

Overseas Trade Indexes (Prices): September 2014 quarter (provisional)

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Key facts

The following movements occurred in the September 2014 quarter, compared with the June 2014 quarter.

- The **merchandise** terms of trade fell 4.4 percent.
- Export prices for goods fell 4.5 percent.
- Import prices for goods fell 0.1 percent.
- The **services** terms of trade rose 0.5 percent.
- Services export prices rose 0.6 percent.
- Services import prices rose 0.1 percent.

Merchandise price and terms of trade indexes
Quarterly indexes, Base: June 2002 quarter (=1000)



Liz MacPherson, Government Statistician
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Overview for the September 2014 quarter

The **merchandise terms of trade** fell 4.4 percent in the September 2014 quarter, due to export prices falling more than import prices. This is the first terms of trade fall since the December 2012 quarter.

In the September 2014 quarter:

- export prices for goods fell 4.5 percent
- import prices for goods fell 0.1 percent.

Terms of trade is a measure of the purchasing power of New Zealand's exports abroad. The latest fall means 4.4 percent less merchandise imports could be funded by a fixed quantity of merchandise exports than in the June 2014 quarter.

The decrease means the terms of trade is now 0.2 percent below the September 2013 quarter level. It is now 5.9 percent below its all-time high in the June 1973 quarter.

The **services terms of trade** rose 0.5 percent in the September 2014 quarter, due to export prices rising more than import prices.

See [definitions](#) for more information on services.

Export goods prices fall

Export goods prices fell 4.5 percent in the September 2014 quarter, following a 2.2 percent fall in the June 2014 quarter.

The Reserve Bank trade weighted index (TWI) fell 0.9 percent in the September 2014 quarter. A falling New Zealand dollar has an upward impact on export prices.

Excluding dairy prices (down 11 percent), export prices fell about 0.9 percent this quarter.

From the September 2013 quarter to the September 2014 quarter (ie in the year to the September 2014 quarter), export prices fell 6.2 percent.

Dairy prices fall 11 percent

Dairy prices fell 11 percent in the September 2014 quarter. its second consecutive fall. They are now down 15 percent from a recent peak in the March 2014 quarter.

The fall in dairy prices was widespread, with milk powder prices falling 13 percent.

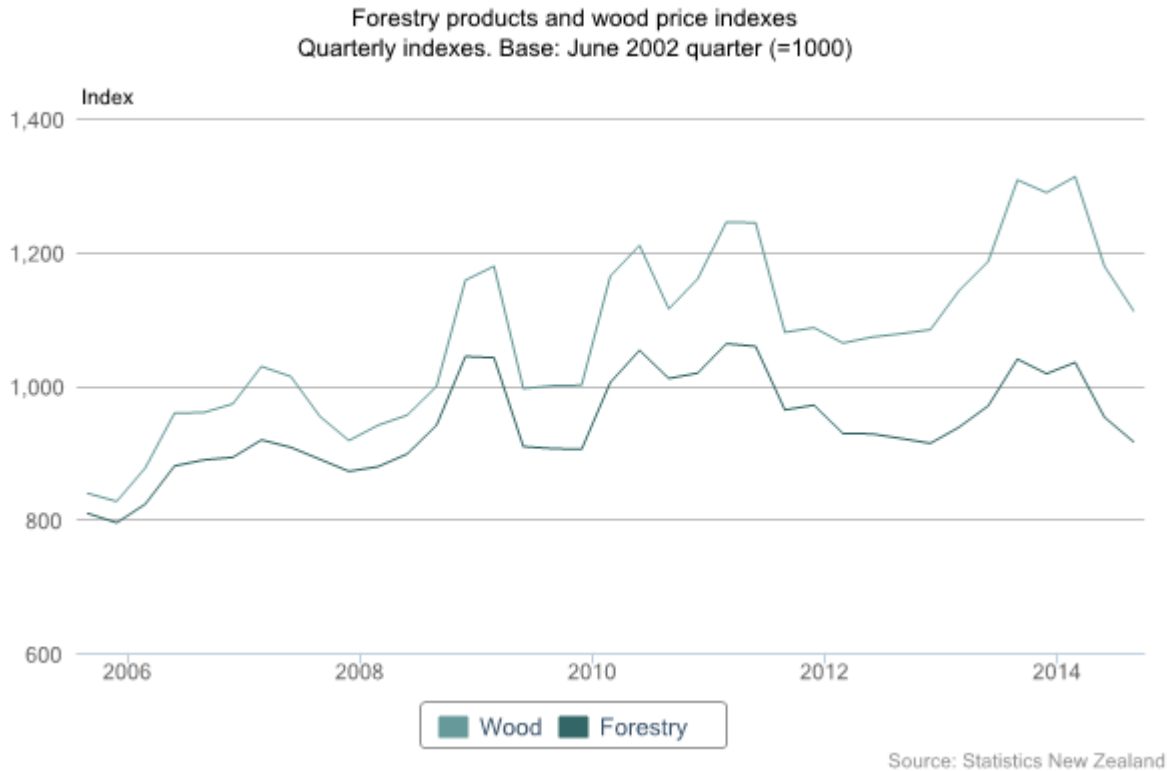
In the year to the September 2014 quarter, dairy prices fell 14 percent, compared with a 46 percent increase in the year to the September 2013 quarter. Dairy prices are now 19 percent below their all-time peak in the December 2008 quarter.



Forestry product prices fall 3.9 percent

Forestry product prices fell 3.9 percent in the September 2014 quarter, due to lower prices for wood (down 5.7 percent). The fall in wood prices reflected lower prices for pine logs as international demand decreased and stocks built up in China. The March 2014 quarter wood price index was the highest since the September 1993 quarter.

In the year to the September 2014 quarter, forestry product prices decreased 12 percent.



Meat prices rise 4.3 percent

Meat prices rose 4.3 percent in the September 2014 quarter, influenced by higher prices for beef (up 9.3 percent). This is the highest level for beef prices since the March 2002 quarter. Beef prices in the US are also currently at high levels. Lamb prices rose 1.1 percent, and are now 15 percent below their December 2011 quarter high.

In the year to the September 2014 quarter, meat prices increased 5.6 percent.



Import goods prices fall

Import goods prices fell 0.1 percent in the September 2014 quarter, following falls of 2.3 percent and 1.0 percent in the June 2014 and March 2014 quarters, respectively.

Electrical machinery and apparatus (down 5.4 percent) was the main downward contributor to the fall in import prices. The main offsetting influence came from petroleum and petroleum products (up 2.7 percent).

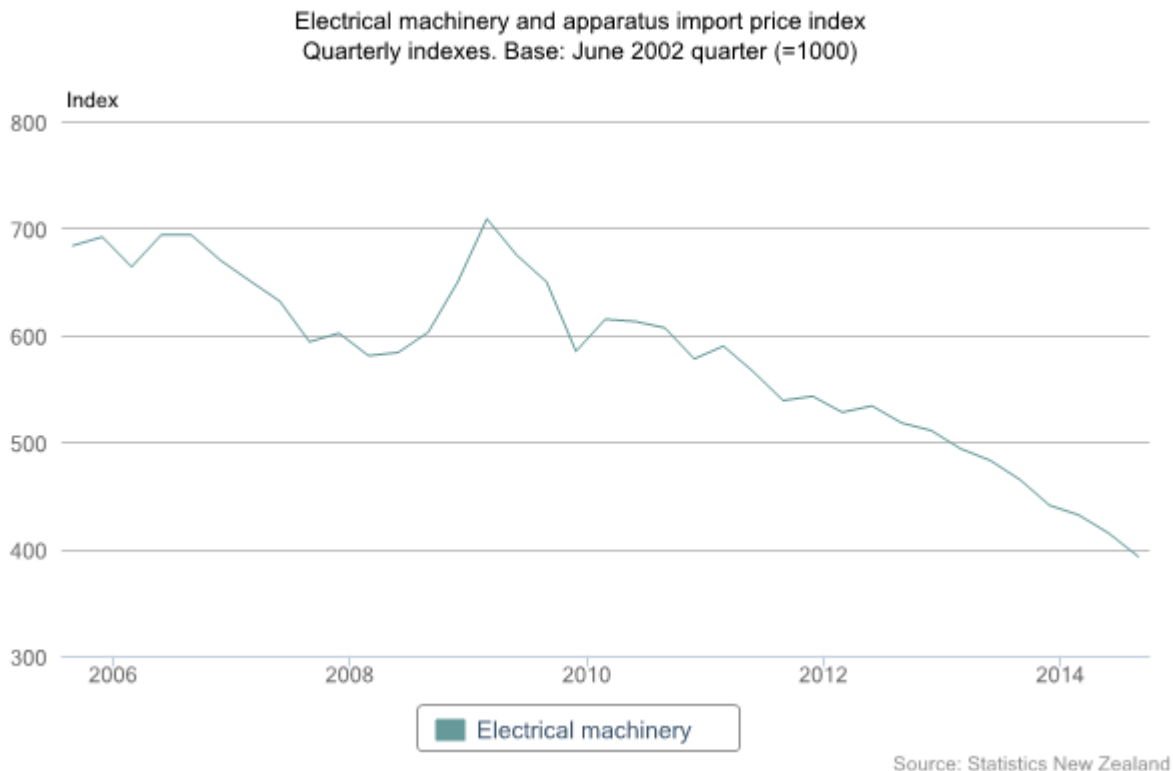
Excluding petroleum and petroleum products, import prices fell 0.6 percent this quarter.

In the year to the September 2014 quarter, import prices decreased 6.0 percent.

Electrical machinery and apparatus import prices fall 5.4 percent

The most significant downward contributor to the fall in import prices was electrical machinery and apparatus, which fell 5.4 percent in the September 2014 quarter. The fall was influenced by a range of products, such as cell phones, television sets, and digital cameras.

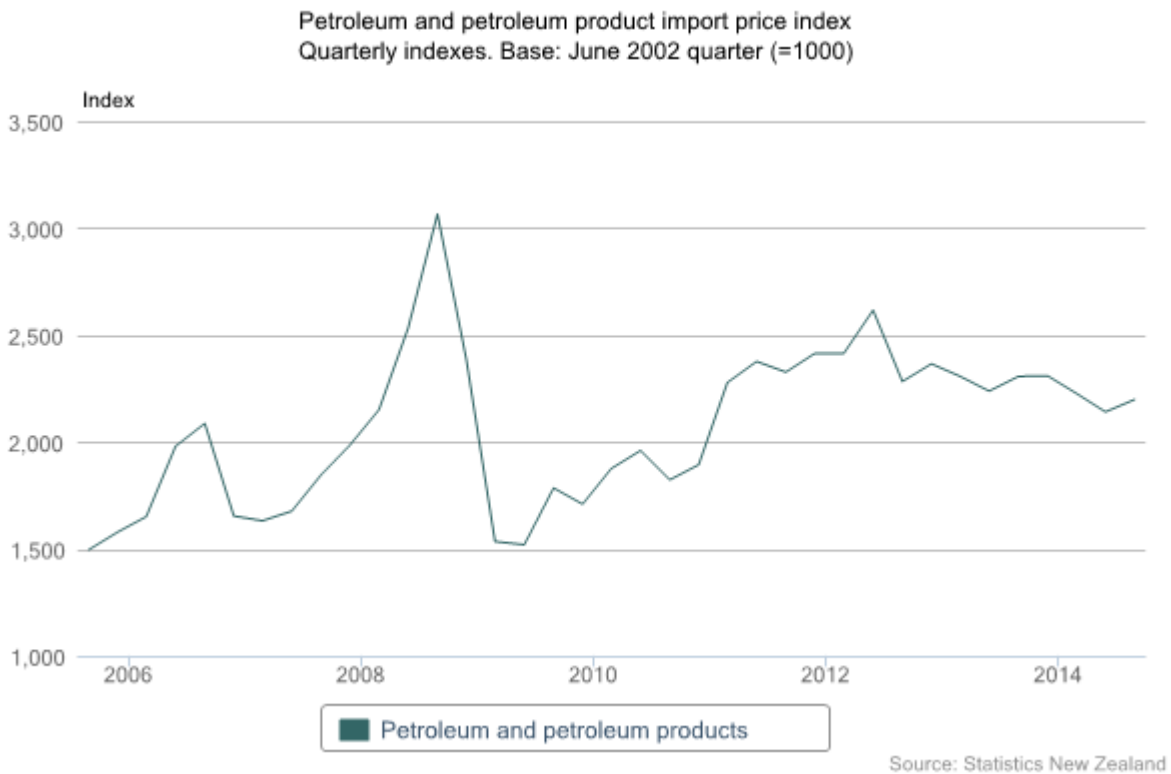
In the year to the September 2014 quarter, electrical machinery and apparatus prices decreased 16 percent.



Petroleum and petroleum product import prices rise 2.7 percent

Petroleum and petroleum product prices rose 2.7 percent in the September 2014 quarter, due to higher crude oil prices. Prices for imports and exports can be set by contracts formed before the goods enter or leave the country, so OTI price movements may lag behind those for international prices.

In the year to the September 2014 quarter, petroleum and petroleum product prices decreased 4.7 percent.



Import prices fall for capital and consumption goods, rise for intermediate goods

In the September 2014 quarter:

- capital goods prices fell 1.4 percent, influenced by lower prices for non-transport equipment capital goods (such as computer equipment)
- consumption goods prices fell 0.3 percent, influenced by lower prices for durable goods (such as appliances and furniture)
- intermediate goods prices rose 1.2 percent, influenced by higher prices for primary fuels and lubricant (such as crude oil).



Prices rise for services exports and imports

The services terms of trade rose 0.5 percent in the September 2014 quarter, due to export prices rising more than import prices.

Prices for **services exports** (ie services to non-residents) rose 0.6 percent in the September 2014 quarter.

The rise in services export prices was mainly influenced by:

- other services (up 1.0 percent, reflecting higher prices for a range of services)

- travel services (up 0.4 percent, due to higher prices for personal travel services).

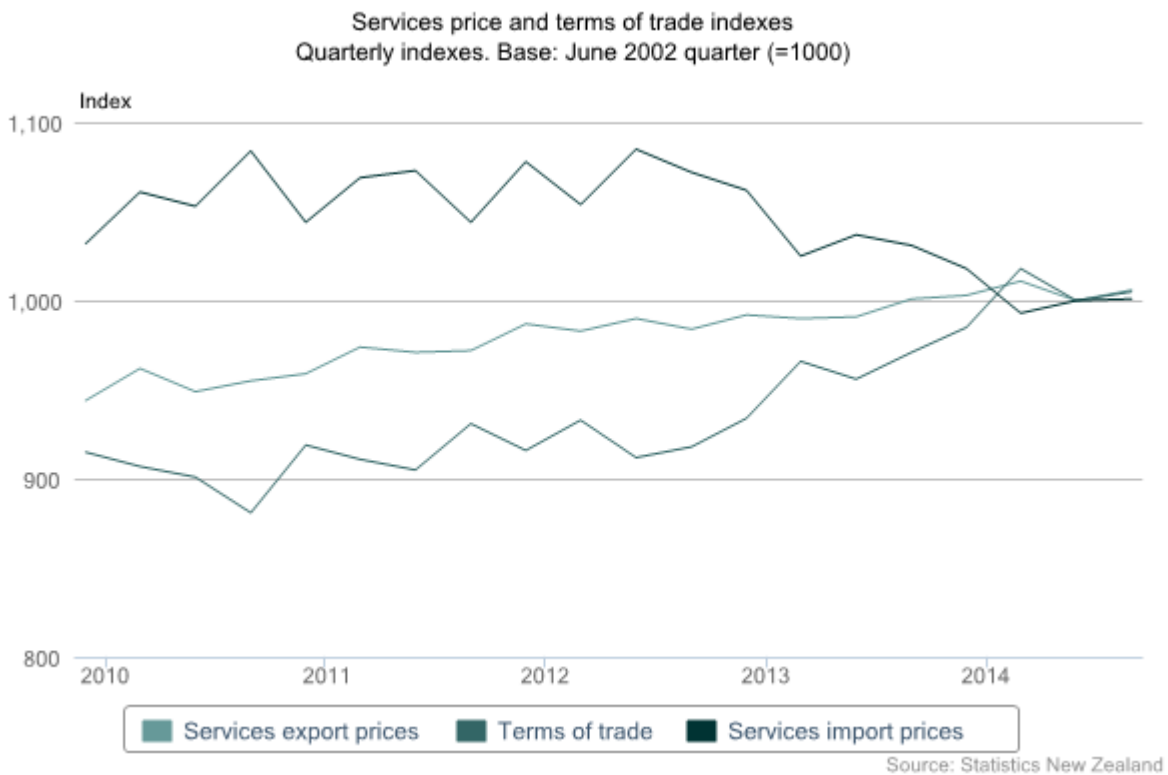
Prices for **services imports** (ie services provided by non-residents) rose 0.1 percent in the September 2014 quarter.

The rise in services import prices was influenced by travel services (up 1.6 percent, reflecting higher prices for overseas accommodation, and food and beverage, and the falling New Zealand dollar).

Travel imports measures changes in the prices paid by New Zealand consumers and businesses travelling overseas.

The rise in services import prices was moderated by transportation services (down 2.9 percent, reflecting lower prices for sea freight services).

Transportation imports measures changes in the prices paid by New Zealand consumers and businesses using foreign air and sea services.



Changes to the services series

We introduced new time series identifiers for the overseas services trade price indexes this quarter. This change arose because of updated international standards in the International Monetary Fund's *Balance of Payments Manual*, sixth edition.

The two main changes that affect the OTI:

- 'merchanting' changed from being classified as services to goods
- 'repairs of goods' changed from being classified as goods to services.

For more information on these changes see:

- [Updating the overseas services trade price index classification](#)
- [Changes by date.](#)

Exchange rate information

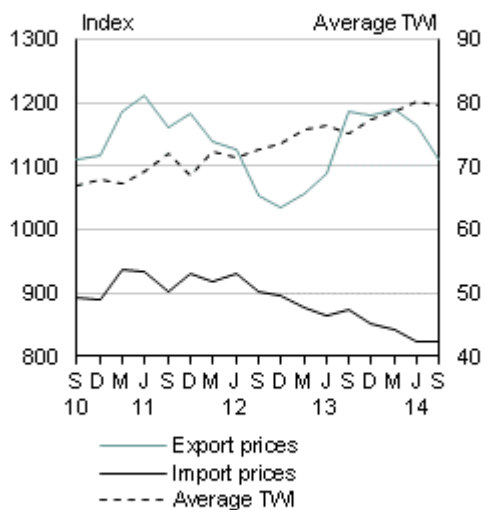
The Reserve Bank of New Zealand's trade weighted index (TWI) fell 0.9 percent in the September 2014 quarter. A falling New Zealand dollar has an upward influence on both export and import prices.

Import values are converted to New Zealand dollars by the New Zealand Customs Service (NZCS) using their exchange rates. These exchange rates can lag by 11 to 25 days compared with the Reserve Bank rates. The trade weighted index calculated using NZCS rates fell 0.4 percent in the September 2014 quarter.

See [Basis of valuation – merchandise trade](#) in the data quality section for more information on exchange rates.

The following graphs and tables give more information about exchange rate movements over the September 2014 quarter.

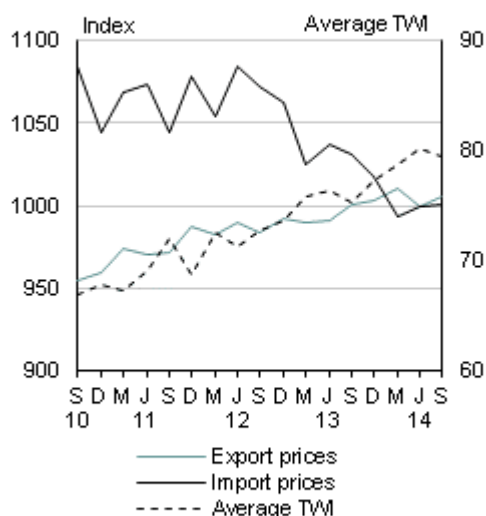
Merchandise trade indexes⁽¹⁾ and average trade weighted index⁽²⁾
Quarterly



1. Base: June 2002 quarter (=1000).
2. Base: June 1979 month (=100).

Source: Statistics New Zealand and Reserve Bank

Services trade indexes⁽¹⁾ and average trade weighted index⁽²⁾
Quarterly



1. Base: June 2014 quarter (=1000).
2. Base: June 1979 month (=100).

Source: Statistics New Zealand and Reserve Bank

| Exchange rates for September 2014 quarter | | | | | | |
|--|--------------------|--------------------|-------------------------|---------------------|---------------------|----------------------------|
| Reserve Bank of New Zealand | | | | | | |
| | USA (NZ\$:US\$) | UK (NZ\$:pound) | Australia (NZ\$:A\$) | Japan (NZ\$:yen) | Euro (NZ\$:euro) | Trade weighted index |
| Change from June 2014 quarter (%) | -2.1 | -1.4 | -1.4 | -0.5 | 1.2 | -0.9 |

| Exchange rates for September 2014 quarter | | | | | | |
|--|--------------------|--------------------|-------------------------|---------------------|---------------------|----------------------------|
| New Zealand Customs Service | | | | | | |
| | USA (NZ\$:US\$) | UK (NZ\$:pound) | Australia (NZ\$:A\$) | Japan (NZ\$:yen) | Euro (NZ\$:euro) | Trade weighted index |
| Change from June 2014 quarter (%) | -0.3 | -0.9 | -1.3 | 0.0 | 2.0 | -0.4 |

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

Definitions

About the overseas trade indexes (prices) release

The overseas trade indexes (prices) measure changes in the prices of imports and exports of goods and services. This release provides information about price movements in five indexes.

- The **overseas merchandise trade price indexes** measure changes in the price levels of imports and exports of merchandise trade to and from New Zealand.
- The **overseas services trade indexes** measure changes in price levels of imports and exports of services to and from New Zealand on a quarterly basis.
- The **overseas terms of trade index** measures the changing volume of merchandise imports that can be funded by a fixed volume of New Zealand's merchandise exports.

Each index shows how a set of prices has changed over time. It is the change between two index numbers that is important. An individual index number has no meaning.

About the terms of trade index

The terms of trade index measures the changing volume of merchandise imports that can be funded by a fixed volume of New Zealand's merchandise exports. The merchandise terms of trade index is calculated as the ratio of the total export price index to the total import price index. This is then presented on an index reference period of the quarter ended June 2002 (=1000).

More definitions

Broad economic categories (BEC): are arranged, as far as practical, to align with the System of National Accounts' three basic classes – capital goods, intermediate goods, and consumption goods. Commodities in the BEC are categorised based on their main end use. This means, for example, that all digital cameras are treated as consumption goods even though some are used in business.

Capital goods: produced assets used repeatedly or continuously for longer than one year in industrial production processes. Examples are machinery, trucks, and aircraft.

Consumption goods: goods used (without further transformation in industrial production processes) by households, government, or non-profit institutions serving households.

There are three types of consumption goods:

- durables have an expected usage of three years or more, eg appliances, furniture
- semi-durables have an expected usage of one or two years, eg footwear, clothing, games, toys
- non-durables have an expected usage of less than a year, eg medicines, cosmetics, yarns, books.

fob: free on board (the value of goods at New Zealand ports before export), which includes the cost of the goods plus the cost (including loading charges) of putting them on a vessel or aircraft.

Government services (exports): includes sales of capital assets (excluding land), estimated expenditure of foreign embassies in New Zealand, the portion of the government's international aid spent in New Zealand, and the government's receipts from immigration fees.

Government services (imports): operational expenses of New Zealand's embassies overseas and the costs of the New Zealand defence forces stationed overseas.

Index reference period: the benchmark with which prices in other periods are compared (eg if the index number in a later period is 1150, prices have increased by 15 percent since the index reference period). Prices for later periods can also be compared in a similar fashion. The overseas merchandise trade indexes have an index reference period of the June 2002 quarter (=1000). The overseas services trade indexes have an index reference period of the June 2014 quarter (=1000).

Intermediate goods: goods used up or transformed in industrial production processes.

Merchandise trade: exports or imports of goods that increase or decrease the stock of material resources in New Zealand. Includes goods leased for a year or more.

Services: products other than tangible goods. Services result from production activity that changes the conditions of the consuming units, or makes the exchange of products or financial assets possible.

Other services: services other than transportation, travel, and government services. Examples are insurance, royalties and licence fees, banking and financial services, computer and information services, telecommunications, and personal, cultural, and recreational services.

Price index: measures the change in price between time periods for a given set of goods or services. It summarises a set of prices for a variety of goods or services.

Re-exports: exported goods that were previously imported into New Zealand and that include less than 50 percent New Zealand content by value.

Transportation: the international carriage of goods and passengers. Includes freight, airfares, port services, and stevedoring.

Travel (exports): what overseas visitors spend while travelling in New Zealand, and the expenditure by international students in New Zealand.

Travel (imports): what New Zealanders spend while travelling overseas.

vfd: value for duty (the value of imports before insurance and freight costs are added).

Related links

Upcoming releases

Overseas Trade Indexes (Prices): December 2014 quarter (provisional) and *Overseas Trade Indexes (Volumes): December 2014 quarter (provisional)* will both be released on 2 March 2015.

[Subscribe to information releases](#), including this one, by completing the online subscription form.

[Release calendar](#)

See all upcoming information releases by date of release.

Past releases

[Overseas Trade Indexes – information releases](#) has links to past releases.

Related information

[Overseas Trade Indexes – information releases](#)

Overseas Trade Indexes (Volumes) measure changes in the volumes of imports and exports of goods and services. These indexes are published quarterly on the same day as Overseas Trade Indexes (Prices) releases.

[Overseas merchandise trade](#)

Information on the importing and exporting of merchandise goods between New Zealand and other countries. These statistics are published monthly.

[Balance of Payments and International Investment Position – information releases](#)

The statements in these information releases are records of the value of New Zealand's transactions with the rest of the world in goods, services, income, and transfers. They also record changes in New Zealand's financial claims on (assets) and liabilities to the rest of the world. New Zealand's international investment position statements provide a snapshot of the country's international financial assets and liabilities. Balance of payments statistics are released quarterly and annually.

[National Accounts – information releases](#)

Measure values of a range of economic aggregates such as gross domestic product, capital formation, and government and private consumption.

[Economic Survey of Manufacturing – information releases](#)

Provide an economic indicator of how the manufacturing sector is performing.

[New Zealand Customs Service](#)

More information on the government agency with the job of ensuring the security of our borders.

[Ministry of Foreign Affairs and Trade](#)

More information on the Government's principal adviser and negotiator on foreign and trade policy issues.

Data quality

Period-specific information

This section contains information that has changed since the last release.

- [Data influencers](#)
- [Timing of published data](#)
- [Imputation for the September 2014 quarter](#)
- [Exchange rates](#)

General information

This section contains information that does not change between releases.

- [What the price indexes measure](#)
- [Source of information – merchandise trade](#)
- [Basis of valuation – merchandise trade](#)
- [Index type and calculation – merchandise trade](#)
- [Source of information – services](#)
- [Basis of valuation – services](#)
- [How services trade indexes are calculated](#)
- [How the terms of trade are calculated](#)
- [Index coverage](#)
- [Updating the overseas services trade price index classification](#)
- [Imputation](#)
- [Trend estimates – merchandise trade](#)
- [How the unit values of imported cars are calculated](#)
- [Directly surveyed prices](#)
- [International price indexes](#)
- [Effect of exchange-rate movements on terms of trade](#)
- [Contract indexation](#)
- [Release of latest results](#)
- [More information](#)

Period-specific information

Data influencers

In the September 2014 overseas merchandise trade release, we imputed the value for some commercially sensitive aircraft imports. The treatment of these aircraft also applies to this overseas trade indexes release.

See the data quality section of [Overseas Merchandise Trade: September 2014](#) for more details.

Timing of published data

The merchandise price indexes in this release are calculated from the same data used in [Overseas Merchandise Trade: October 2014](#) published on 27 November 2014. Updates published after this date are not included.

Overseas merchandise trade statistics are provisional for the three most-recent months, which means the statistics may be amended in the three months after initial publication.

Merchandise price indexes are provisional for one quarter, to allow for the inclusion of late data and amendments to the merchandise trade source data. Merchandise values in this release that relate to the June 2014 quarter are based on later data than that used for the previous overseas trade indexes release (for the June 2014 quarter), published on 1 September 2014.

The price indexes for services are final figures (unlike the merchandise series, which are first published as provisional figures). The services index may be revised when lagged prices are used in new indexes and are later replaced by current prices. However, the services indexes are usually revised only for significant errors.

Numbers that have been revised are identified by an R beside the revised number in the tables that accompany this release.

Imputation for the September 2014 quarter

For the September 2014 quarter, the base annual imputation rates were 19.3 percent for exports and 39.3 percent for imports.

Exchange rates

A depreciating New Zealand dollar has an upward influence on both import and export prices in New Zealand dollars. The impact on the terms of trade depends on the relative mix of exports and imports for each currency.

The Reserve Bank's trade weighted index (TWI) fell 0.9 percent in the September 2014 quarter.

The trade weighted index that Statistics NZ calculates using New Zealand Customs Service (NZCS) exchange rates, which are used to value imports, fell 0.4 percent in the September 2014 quarter.

Exchange rates used to calculate merchandise import values differ from the weekly exchange rates used to calculate merchandise export values. Import values are converted from foreign currencies, using exchange rates set by the NZCS every two weeks. These exchange rates are prepared 11 days before the effective date (when the item was imported) and are then applied for two weeks. Therefore, there is a lag of 11 to 25 days between the exchange rates used by the NZCS compared with the exchange rates the Reserve Bank publishes.

General information

What the price indexes measure

These indexes are numerical series that indicate how a set of prices has changed between time periods. Each index measures changes in the level of prices rather than the actual prices. It is the change between two index numbers that is important. An individual index number has no meaning.

The **overseas merchandise trade price indexes** measure changes in the price levels of imports and exports of merchandise trade to and from New Zealand, on both a quarterly and an annual basis.

The **overseas services trade indexes** measure changes in price levels of services to and from New Zealand on a quarterly basis.

Price and volume measurement relates to the decomposition of transaction values in current prices into their price and volume components. In principle, the price components should include changes arising solely from price changes, while all other changes (relating to quantity, quality, and compositional changes) should be included in the volume components. The aim is to estimate which changes in aggregates are due to price movements, and which to volume changes.

Source of information – merchandise trade

Value and quantity data used for calculating the **merchandise price indexes** are derived from Statistics NZ's overseas merchandise trade statistics, which are based on export and import entry documents lodged with NZCS by exporters, importers, and their agents. The value and quantity data are published in the monthly overseas merchandise trade releases.

Data is classified using the Harmonised System (HS) 2012 classification. New Zealand and more than 190 other countries base their customs tariffs and the collection of international trade statistics on the HS classification. There are over 18,600 10-digit items in the HS classification.

HS 10-digit item-by-country unit values are derived from Statistics NZ's overseas trade statistics. Quarterly item-by-country unit values are calculated by dividing the total value of an HS item exported or imported during the quarter by the total quantity of the item exported or imported during the quarter. These unit values are then extensively edited, with outliers removed before being used in trade index calculations.

For basic, homogeneous commodities not subject to ongoing quality change, individual prices provide suitable indicators of price change. However, individual prices do not provide good indicators of price change for heterogeneous goods such as elaborately transformed goods, technically complex goods, or goods subject to rapid quality change. Unit values are selectively supplemented with prices collected directly from importers and exporters, and by international price indexes.

Basis of valuation – merchandise trade

The **merchandise export indexes** are calculated using New Zealand-dollar free on board (fob) values. Export fob values represent actual or estimated transaction prices of goods, including costs incurred in delivering goods on board ships and aircraft at New Zealand ports of export. Values given in foreign currencies are converted by Statistics NZ into New Zealand dollars using weekly exchange rates when the statistics are compiled. This means that any hedging will generally not be reflected in the merchandise import and export price indexes.

The **merchandise import indexes** use New Zealand-dollar vfd values (the value of imports before insurance and freight costs are added). Before the September 2003 quarter, the merchandise import indexes used cif values, which represented the value of goods plus the insurance and freight costs associated with bringing the goods to New Zealand ports of entry. The vfd valuation for imports is recommended in the System of National Accounts 1993 and is used in the New Zealand national accounts.

Vfd values are converted from foreign currencies when import documents are processed by NZCS. The NZCS exchange rates are prepared 11 days before the effective date and are then applied for two weeks. Therefore, the exchange rate used in the imports prices will be 11 to 25

days old when it is used in imports documentation. This means that the NZCS exchange rate, and therefore the imports prices, will be slower to show the impact of changes in the exchange rate than the Reserve Bank rates and the export prices.

Merchandise import price indexes are not directly affected by changes in the rates of duty payable on imported goods, as vfd values do not include duty. Therefore, the phased reduction in tariffs that has occurred at times has not had a direct downward influence on the import price indexes.

Index type and calculation – merchandise trade

The merchandise index series are chain-linked Fisher Ideal indexes. The calculation of a Fisher Ideal index involves first calculating two other indexes. One, the Laspeyres, is base-weighted and uses data about past spending to weight price or volume movements. The other, the Paasche, is current-weighted and uses data about current spending to weight price or volume movements. The Laspeyres and Paasche indexes are then averaged by calculating the geometric mean (that is, the square root) of the two indexes to give the Fisher Ideal index. Most of the time, price and quantity changes are negatively correlated. In such cases, Laspeyres indexes tend to systematically record greater increases than Paasche indexes, with the gap between the indexes tending to widen over time.

The merchandise index series use June quarter prices as a reference, and are linked to the index for the June quarter of each year. There are annual expenditure weight reference periods for both the Laspeyres (previous June year) and Paasche (year to each quarter) components of the index.

The overseas trade price indexes are calculated by:

1. calculating Laspeyres and Paasche price indexes for the current quarter compared with the previous June quarter
2. calculating Fisher Ideal price indexes for the current quarter, compared with the previous June quarter, which is the geometric mean (or square root) of the Laspeyres and Paasche price indexes as calculated in step 1
3. linking the Fisher Ideal price index for the current quarter compared with the previous June quarter (calculated in step 2) to the index for the previous June quarter, to provide a continuous quarterly time series.

The Laspeyres and Paasche volume indexes for the current quarter compared with the previous June quarter are calculated by deflating the change in dollar value from the previous June quarter to the current quarter using the Paasche and Laspeyres price indexes, respectively (calculated in step 1 above). Steps 2 and 3 are repeated as above, using volume (rather than price) indexes.

The annual price indexes are volume index-weighted averages of the four component quarter price indexes, and the annual volume indexes are the simple average of the four component quarterly volume indexes.

Items are assigned expenditure weights at the HS 10-digit item-by-country level. Item and index weights are not fixed. They vary from quarter to quarter and from year to year as the relative values of goods New Zealand exports and imports change.

Source of information – services

Value data used to calculate the weights used in the **service indexes** is derived from Statistics NZ's balance of payments data, which comes from various surveys operated by the Balance of Payments business unit. Every year, new weights are used to calculate the services indexes from the September quarter onwards. These weights use balance of payments data for the year ended June.

Pricing information used to calculate the indexes is collected in Statistics NZ's Commodity Price Survey. The Commodity Price Survey collects prices for approximately 10,000 individual items. The prices are collected by postal survey from about 2,200 respondents and supplemented by prices gathered from international price indexes. Prices are generally collected each quarter. The price on the 15th day of the middle month of the quarter is used to measure domestic prices. Prices may be collected quarterly or annually depending on the nature of the item. For the import services indexes, many of the prices come from international price indexes. The collection of these prices depends on the frequency and timeliness of their publication. If they are published monthly, the middle month of the quarter is used; however, in some cases the prices are lagged a month or a quarter if the value for the relevant period is not available in time.

Basis of valuation – services

The services price indexes use New Zealand-dollar values for both exports and imports. Exchange rates used to calculate the services indexes differ from those used for the merchandise indexes. Prices collected in foreign currencies are converted using the exchange rate supplied by Westpac Bank for the 15th day of the middle month of the quarter. The foreign currencies used in the services indexes include the US dollar, Australian dollar, Fijian dollar, Japanese yen, and the United Kingdom pound.

How services trade indexes are calculated

The services indexes are an annually chain-linked Laspeyres price index series. The weights are determined by the relative importance of services and businesses within the service industry. Information from various surveys, censuses, and other sources is used to determine the weights.

How the terms of trade are calculated

The **merchandise terms of trade index** is calculated as the ratio of the total export price index to the total import price index. This is then presented on an index reference period of the quarter ended June 2002 (=1000).

The **services terms of trade index** is calculated as the ratio of the total services export price index to the total services import price index, with the June 1997 quarter used as the index reference period.

An index value above (or below) 1000 indicates that the terms of trade are more (or less) favourable than in the index reference period.

An increase in the terms of trade index indicates that the real purchasing power of exports has increased, while a decrease indicates a drop in the purchasing power of exports.

Index coverage

The **merchandise trade indexes** include all commodities classified as merchandise trade, although the export indexes exclude re-exports, bunkering (re-fuelling the vessels), ships' stores, and passengers' effects.

The **services indexes** are based on the System of National Accounts 1993. The system establishes the range of services that should be included in the indexes, and key practices that should be used to classify and process services data, for example the treatment of insurance.

Updating the overseas services trade price index classification

From the September 2014 quarter onwards, the overseas trade price indexes will use updated information from the *Balance of Payments Manual*, sixth edition (BPM6).

The International Monetary Fund's *Balance of Payment Manual* guides and determines the scope and structure of the overseas services trade price indexes. Each year, the required weights to calculate the overseas services trade price indexes are sourced from Statistics NZ's balance of payments data, which were recently improved according to the BPM6.

The impact of the BPM6 changes on the overseas services trade price indexes is not large.

The two main changes that impact on the overseas services trade price indexes are:

- 'merchandising' changed from being classified as services to goods
- 'repairs on goods' changed from being classified as goods to services.

We recalculated the overseas services trade price indexes from the December 2009 quarter to the June 2014 quarter using new weights and the BPM6 changes.

The new index reference period of the overseas services trade price indexes is the June 2014 quarter (=1000). The previous index reference period was the June 1997 quarter.

For index series with coverage changes (ie other services and transportation services), the new index time series starts from the December 2009 quarter. The index time series with no coverage changes (ie travel services and government services) have been linked to the old series at the December 2009 quarter.

The BPM6-based overseas services trade price indexes are, from the September 2014 quarter onwards, the official set of indexes maintained by Statistics NZ. As such, we have discontinued the existing overseas services trade price index series on Infoshare, ending in the June 2014 quarter.

Index reference period

The index reference period for the BPM6-based overseas services trade price indexes is the June 2014 quarter (=1000). The choice of an index reference period is arbitrary and the percentage movement in the indexes are unaffected by the choice of the index reference period.

Series references

The BPM6-based overseas services trade price indexes series have new series references as follows:

- Services import (OTPQ.SSIP---) e.g. OTPQ.SSIP999
- Services export (OTPQ.SSEP---) e.g. OTPQ.SSEP999
- Services terms of trade (OTPQ.STTS---) e.g. OTPQ.STTS999

See [Preview of 2014 balance of payments improvements](#) for more information.

Imputation

There are three types of explicitly priced items:

- reliable unit values based on merchandise trade data
- prices collected directly from importers or exporters
- international price indexes used as price indicators.

Prices for remaining items are imputed using price movements of items of a similar type that are more reliable indicators.

The overseas trade indexes are Fisher Ideal indexes. As Fisher Ideal indexes are calculated at the country grouping level (for the European Union (EU) and the 'Rest of World' (ZZ)), and the HS 10-digit item level for all countries, imputation occurs at up to four levels, as shown in the table below.

| Imputation procedures | | | | |
|---|--------------------------------|---------------------|----------------------------|---------------------|
| Type of index | First level | Second level | Third level | Fourth level |
| HS10 country grouping (EU, ZZ) | Remainder of index | | | |
| HS10 item | HS10 country grouping (EU, ZZ) | Remainder of index | | |
| HS2 chapter | HS10 country grouping (EU, ZZ) | HS10 item | Remainder of index | |
| Standard or broad economic category (BEC) index | HS10 country grouping (EU, ZZ) | HS10 item | HS chapter or part chapter | Remainder of index |

Base annual imputation rates are the dollar values of goods in the previous June year of the index's imputed items, as a percentage of the index's total dollar value for the previous June year.

Trend estimates – merchandise trade

Time series can be split into trend, seasonal, and irregular components. Seasonal adjustment removes the seasonal component, while trend estimation removes the seasonal and irregular components. Trend estimates reveal the underlying direction of movement in a series and are used to identify turning points.

The merchandise terms of trade trend series is calculated using X-12-ARIMA, which adjusts for outlying values and uses a centred moving average. The length of the centred moving average is

selected automatically and can be 9, 13, or 23 months, depending on the relative variability of the irregular component compared with the trend. A long moving average has the effect of smoothing the trend series but slowing the response to underlying changes in growth rates, while a short moving average produces a trend series that is less smooth but which can be used to more quickly identify turning points.

Trend estimates are recalculated each quarter. The use of new quarterly data means that previously published trend estimates are subject to revision. 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 quarters will be subject to substantial revisions.

How the unit values of imported cars are calculated

The calculation of price movements for the main HS 10-digit item codes for cars differs from the price calculation used for other items in the overseas trade indexes. The used-car codes have previous June quarter and current quarter prices calculated for each year of manufacture, and the new car codes have prices calculated for each of the main makes of car recorded under the codes. Movements in these prices are weighted by the value of cars imported, for each year of manufacture (used cars) and make of car (new cars), to give Paasche, Laspeyres, and Fisher indexes at the HS 10-digit item-by-country level.

The method described above was introduced in the June 2002 quarter, to reduce the effect of new frontal impact standards on the age distribution of used-car imports. New frontal impact standards reduced the number of pre-1996 used cars being imported.

The dollar value of the cars treated in this way made up 8.9 percent of the total dollar value of imports in the year to June 2003.

Directly surveyed prices

Prices are collected directly from importers and exporters for selected goods that are regularly imported or exported in the same form to the same or similar specification. These items may not have a specified unit of quantity, or may fall under an HS code with a heterogeneous description.

The Commodity Price Survey is used to collect prices from importers and exporters. Data from the Commodity Price Survey is also used for the producers price index.

Directly surveyed prices were first collected in the June 2002 quarter and contribute to movements in overseas trade indexes for the September 2002 and subsequent quarters.

The process of adding to the pool of directly surveyed prices is an ongoing one and is part of the overseas merchandise trade index quality assurance programme.

International price indexes

International price indexes are used to estimate price changes for some goods. They are used to measure changes in the prices faced by importers for goods that are irregularly imported (eg public transport equipment), imported to one-off specifications (eg telephonic and telegraphic apparatus), and technically complex goods subject to rapid quality change (eg computer equipment).

The following table lists the areas of the HS classification where international price indexes are used, and the type of index selected as a proxy for changes in prices faced by New Zealand importers. Most international price indexes are sourced from the US producer price index (PPI); some have come from the US HS export price index (EPI). In both cases, monthly international price index numbers are converted to quarterly index numbers and then exchange-rate adjusted using the NZCS rates of exchange. The following table lists the main goods for which international price indexes are currently used in the import indexes.

| International price index use | | |
|-------------------------------|---|---------------------------------------|
| HS chapter | Goods | International price index |
| 84 | Mechanical machinery | |
| | Printing machinery | US producer price index |
| | Computer equipment | US producer price index |
| | Computer and office equipment parts and accessories | US producer price index |
| 85 | Electrical machinery | |
| | Telephonic and telegraphic apparatus | US HS export price index |
| | Radio-telephonic parts | US HS export price index |
| 86 | Railway equipment | US producer price index |
| 87 | Vehicles other than railway equipment | Minor use of US HS export price index |
| 88 | Aircraft | US producer price index |
| 89 | Ships | US producer price index |

The US PPI indexes used for computer equipment, parts, and accessories are compiled using hedonic quality adjustment techniques designed to remove the effect of quality improvements and isolate pure price change. The US PPI indexes for computer equipment, parts, and accessories used in the imports price index are lagged one quarter, to reflect a potential delay from the time new technology is available domestically in the US to the time it is imported into New Zealand. The US computer indexes used in the merchandise imports price index, and the one-quarter lag, are both broadly in line with the approach that has been used for some time to calculate values for quarterly constant price imports included in gross domestic product.

Effect of exchange-rate movements on terms of trade

A decline in the value of the New Zealand dollar has an upward influence on both export and import price levels, and a strengthening of the dollar has a downward impact on prices of both exports and imports. This means that any effect on the terms of trade in either case is likely to be minor. The effect is limited to situations where the New Zealand dollar has weakened or strengthened against a particular currency and there is a significant imbalance in the values of exports and imports transacted in, or with prices determined by that currency.

Contract indexation

Parties in commercial contracts use a range of price indexes produced by Statistics NZ in their indexation clauses (also known as contract escalation clauses). An indexation clause provides an agreed procedure for adjusting an originally contracted price, to reflect changes in costs or prices during the life of the contract.

Contract Indexation: A Guide for Businesses provides information on the price indexes produced by Statistics NZ and issues relating to their use in indexation clauses. The guide also outlines some points to consider when preparing an indexation clause, and includes an example of the mechanics of a simple indexation formula.

Release of latest results

Provisional merchandise trade indexes are available within nine weeks of the end of the reference quarter. Final indexes are released within 22 weeks of the end of the reference quarter.

Only final data is released for the services indexes. This data is available at the same time as the provisional merchandise trade indexes.

More information

See [Overseas trade indexes](#) for more information.

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Revisions

Updates to previously published material

The overseas trade indexes are provisional for one quarter to allow for receiving and editing late and amended trade documentation. The following table shows updates to index numbers.

| June 2014 quarter merchandise overseas trade indexes (prices) | | | |
|--|--------------------|--------------------|----------------------|
| | Export price index | Import price index | Terms of trade index |
| Series ref: OTPQ | SEO1E95 | SIO1I95 | STTZZ5 |
| Provisional Jun 2014 qtr Published 1 Sep 2014 | 1167 | 823 | 1419 |
| Final Jun 2014 qtr Published 1 Dec 2014 | 1164 | 823 | 1415 |

Contacts

For media enquiries contact:

Chris Pike

Wellington 04 931 4600

Email: info@stats.govt.nz

For technical information contact:

Russell Hewitt

Wellington 04 931 4600

Email: info@stats.govt.nz

For general enquiries contact our Information Centre:

Phone: 0508 525 525 (toll free in New Zealand)

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Tables

The following tables are available in Excel format from the 'Downloads' box.

If you have problems viewing the files, see [opening files and PDFs](#).

- 1.01 Overseas trade price and terms of trade indexes
- 1.02 Overseas merchandise trade price and terms of trade indexes
- 2 Merchandise export price indexes
- 3 Merchandise import price indexes
- 4.01 Merchandise imports by broad economic category, price indexes
- 4.02 Merchandise imports by broad economic category, price index percentage change from previous period
- 5 Overseas trade in services price indexes
- 6 Exchange rates, Reserve Bank of New Zealand

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Infoshare

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Group: **Overseas Trade Indexes – Prices**