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Wholesale Trade Survey: June 2010 quarter

Highlights

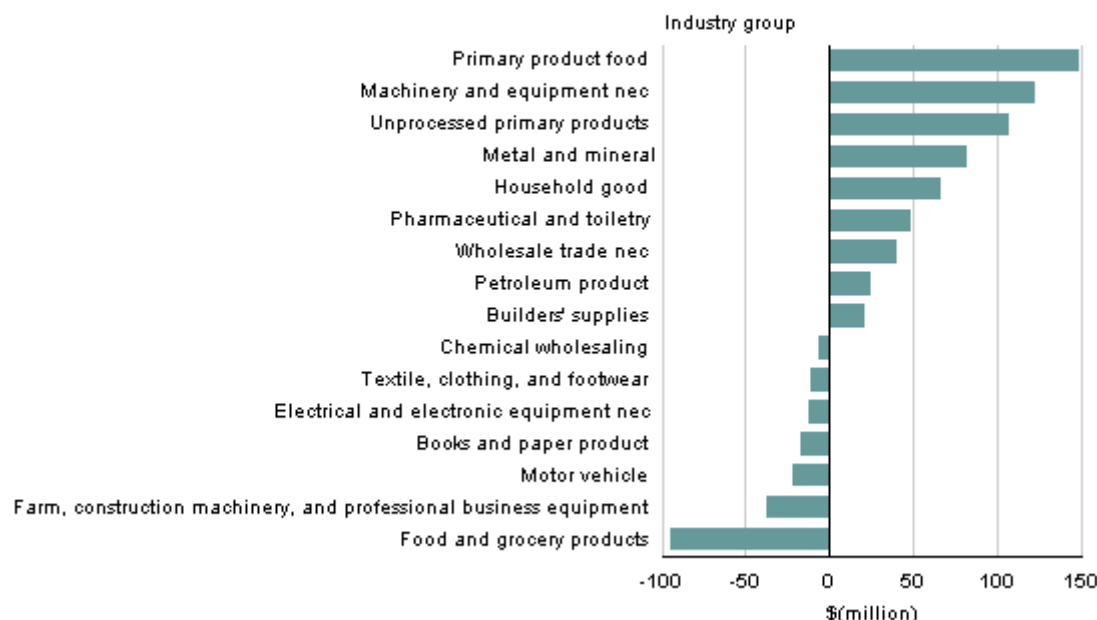
For the June 2010 quarter compared with the March 2010 quarter (on a seasonally adjusted basis):

- Total wholesale trade sales rose 2.2 percent (\$458 million).
- Sales rose in nine of the 16 wholesale industries.
- Total wholesale trade stocks fell 1.8 percent (\$183 million).

The trend in total wholesale trade sales has risen 6.5 percent in the last four quarters.

Industry contribution to the change in seasonally adjusted sales

Change from previous quarter
June 2010 quarter



Source: Statistics New Zealand

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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 2.2 percent (\$458 million) in the June 2010 quarter following similar increases of 2.2 percent and 1.9 percent in the March 2010 and December 2009 quarters, respectively.



Source: Statistics New Zealand

Nine of the 16 wholesale trade industries had increased sales in the latest quarter and there were seven decreases. The largest increases in the June 2010 quarter were in:

- Primary product food wholesaling – up 8.4 percent or \$149 million, following a 2.2 percent rise in the March 2010 quarter.
- Machinery and equipment wholesaling nec – up 14.8 percent or \$122 million. This quarter's increase is the biggest since September 1999 (when sales rose 19.8 percent) and follows a 9.8 percent increase in the March 2010 quarter and a 9.1 percent decrease in the December 2009 quarter.
- Unprocessed primary products wholesaling – up 6.7 percent or \$107 million, the second consecutive rise in sales (up 1.3 percent in the March 2010 quarter) following five quarters of decline, between the December 2008 and December 2009 quarters.
- Metal and mineral wholesaling – up 12.1 percent or \$81 million, following a 9.0 percent rise in the March 2010 quarter. This series is not seasonally adjusted as it does not show a reliable seasonal pattern.
- Household goods wholesaling – up 10.7 percent or \$66 million, the first quarterly increase since the March 2009 quarter.

Other increases were less than \$50 million.

Although almost half of the 16 industries recorded lower sales in the June 2010 quarter, the decreases were generally smaller than the increases. The biggest decrease was in food and grocery products wholesaling, down 2.2 percent or \$95 million. Food and grocery products wholesaling is by far the largest of the wholesale trade industries, accounting for about a fifth of

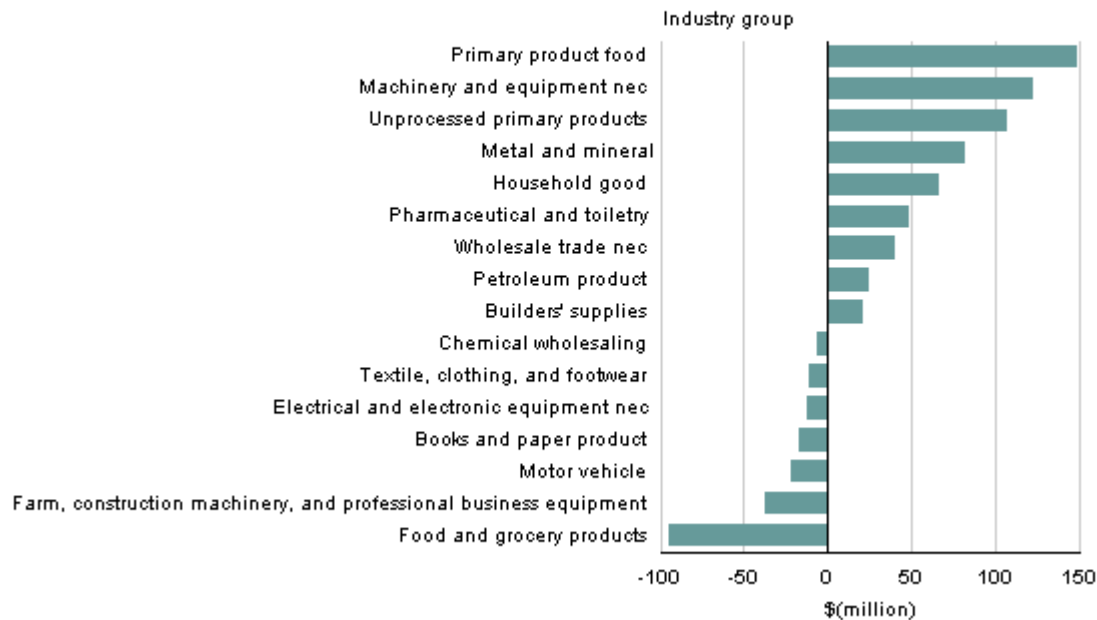
all sales. This quarter's decrease is the first for this industry since September 2008, when sales fell 1.8 percent (\$73 million).

Other decreases were less than \$40 million.

Industry contribution to the change in seasonally adjusted sales

Change from previous quarter

June 2010 quarter



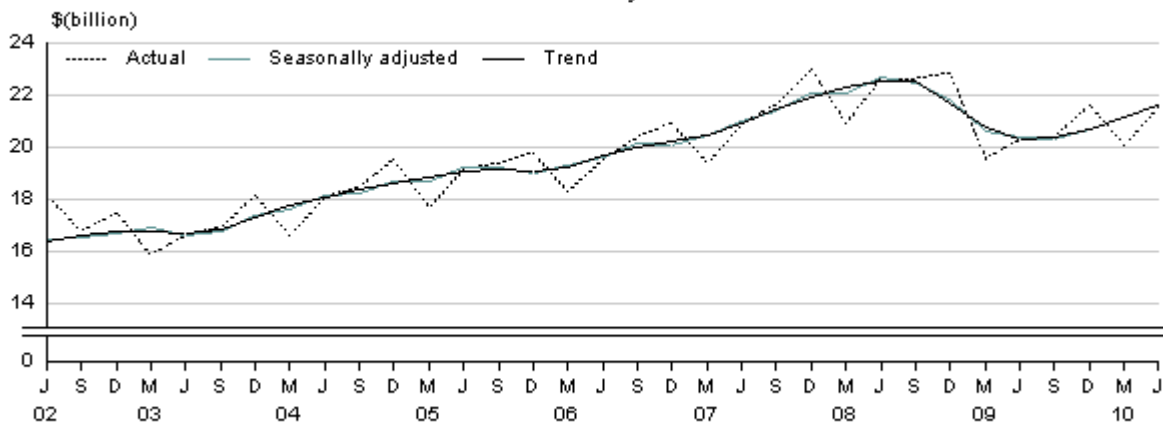
Source: Statistics New Zealand

Sales trend

In the four quarters since June 2009, the trend in wholesale trade sales has risen 6.5 percent, following a fall of 10.2 percent between the September 2008 and June 2009 quarters. The level of the trend is still 4.3 percent below its peak in June 2008.

Wholesale trade total sales

Quarterly



Source: Statistics New Zealand

Individual industry sales trends that have been rising since at least June 2009 are:

- Motor vehicle wholesaling – the sales trend has risen 18.9 percent since March 2009, after falling 29.4 percent between December 2007 and March 2009. The rate of increase has eased recently.
- Metal and mineral wholesaling – the sales trend has risen 21.5 percent since June 2009, following a 39.8 percent fall between December 2008 and June 2009. Since mid-2007 this series has shown particular volatility.
- Petroleum products wholesaling – the sales trend has risen 15.4 percent since June 2009, following a 28.4 percent fall between December 2008 and June 2009. Latest data shows the rate of increase has eased.
- Builders’ supplies wholesaling – the trend has risen 15.8 percent since June 2009, following a 13.0 percent fall between June 2008 and June 2009. The rate of increase has eased recently.

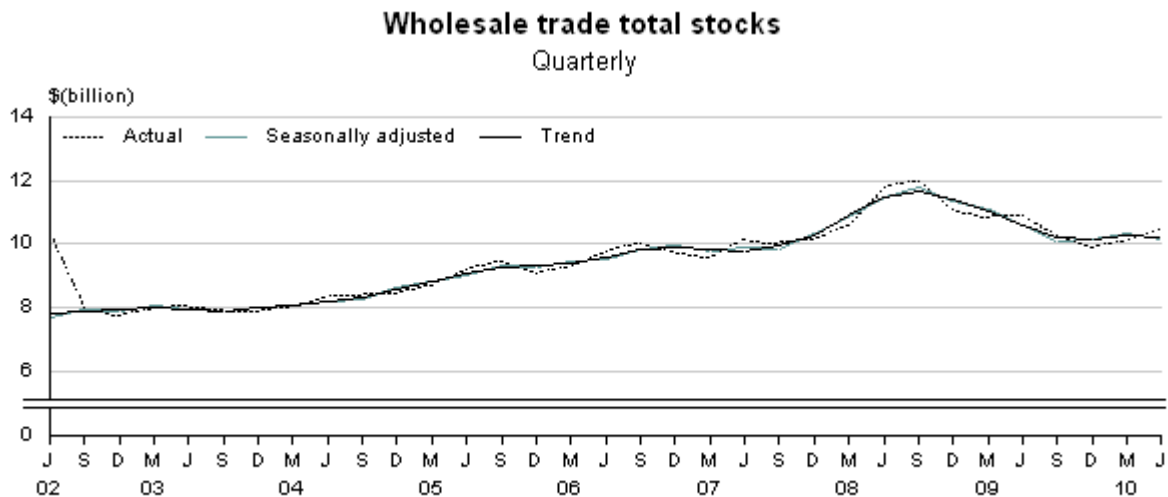
Sales trends that appear to be changing direction are:

- Machinery and equipment wholesaling nec – the trend fell 25.7 percent between June 2008 and December 2009 but reached a turning point in December, and has risen 21.9 percent since then.
- Primary food product wholesaling – the trend fell 19.4 percent between June 2008 and September 2009, but reached a turning point in September 2009 and has risen 13.1 percent since then.
- Food and grocery products wholesaling – the trend rose 7.0 percent during the 2009 calendar year. The rise appears to have stopped and the latest movement is flat.
- Unprocessed primary products – the trend, which fell 15.0 percent between December 2008 and December 2009, appears to have stopped falling.

Initial trend estimates may be revised and should be used with caution until more data points are available.

Stocks

Total wholesale trade stocks fell 1.8 percent (\$183 million) in the June 2010 quarter, following a 1.6 percent rise in the March 2010 quarter.



Source: Statistics New Zealand

In the September 2002 quarter, restructuring in the dairy industry affected the sales and stocks series. To maintain the consistency of the seasonally adjusted and trend series, the discontinuity has been removed before seasonal adjustment, as shown in the graph above.

In actual dollars (not seasonally adjusted), the value of stocks was \$10.5 billion at the end of June 2010, 4.2 percent or \$457 million lower than at the end of June 2009. The biggest contributors to the fall were:

- petroleum product wholesaling (down 17.5 percent or \$276 million)
- unprocessed primary products (down 13.8 percent or \$118 million).

Only five industries recorded higher stock levels (in actual dollars) at the end of June 2010 compared with June 2009, and the biggest increase was in food and grocery products wholesaling, up 8.3 percent or \$77 million.

Revisions

Amended information for the December 2009 and March 2010 quarters has resulted in revisions to the December actual finished goods stock series for chemical wholesaling, and the March 2010 actual sales series for farm, construction machinery, and professional, business equipment wholesaling. Corresponding revisions have also been made to the seasonally adjusted, trend, and total series.

Wholesale Trade Survey Actual Stocks Revisions				
Quarter	Industry	Series ref: WTSQ	Published 5 March 2010	Published 7 September 2010
			\$(million)	\$(million)
December 2009	Chemical finished goods stocks	SNF0123E	267	263
	Chemical total stocks	SNF0123Z	287	283
	Total finished goods stocks	SNF0ZZZE	9,290	9,286
	Total stocks	SNF0ZZZZ	9,909	9,905

Wholesale Trade Survey Actual Sales Revisions				
Quarter	Industry	Series ref: WTSQ	Published 4 June 2010	Published 7 September 2010
			\$(million)	\$(million)
March 2010	Farm, construction machinery, and professional, business equipment	SNF0141A	1,686	1,661
	Total	SNF0ZZZA	20,058	20,033

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 March 2010 quarter at the 95 percent confidence interval limit.

Wholesale Trade Survey Sample Errors		
June 2010 quarter		
Industry group	Level (relative percent)	Movement (absolute percent)
	Operating income	
Unprocessed primary products wholesaling	6.4	6.0
Petroleum product wholesaling	0.0	0.0
Metal and mineral wholesaling	0.0	0.0
Chemical wholesaling	0.0	0.0
Builders' supplies wholesaling	4.9	0.5
Farm, construction machinery, and professional business equipment wholesaling	7.3	3.9
Electrical and electronic equipment wholesaling	10.4	5.1
Machinery and equipment nec wholesaling	15.1	12.8
Motor vehicle wholesaling	12.3	4.1
Primary product food wholesaling	0.0	0.0
Food and grocery products wholesaling	2.1	0.7
Textile, clothing, and footwear wholesaling	4.7	5.3
Household good wholesaling	2.6	1.7
Wholesale trade nec	3.7	1.8
Books and paper product wholesaling	3.5	1.7
Pharmaceutical and toiletry wholesaling	0.0	0.0
Total wholesale trade	1.5	0.8

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		
June 2010 quarter		
Industry group	Tax modelled	Non-response
	Percentage of operating income	
Unprocessed primary products wholesaling	11.4	8.7
Petroleum product wholesaling	2.5	2.3
Metal and mineral wholesaling	8.0	6.5
Chemical wholesaling	17.7	0.6
Builders' supplies wholesaling	11.4	2.9
Farm, construction machinery, and professional business equipment wholesaling	11.9	16.1
Electrical and electronic equipment wholesaling	16.6	16.4
Machinery and equipment nec wholesaling	15.0	10.0
Motor vehicle wholesaling	14.0	6.8
Primary product food wholesaling	24.5	8.0
Food and grocery products wholesaling	5.0	2.2
Textile, clothing, and footwear wholesaling	18.7	7.9
Household good wholesaling	11.2	13.1
Wholesale trade nec	23.4	12.5
Books and paper product wholesaling	6.4	1.5
Pharmaceutical and toiletry wholesaling	12.6	5.0
Total wholesale trade	12.0	6.7

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 June 2010 quarter was 93 percent.

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Next release ...

Wholesale Trade Survey: September 2010 quarter will be released on 7 December 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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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