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Wholesale Trade Survey: December 2009 quarter

Highlights

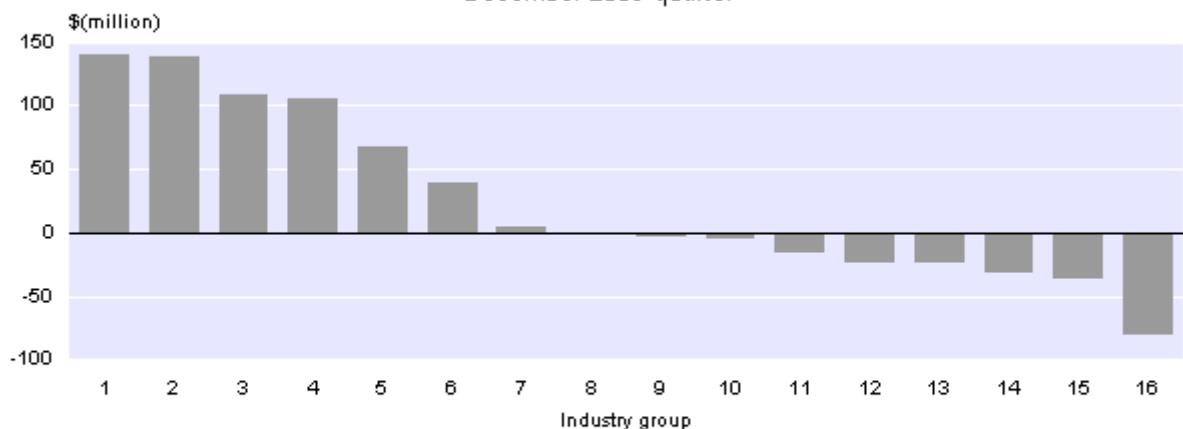
For the December 2009 quarter compared with the September 2009 quarter (on a seasonally adjusted basis):

- Total wholesale trade sales rose 1.9 percent (\$383 million).
- Total wholesale trade stocks were flat, down just 0.1 percent (\$11 million).
- The trend in total wholesale trade sales indicates a slight upward movement (1.5 percent) over the last two quarters of 2009.

Industry Contribution to the Change in Seasonally Adjusted Sales

Change from previous quarter

December 2009 quarter



| | | |
|---------------------------------------------------------------------|--------------------------------|----------------------------------------|
| 1 Motor vehicle | 6 Wholesale trade nec | 12 Textile, clothing, and footwear |
| 2 Petroleum products | 7 Unprocessed primary products | 13 Chemical |
| 3 Builders' supplies | 8 Books and paper products | 14 Metal and mineral |
| 4 Primary product food | 9 Pharmaceutical and toiletry | 15 Electrical and electronic equipment |
| 5 Farm, construction machinery, and professional business equipment | 10 Food and grocery products | 16 Machinery and equipment nec |
| | 11 Household good | |

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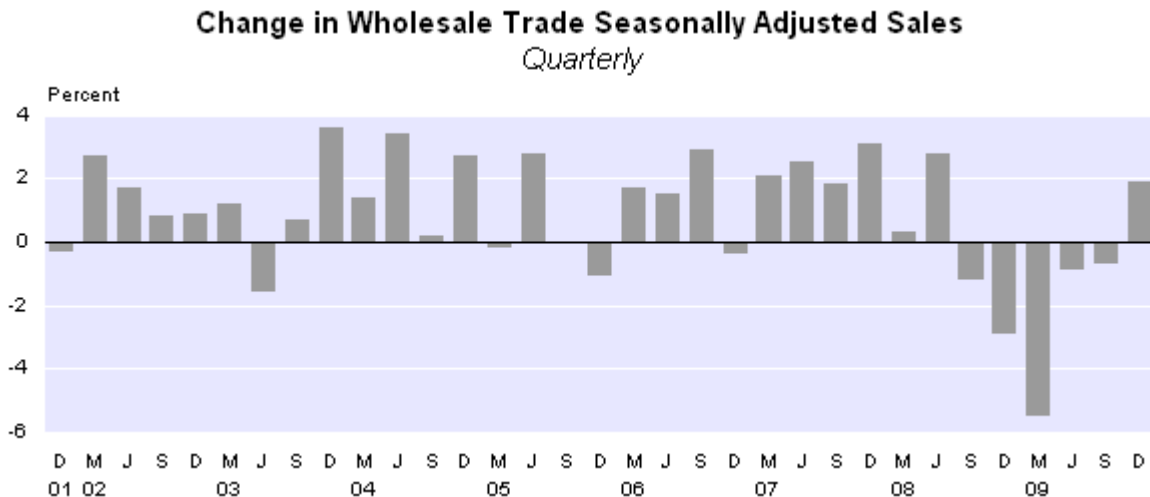
Commentary

All references to sales and stocks movements are to seasonally adjusted series unless otherwise stated.

Sales

Total wholesale trade sales rose 1.9 percent (\$383 million) in the December 2009 quarter – the first increase since the June 2008 quarter. The decreases between the September 2008 and September 2009 quarters made this the most prolonged period of decline since the start of the series in March 1995.

Although more industries showed sales decreases than increases this quarter (nine went down and seven up) four industries had sales increases of more than \$100 million, driving the overall sales rise.



The largest increase this quarter was in motor vehicle wholesaling, up 10.9 percent (\$140 million) – this industry’s biggest quarterly increase since June 2002. The latest result follows a fall of 5.9 percent (\$81 million) in the September 2009 quarter. After achieving quarterly sales of around \$1.7 billion during March 2007 to March 2008, the level of motor vehicle wholesaling has fallen to between \$1.3 billion and \$1.4 billion a quarter, similar to levels in 2001 and 2002.

The next largest increases this quarter were in:

- petroleum product wholesaling, up 8.5 percent (\$139 million) (sales in this industry are not seasonally adjusted)
- builders' supplies wholesaling, up 6.7 percent (\$109 million) – the biggest quarterly increase since June 2005, when sales rose 13.3 percent
- primary product food wholesaling, up 6.5 percent (\$105 million) following an 8.6 percent fall in the September 2009 quarter
- farm, construction machinery, and professional business equipment wholesaling, up 4.0 percent (\$68 million).

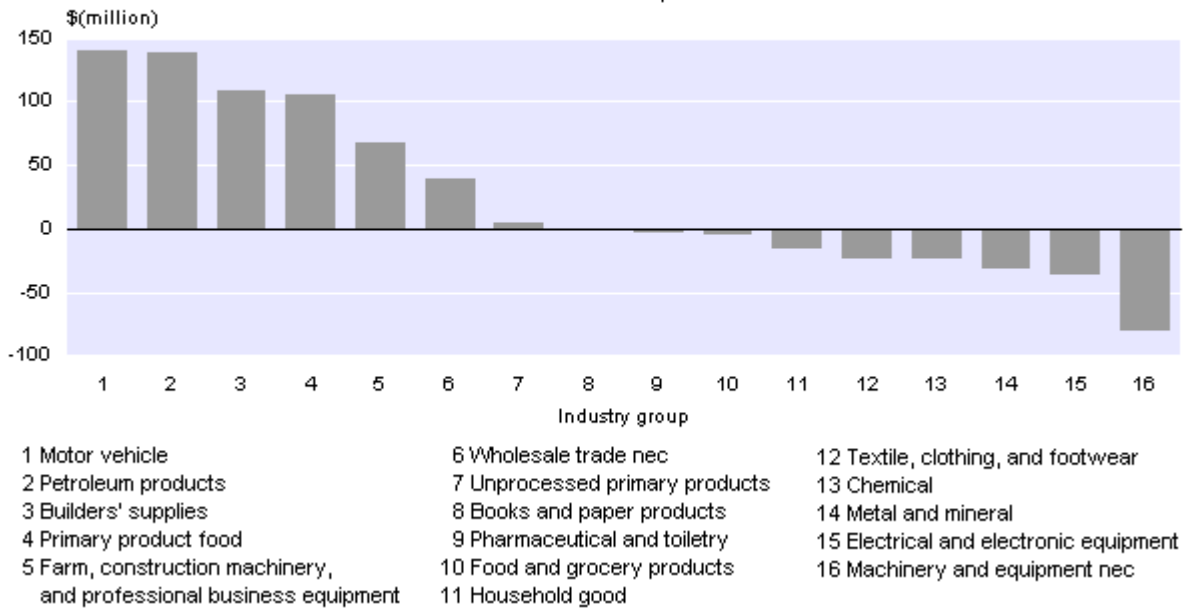
Of the industries with sales decreases this quarter the most noteworthy was machinery and equipment not elsewhere classified (nec), down 9.7 percent (\$80 million). This industry includes a wide range of activities such as wholesaling air conditioning equipment, office furniture, paper-making, and woodworking machinery and equipment.

In the remaining 10 industries, two rose and eight fell less than \$40 million.

Industry Contribution to the Change in Seasonally Adjusted Sales

Change from previous quarter

December 2009 quarter

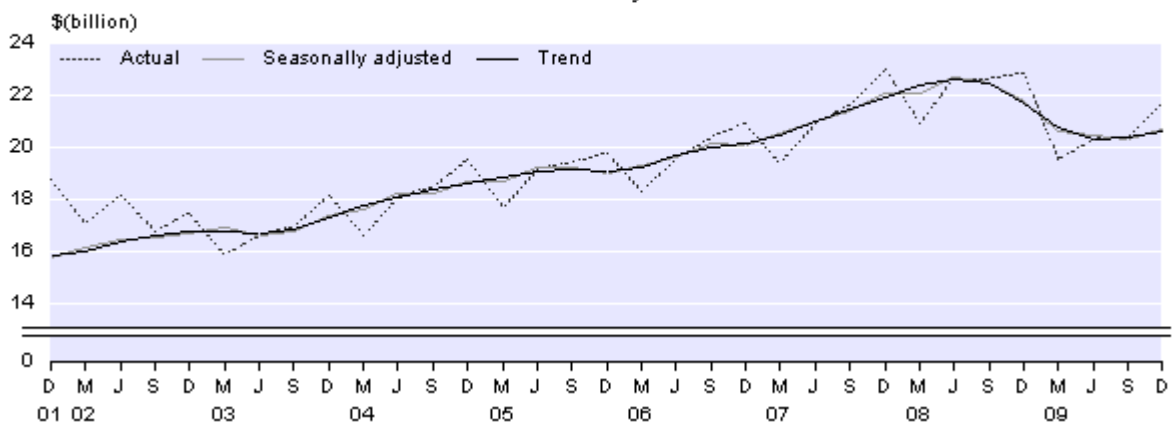


Sales trend

Wholesale sales trend figures indicate a slight upwards movement during the September and December 2009 quarters, rising 1.5 percent. This follows a fall of 10.2 percent between the September 2008 and June 2009 quarters. Initial trend estimates may be revised and should be used with caution until more data points are available.

Wholesale Trade Total Sales

Quarterly



Industry sales trends that have been rising in recent quarters include:

- Food and grocery product wholesaling – this industry comprises about one fifth of total wholesale trade sales. The trend has been rising since March 2008, up 8.5 percent; between June and December 2008 the average quarterly rate of increase was 0.5 percent and rose to 1.7 percent during 2009.

- Petroleum product wholesaling – the trend fell 28.4 percent between December 2008 and June 2009, but since then has risen 11.3 percent.
- Builders' supplies wholesaling – following its peak in the March 2008 quarter, the trend fell 13.3 percent during the five quarters June 2008 to June 2009. Since June 2009 the trend has risen 10.3 percent.
- Motor vehicle wholesaling – the trend reached a peak in the September 2007 quarter but by March 2009 had fallen 28.9 percent. Since March 2009 the trend has been rising, up 11.0 percent .
- Pharmaceutical and toiletry wholesaling – the trend has been generally rising since September 2001, never falling for longer than one quarter. The last fall was in the March 2009 quarter (down 1.2 percent). Since then the trend has risen 2.2 percent.

Collectively, these five industries account for just under half of total wholesale trade sales.

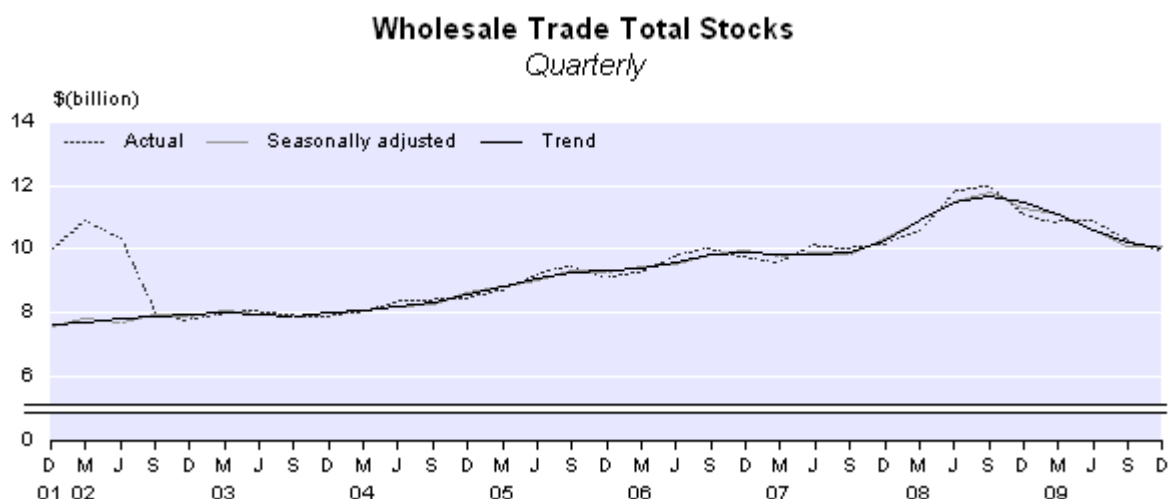
Trends have been flat or declining for at least four quarters in seven industries:

- Farm, construction machinery, and professional business equipment wholesaling – the trend has fallen 8.1 percent since December 2008, but now appears to have levelled off.
- Unprocessed primary products wholesaling – the trend showed strong growth during 2007 and most of 2008. Since September 2008 the trend has fallen 13.7 percent, although the rate of decline appears to be easing.
- Electrical and electronic equipment wholesaling nec – generally falling since June 2008, down 15.5 percent.
- Machinery and equipment wholesaling nec – down 25.9 percent since March 2008; it is at its lowest level since the March 2003 quarter.
- Household good wholesaling – down 9.3 percent since December 2008.
- Books and paper product wholesaling – down 14.2 percent since December 2008; the rate of decline appears to be easing.
- Chemical wholesaling – down 17.8 percent since September 2008; now at its lowest level since September 2004.

These seven industries account for about one third of total wholesale trade sales.

Stocks

Total wholesale trade stocks were flat, down just 0.1 percent (\$11 million) in the December 2009 quarter, after four quarters of large decreases.



Stocks decreased in 11 of the 16 industries and increased in five. The largest decreases were in:

- farm, construction machinery, and professional and business equipment wholesaling, down 7.8 percent (\$87 million)
- motor vehicle wholesaling, down 6.3 percent (\$74 million)
- petroleum product wholesaling, down 4.9 percent (\$58 million).

These three series are not seasonally adjusted as they do not exhibit reliable seasonal patterns.

The biggest increase in stocks this quarter was in food and grocery products wholesaling, up 6.4 percent (\$60 million). Other increases were less than \$20 million for each industry.

Revisions

There were no revisions in the December 2009 quarter.

Measurement errors

All statistical estimates are subject to measurement errors. These include both sample errors and non-sample errors. In addition, the survey applies imputation methodologies to cope with small firms and non-response. These measurement errors should be considered when analysing the results from the survey. For more information on measurement errors, please refer to the 'Technical notes' section.

Sample errors

The postal survey was designed to give statistics at the following levels of accuracy (at the 95 percent confidence interval):

- 5 percent for operating income and stocks at the total wholesale trade level
- 10 percent for operating income and stocks at the published industry level.

This means, for example, that there is a 95 percent chance that the true value of total wholesale trade operating income lies within 5 percent of the published estimate.

At the industry level, the following sample errors were recorded in the December 2009 quarter at the 95 percent confidence interval limit.

| Wholesale Trade Survey Sample Errors December 2009 quarter | | |
|----------------------------------------------------------------------|---------------------------------|------------------------------------|
| Industry group | Level (relative percent) | Movement (absolute percent) |
| | Operating income | |
| Unprocessed primary products wholesaling | 2.6 | 5.2 |
| Petroleum product wholesaling | 0.0 | 0.0 |
| Metal and mineral wholesaling | 0.0 | 0.0 |
| Chemical wholesaling | 0.0 | 0.0 |
| Builders' supplies wholesaling | 5.4 | 0.5 |

| | | |
|-------------------------------------------------------------------------------|------------|------------|
| Farm, construction machinery, and professional business equipment wholesaling | 6.8 | 6.1 |
| Electrical and electronic equipment wholesaling | 7.6 | 3.1 |
| Machinery and equipment nec wholesaling | 12.9 | 4.8 |
| Motor vehicle wholesaling | 8.9 | 6.7 |
| Primary product food wholesaling | 0.0 | 0.0 |
| Food and grocery products wholesaling | 2.2 | 1.0 |
| Textile, clothing, and footwear wholesaling | 5.1 | 5.5 |
| Household good wholesaling | 3.2 | 2.4 |
| Wholesale trade nec | 3.4 | 2.6 |
| Books and paper product wholesaling | 3.1 | 2.7 |
| Pharmaceutical and toiletry wholesaling | 0.0 | 0.0 |
| Total wholesale trade | 1.2 | 0.9 |

Note: nec = not elsewhere classified

Industries with zero sample error are full-coverage industries. In these industries, all large firms are surveyed and all small to medium-sized firms are modelled using administrative data sourced from Inland Revenue.

Imputation

Small firms

Small to medium-sized firms are generally not surveyed. Their variables are instead modelled from administrative data (GST and EMS) sourced from Inland Revenue. Ratios calculated from the postal sample units are applied to the administrative data to provide an estimate of their variables.

Non-response imputation

Although every attempt is made to achieve a 100 percent response rate, in practice this does not occur. Values for non-responding businesses are estimated by a number of methods, including:

- regression imputation
- historic imputation
- mean imputation.

Regression imputation involves estimating the variable of interest from the unit's administrative data (GST sales), based on the relationship shown by similar businesses. Historic imputation involves multiplying their response in the previous period by a non-response factor. The non-response factor is the average movement over the quarter of similar businesses. Mean imputation involves estimating a value for a unit by using the average value for a set of similar businesses.

| Wholesale Trade Survey Operating Income Imputed December 2009 quarter | | |
|---------------------------------------------------------------------------------|---------------------------------------|---------------------|
| Industry group | Tax modelled | Non-response |
| | Percentage of operating income | |
| Unprocessed primary products wholesaling | 9.8 | 4.2 |
| Petroleum product wholesaling | 1.2 | 2.1 |
| Metal and mineral wholesaling | 6.4 | 6.1 |
| Chemical wholesaling | 18.2 | 6.8 |
| Builders' supplies wholesaling | 11.4 | 10.2 |
| Farm, construction machinery, and professional business equipment wholesaling | 10.5 | 6.4 |
| Electrical and electronic equipment wholesaling | 13.6 | 9.6 |
| Machinery and equipment nec wholesaling | 17.1 | 12.8 |
| Motor vehicle wholesaling | 12.9 | 6.1 |
| Primary product food wholesaling | 13.8 | 7.8 |
| Food and grocery products wholesaling | 3.3 | 3.1 |
| Textile, clothing, and footwear wholesaling | 16.2 | 14.3 |
| Household good wholesaling | 11.4 | 10.9 |
| Wholesale trade nec | 23.0 | 13.3 |
| Books and paper product wholesaling | 7.5 | 11.2 |
| Pharmaceutical and toiletry wholesaling | 13.5 | 5.2 |
| Total wholesale trade | 9.9 | 6.6 |

Note: nec = not elsewhere classified

Postal response rate

The response rate describes the proportion of operating income that was provided by actual survey responses. Note that the calculation of this response rate relates only to data for the postal sample. The Wholesale Trade Survey has a target response rate of 85 percent. The response rate achieved for the December 2009 quarter was 93 percent.

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Next release ...

Wholesale Trade Survey: March 2010 quarter will be released on 4 June 2010.

Technical notes

Background to the survey

The Wholesale Trade Survey (WTS) is designed to provide short-term economic indicators for the wholesale trade sector. In addition, the survey data is used to compile the wholesale trade sector component of quarterly national accounts.

The survey was last redesigned in the September 2002 quarter. For more detail about the redesign, refer to [Wholesale Trade Survey – Redesign: September 2002](#), available on the Statistics New Zealand website. As a result of the redesign, a split between raw materials and finished goods stocks is now available. The analytical back series for each stock type has been calculated based on the ratio of raw materials to finished goods stocks collected in the September 2002 quarter.

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 Division F) on Statistics NZ's Business Frame.

Sample design

The survey population is stratified according to:

- industries defined by the ANZSIC-based ANZIND classification at the inter-industry level
- size (in terms of the rolling mean employment number)
- turnover (annualised GST sales).

Each ANZIND inter-industry classification contains between two and four substrata. Because of the contribution large units make to the economic activity within each industry group, they are all included in the sample. A portion of the remaining medium to large units is also included in the sample. In addition, small to medium-sized businesses have their data modelled from administrative data (GST and EMS) sourced from Inland Revenue. All wholesaling KAUs belonging to a selected 'enterprise' are included.

About 1,300 units have been selected from the entire population for the postal sample, and the data for approximately 13,500 units is modelled from tax data

Sample maintenance

Sample maintenance is the process that maintains the sample over time, to reflect births, deaths and other structural changes identified on the Business Frame. The information for Business Frame changes can be from a variety of sources, including GST registrations and respondent contact.

New enterprises are identified when they register for GST. Once a quarter, the new enterprises are selected into the sample using the same criteria as for the original sample. These are referred to as births. When an enterprise ceases trading, its wholesaling KAUs are removed from the survey. These are referred to as deaths.

Enterprises can also enter or leave the survey sample if they are reclassifications from another industry to wholesaling. Reclassifications occur when an enterprise changes its main form of activity (eg from manufacturing to wholesale trade). These are usually identified in the Annual Frame Update Survey (AFUS) conducted in February each year.

Sample reselection

The sample for the WTS is reselected each quarter to ensure that the sample reflects changes occurring in the wholesale trade population.

Measurement errors

Errors in the survey are divided into two classes:

Non-sampling error

Non-sampling error includes errors arising from biases in the patterns of response and non-response, inaccuracies in reporting by respondents, and errors in the recording and coding of data. The size of these errors is difficult to quantify. Data is subject to revision if significant errors are detected in subsequent quarters.

Sampling error

Sampling error is a measure of the variability that occurs by chance because a sample, rather than an entire population, is surveyed.

Industry descriptions

An activity unit is included in an industry based on its predominant activity in terms of operating income.

The 16 industries are defined as follows:

ANZSIC Class

Unprocessed primary products

Wool wholesaling 4511

Cereal grain wholesaling 4512

Farm produce and supplies wholesaling nec 4519

Petroleum product

Petroleum product wholesaling 4521

Metal and mineral

Metal and mineral wholesaling 4522

Chemical

Chemical wholesaling 4523

Builders' supplies

Timber wholesaling 4531

| | |
|--------------------------------------------------------------------------|------|
| Building supplies wholesaling nec | 4539 |
| Farm, construction machinery, and professional business equipment | |
| Farm and construction machinery wholesaling | 4611 |
| Professional equipment wholesaling | 4612 |
| Computer wholesaling | 4613 |
| Business machine wholesaling nec | 4614 |
| Electrical and electronic equipment | |
| Electrical and electronic equipment wholesaling nec | 4615 |
| | |
| Machinery and equipment nec | |
| Machinery and equipment wholesaling nec | 4619 |
| Motor vehicle | |
| Car wholesaling | 4621 |
| Commercial vehicle wholesaling | 4622 |
| Motor vehicle new part dealing | 4623 |
| Motor vehicle dismantling and used part dealing | 4624 |
| Primary product food | |
| Meat wholesaling | 4711 |
| Poultry and smallgood wholesaling | 4712 |
| Dairy produce wholesaling | 4713 |
| Fish wholesaling | 4714 |
| Fruit and vegetable wholesaling | 4715 |
| Food and grocery products | |
| Confectionery and soft drink wholesaling | 4716 |
| Liquor wholesaling | 4717 |
| Tobacco product wholesaling | 4718 |
| Grocery wholesaling nec | 4719 |
| Textile, clothing and footwear | |
| Textile product wholesaling | 4721 |
| Clothing wholesaling | 4722 |
| Footwear wholesaling | 4723 |
| Household good | |
| Household appliance wholesaling | 4731 |
| Furniture wholesaling | 4732 |
| Floor covering wholesaling | 4733 |
| Household good wholesaling nec | 4739 |
| | |
| Wholesale trade nec | |
| Photographic equipment wholesaling | 4791 |

| | |
|-----------------------------------------|------|
| Jewellery and watch wholesaling | 4792 |
| Toy and sporting good wholesaling | 4793 |
| Wholesaling nec | 4799 |
| Books and paper product | |
| Book and magazine wholesaling | 4794 |
| Paper product wholesaling | 4795 |
| Pharmaceutical and toiletry | |
| Pharmaceutical and toiletry wholesaling | 4796 |

Definitions

ANZSIC

Australian and New Zealand Standard Industrial Classification system.

ANZIND

An ANZSIC-based classification used to group industries for publication.

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)

A subdivision of an enterprise engaged in predominantly one activity and for which a single set of accounting records is available.

Rolling mean employment (RME)

RME is a 12-month moving average of the monthly employee count (EC) figure, which replaces the numbers of full-time and part-time employees.

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.

Total stocks

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

Seasonally adjusted series

The X-12-ARIMA package has been used to produce the seasonally adjusted estimates and trend estimates for sales in all subdivisions. 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.

All seasonally adjusted figures are subject to revision each quarter. This enables the seasonal component to be better estimated and removed from the series.

Restructuring within the dairy industry has affected the primary product food industry series in the September 2002 quarter. In order to maintain the long-term continuity of the seasonally adjusted and trend series for primary product food and total wholesaling, the actual series is adjusted prior to the seasonal adjustment program being run. This adjustment to the actual series removes the discontinuity in the series.

The X-12-ARIMA seasonal adjustment package is very robust. However, problems occur when there has been an abrupt change in the seasonal variation, as with other seasonal adjustment packages.

Estimated trend

For any series, the survey estimates can be broken down into three components: trend, seasonal and irregular. While seasonally adjusted series have had the seasonal component removed, trend series have had 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.

The trend series are calculated using the X-12-ARIMA 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 and can, therefore, change as more observations are added to the series. Revisions can be particularly large if an observation is treated as an outlier in one quarter, but is found to be part of the underlying trend as further observations are added to the series. Typically, only the estimates for the most recent quarter will be subject to substantial revisions.

More information

For more information, follow the [link](#) from the technical notes of this release on the Statistics New Zealand website.

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Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

Tables

The following tables are printed with this Hot Off The Press and can also be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print, and export the contents of the file.

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