

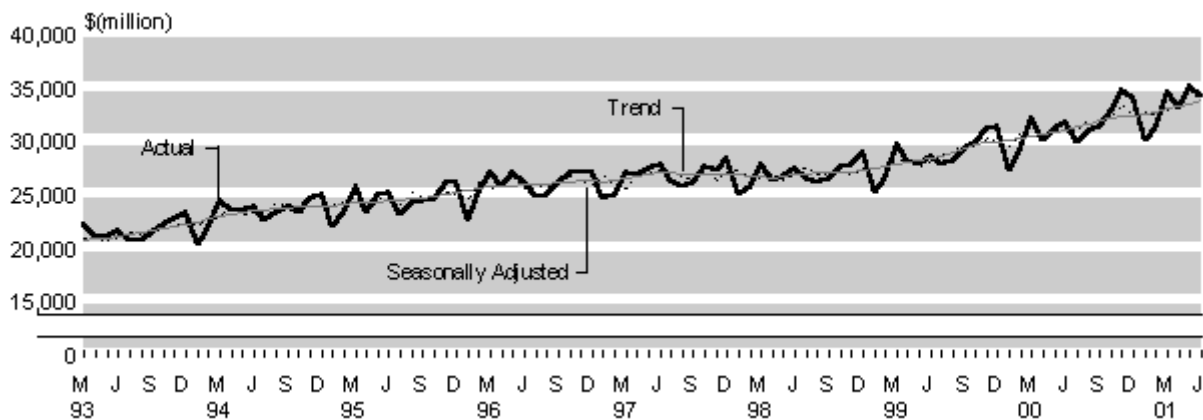
Embargoed until 3:00 pm – 31 October 2001

## Business Activity Indicator GST: June 2001 quarter

### Highlights

- Seasonally adjusted sales increased 3.8 percent in the June 2001 quarter.
- Fourteen out of the 16 industries had increases in seasonally adjusted sales.
- Seasonally adjusted purchases increased 6.2 percent in the June 2001 quarter.
- Fourteen out of the 16 industries had increases in seasonally adjusted purchases.

### Total GST Sales



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# Commentary

## GST Sales

Seasonally adjusted sales increased by \$3,758 million (3.8 percent) in the June 2001 quarter. Sales increased in April, and in May, but decreased in June.

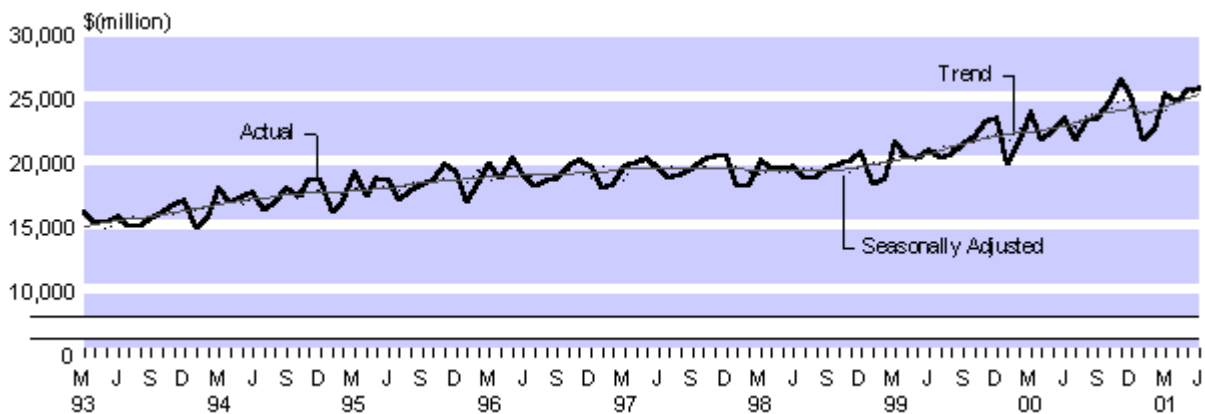
Fourteen out of the 16 industries recorded quarterly growth in seasonally adjusted sales. The largest contributors to the increase came from the wholesale trade; manufacturing; and the electricity and gas industries. These increases were partly offset by a decrease in the government administration and defence; and education industries.

## GST Purchases

Seasonally adjusted purchases increased by \$4,416 million (6.2 percent) in the June 2001 quarter. Purchases increased in April, and in May, but decreased in June.

Fourteen out of the 16 industries recorded quarterly growth in seasonally adjusted purchases. The largest contributors to the increase came from the manufacturing; wholesale trade; and electricity and gas industries.

## Total GST Purchases



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## Technical notes

### Background to this series

This series has been developed using Goods and Services Tax (GST) data from the Inland Revenue Department (IRD) matched to the Statistics New Zealand Business Frame to provide a set of indicators of business activity by industry. The results have been released as an experimental series to invite comments from users about the concepts, sources and methods employed in the derivation of the series, and potential uses for the series.

During the experimental series phase quarterly releases of the experimental series are planned around the time of the quarterly Gross Domestic Product release. Previous periods will be subject to revision as improvements are made to the methodology and more is known about the base data.

Further information about the development and methodology of the series is available in the Survey Information Manager Database on the Statistics New Zealand website (<http://www.stats.govt.nz>) or on application to Statistics New Zealand.

We invite feedback from interested users.

### Source of the data

GST is a tax on the consumption of most goods and services in New Zealand. It was introduced in New Zealand on 1 October 1986 and is currently charged and accounted for at a rate of 12.5 percent. The tax is collected by the IRD.

Before to 1 October 2000, all businesses that conducted taxable activity were required to register for GST if their annual turnover was greater than \$30,000. From 1 October 2000, this threshold was increased to \$40,000.

This series uses data provided by businesses to the IRD on the GST101 form. IRD has supplied the data to Statistics New Zealand, which has been industry coded using information from Statistics New Zealand's Business Frame. The supply of data from the IRD to Statistics New Zealand is quite different from data exchange arrangements between IRD and other agencies. Statistics New Zealand does not provide any data about individual businesses back to the IRD.

### Coverage

This series includes all enterprises that are operating in New Zealand and are registered for GST.

Anyone (company, club or individual) conducting a taxable activity with a turnover (or expected turnover) of more than \$40,000 in a 12-month period must be registered for GST. Anyone may register for GST even if their turnover (or expected turnover) from a taxable activity is less than \$40,000. GST is charged on most taxable activities, so almost all enterprises are included in the database.

There are some goods and services that are exempt supplies and are therefore not included in sales and purchases. These are:

- financial services
- donated goods and services sold by non-profit bodies
- the renting of a dwelling used as a private home
- the sale of a rental dwelling that was rented for at least the five years prior to the sale
- the renting of leasehold land, as long as the main use of the land is residential accommodation in a dwelling on the land
- the supply of fine metals (gold, silver and platinum) other than zero-rated supplies.

## Definitions

Sales: Total sales and income for the period (including GST). This also includes zero-rated supplies. In a normal business it includes any grants or subsidies received and barter transactions made.

Purchases: Total purchases and expenses (including GST) for which tax invoicing requirements have been met. Also includes an estimate for imported goods and the use of private goods and services in taxable activity.

Net Sales: Sales less purchases.

Business Frame: A register of all economically significant businesses operating in New Zealand.

Enterprise: A single business entity operating in New Zealand, either as a legally constituted body, or as a self-employed individual.

GST: Goods and Services Tax.

Location: Enterprise or part of an enterprise that pays GST.

ANZSIC: Australian and New Zealand Industrial Classification.

## Methodology

Several methodological issues have had to be resolved in the development of this series. Detailed methodology is available in the Survey Information Manager Database on the Statistics New Zealand website or on application to Statistics New Zealand.

### 1. Assigning ANZSIC and other classification variables to the GST units

GST data has been matched to Business Frame data to assign an industry classification to each return using the following sources:

- Annual Business Directory Update Survey output databases from 1992 to 1997
- data extracted from the live Business Frame.

A match to the Business Frame data was not possible for:

- Economically insignificant units (below \$30,000 annual turnover) which are not recorded on the Business Frame. These units, which account for approximately 2 percent of turnover, are recorded in the total.
- Units which have ceased.

- Some units which have offices overseas.
- Units that were part of a group whose structure has changed.

Unmatched enterprises with more than \$1 million annual sales were allocated an industry code by considering the company name, the activity descriptor on the tax registration database and any other information that was known about the business. Enterprises with less than \$1 million annual sales have not been allocated to an industry and are recorded in the total.

## **2. Group returns**

Enterprises are able to form a group, such that one location may represent the entire group for GST purposes. All enterprises must adopt the same accounting period and basis, but transactions between the enterprises are not generally liable for GST. Group membership may change over time depending on share holdings. A method has been developed which uses other tax data (sales from annual IR10 returns) and full-time equivalent employee information from the Business Frame to allocate group sales and purchases to respective group members. We are currently investigating other data sources, such as the Statistics New Zealand's Annual Enterprise Survey, to provide further information with which to allocate the group sales. As a result there are likely to be revisions to the data in future releases.

## **3. Standardising the reference period to monthly**

Enterprises submit GST returns either monthly, two-monthly or six-monthly (depending on the annual turnover of the business). To produce a monthly series it has been necessary to develop a method to apportion two- and six-monthly returns over the respective months each return represents. Initially it was proposed to use the inter-period movements in monthly filers to apportion two- and six-monthly returns. An alternative method was developed after concerns were raised that monthly filers have different characteristics from two- or six-monthly filers.

Seasonal adjustment factors have been generated from a classical ARIMA seasonal adjustment exercise (X-12), using nominal time periods for the series of the odd-month filers and even-month filers series quite separately. To present X-12 with monthly data, each two-month data point was repeated. The 12 seasonal factors for each series were then subset to six each and interleaved together to produce 12 nominally-dated seasonal adjustment factors per year. This method is used in industries where the seasonal adjustment factors are technically stable and clearly believable. In the exceptions to this situation the monthly estimates have been generated through a uniform method, ie apportioning equally between the two periods. Because six-monthly returns make a small contribution to the total by value, a uniform method was also applied to six-monthly filers, ie apportioning equally between the six periods.

Further research will be carried out on the characteristics of 'voluntary' monthly filers, ie filers who elect to file monthly although they are eligible to file every two months. It is planned to incorporate the findings of this research into subsequent releases.

#### **4. Forward estimation – estimating for two- and six-monthly filers that have not filed in the most recent months**

The method uses a ratio of the value for the reference period to the same period a year earlier from like frequencies that have filed. This ratio is then applied to the same frequency-of-return types that have not yet filed to produce an estimate for the reference month.

#### **5. Treatment of capital in the series**

Sales and purchases of capital items are included in GST values. These items include:

- the sale and purchase of a business
- purchases of capital items (eg buildings, plant and machinery)
- sales of second hand capital items.

For the experimental series release some capital items that have the potential to breach the confidentiality rule have been removed from the series. In the experimental series release we will not identify the points that we have removed. This decision will be reviewed for the official series once we have a clearer understanding of the options for handling confidential/historical data.

#### **6. Non-response**

Values for non-responding units for the latest period have been estimated by multiplying their response in the previous period by a non-response factor. The non-response factor is the average movement over the period for a set of similar enterprises. Non-response is only estimated for one period. After that it is assumed that the unit has ceased operation. If the unit does eventually respond it is added back in to the population.

#### **Survey errors**

Because no technical sampling is involved, there are no sampling errors, but other estimation errors will be present such as estimation errors from forward estimation (for provisional data), temporal apportionment and imputation (for non-response).

Analysis of forward estimates over the period from April 1993 through to March 1998 has given the following forward estimation errors at the total level:

	<b>Mean Error</b>	<b>Median Error</b>
Error in first provisional estimate (latest month)	1.6%	1.3%
Error in second provisional estimate (previous month)	0.2%	0.2%

This means that on average we expect the (absolute) difference between the first provisional estimate for a month and the final result to be 1.6 percent, and half of such errors to be 1.3 percent or less.

Other errors may result from:

- the purchases variable including an estimate for imported goods and other expenses
- errors and omissions by enterprises
- errors in inputting and classifying data.

Although Statistics New Zealand adopts policies to minimise these errors, they may occur, and their effect is not quantifiable.

## **Seasonally adjusted estimates**

The X-12-ARIMA package has been used to produce the seasonally adjusted and trend estimates. Seasonal adjustment aims to eliminate the impact of regular seasonal events. They may be due to climatic effects (eg ice cream sales rise in summer) or calendar effects (eg sales increase at Christmas). This makes the data for adjacent periods more comparable. All seasonally adjusted figures are subject to revision each month. Seasonally adjusted totals, and seasonally adjusted quarterly results are performed directly, and will not necessarily match the sum of their components. Not all industries are suitable for seasonal adjustment, values for these missing industries are indicated by '.' in the published tables.

## **Trend estimates**

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. An example of an irregular event would be a prolonged drought. Trend estimates reveal the underlying direction of movement in a series and are likely to indicate turning points more accurately than are seasonally adjusted estimates.

The Business Activity Indicator trend series is calculated using the X12-ARIMA seasonal adjustment package. It is based on optimal weighted moving averages of the seasonally adjusted series with an adjustment for outlying values.

Trend estimates towards the end of the series incorporate new data as they become 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 period, but is found to be part of the underlying trend as further observations are added to the series. All trend estimates are subject to revision each month but normally only the previous two or three estimates are likely to be substantially altered.

## **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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## **Timing**

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 New Zealand. Statistics New Zealand accepts no responsibility for any such delays.

## **Next release ...**

Business Activity (GST) Indicator: September 2001 quarter will be released in January 2002.

## Tables

The following tables can be downloaded from the Statistics New Zealand website in Excel 97 format. If you do not have access to Excel 97 or higher, you may use the [\*Excel file viewer\*](#) to view, print and export the contents of the file.

### List of tables

1. Total sales and purchases (based on GST returns) for the September 2001 quarter, By month
2. Monthly GST sales, By industry
3. Seasonally adjusted monthly GST sales, By industry
4. Monthly GST sales trend, By industry
5. Monthly GST purchases, By industry
6. Seasonally adjusted monthly GST purchases, By industry
7. Monthly GST purchases trend, By industry
8. Monthly net GST sales, By industry
9. Seasonally adjusted monthly net GST sales, By industry
10. Monthly net GST sales trend, By industry
11. Seasonally adjusted quarterly GST sales, By industry
12. Seasonally adjusted quarterly GST purchases, By industry