goods	Total	Other goods	Total	Other goods	Total
Dec 2014	2,083	10,068	2,230	10,215	146	146	7.0	1.5
Mar 2015	2,150	10,039	2,301	10,190	151	151	7.0	1.5
Jun 2015	2,030	10,226	2,172	10,369	142	142	7.0	1.4
Sep 2015	2,166	10,446	2,315	10,594	149	149	6.9	1.4

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## Tables

See the following tables in the 'Downloads' box on this page. If you have problems viewing the files, see [opening files and PDFs](#).

1. Wholesale trade, ANZSIC Division F
2. Actual wholesale sales, by industry
3. Seasonally adjusted wholesale sales, by industry
4. Wholesale sales trend, by industry
5. Actual wholesale stocks, by industry
6. Seasonally adjusted wholesale stocks, by industry
7. Wholesale stocks trend, by industry

## Machine-readable zipped csv file

A machine-readable zipped csv file is also available. This is a way for technical users to download our data.

## Access more data on Infoshare

Use [Infoshare](#) to access time-series data specific to your needs, including the **ANZSIC96 forward-cast series** up to the March 2012 quarter. Select the following category from the Infoshare homepage:

Subject category: **Industry sectors**

Group: **Wholesale Trade Survey**

## Next release

*Wholesale Trade Survey: March 2016 quarter* will be released on 7 June 2016.