

Overseas Trade Indexes (Prices): June 2013 quarter (provisional)

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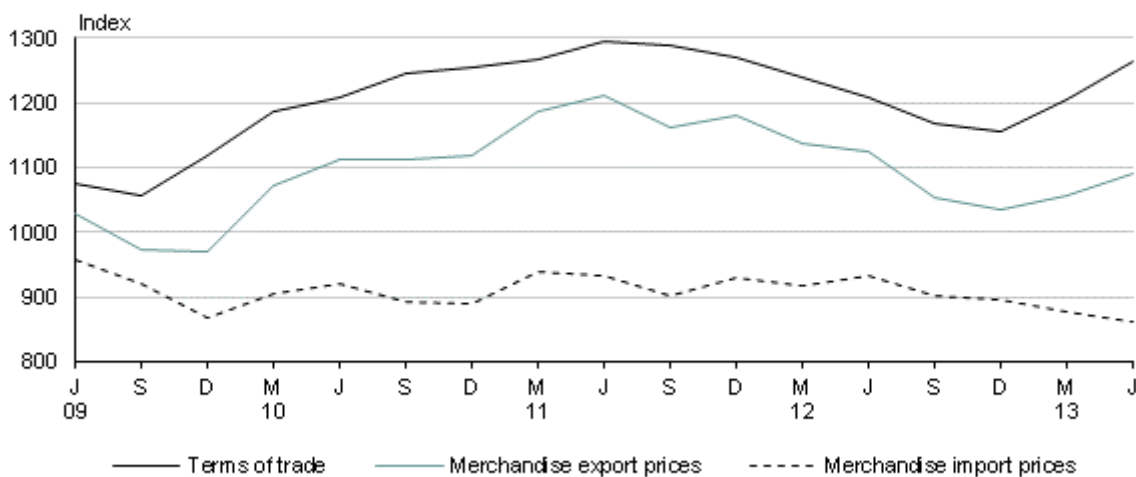
Key facts

The following movements occurred in the June 2013 quarter, compared with the March 2013 quarter.

- The merchandise terms of trade rose 4.9 percent.
- Export prices for goods rose 3.4 percent.
- Import prices for goods fell 1.5 percent.
- The services terms of trade fell 1.0 percent.
- Services export prices rose 0.1 percent.
- Services import prices rose 1.2 percent.

Merchandise price and terms of trade indexes

Quarterly
Base: June 2002 quarter (=1000)



Source: Statistics New Zealand

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Overview for the June 2013 quarter

The **merchandise terms of trade** rose 4.9 percent in the June 2013 quarter, due to export prices rising and import prices falling.

- Export prices for goods rose 3.4 percent.
- Import prices for goods fell 1.5 percent.

Terms of trade is a measure of the purchasing power of New Zealand's exports abroad. An increase means that New Zealand can buy more imports for the same amount of exports.

The 4.9 percent rise in the terms of trade was influenced by dairy export prices. Without dairy, the terms of trade would have increased 1.6 percent.

The terms of trade rose for the second consecutive quarter but are still 2.5 percent below the 37-year high reached two years ago.

The **services terms of trade** fell 1.0 percent in the June 2013 quarter, due to export prices rising less than import prices.

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

Export goods prices rise

In the June 2013 quarter, export goods prices rose 3.4 percent, the largest quarterly rise in two years. Without dairy, export prices would have risen 0.1 percent in the June 2013 quarter.

From the June 2012 quarter to the June 2013 quarter (ie in the year to the June 2013 quarter), export prices fell 3.1 percent, following a 7.0 percent fall in the previous year.

Dairy prices contribute significantly to the rise in export prices

Dairy prices made the most significant contribution to the rise in export prices in the June 2013 quarter.

In the June 2013 quarter:

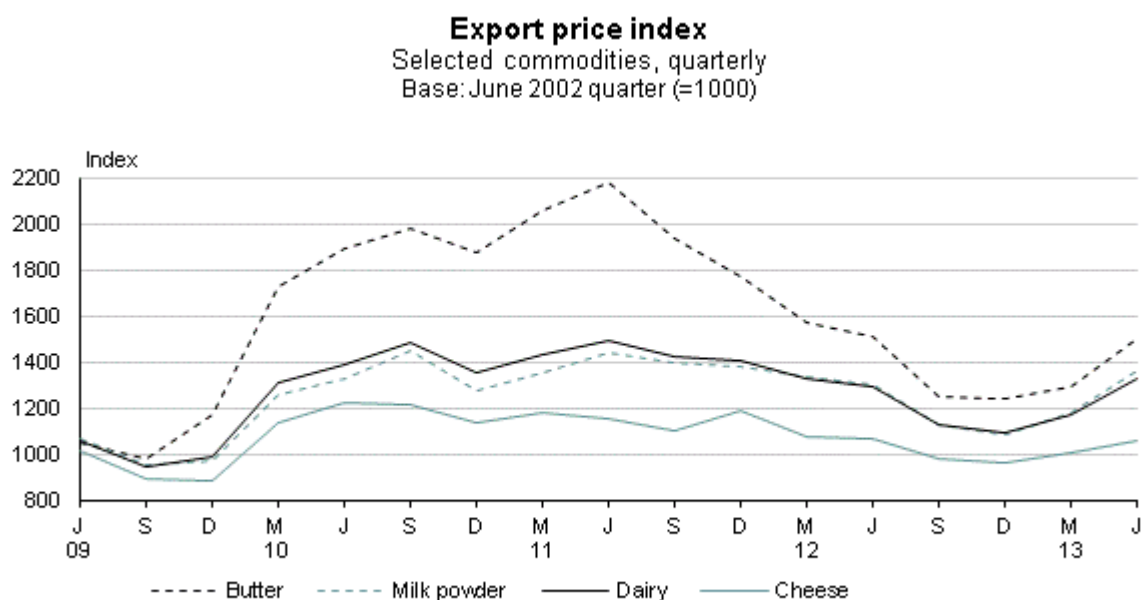
- dairy prices rose 14 percent
- seasonally adjusted dairy volumes fell 18 percent
- seasonally adjusted dairy values fell 6.8 percent.

Dairy prices are now 11 percent lower than the previous peak in the June 2011 quarter.

Both dairy prices and volumes were affected by milk powder.

Milk powder:

- prices rose 15 percent
- seasonally adjusted volumes fell 23 percent.



Source: Statistics New Zealand

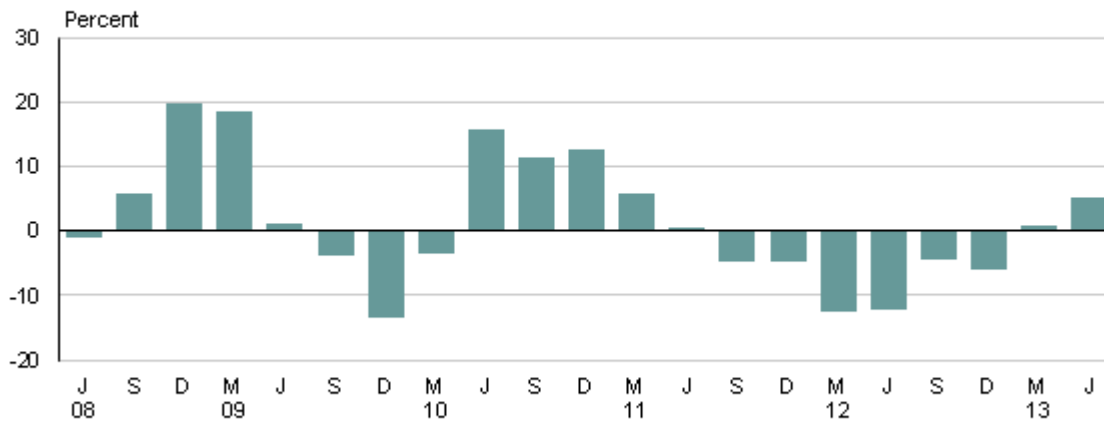
In the year to the June 2013 quarter, dairy prices rose 2.7 percent.

Forestry prices rise 4.2 percent

Forestry product prices (up 4.2 percent) also contributed to the rise in total export prices. The rise in forestry product prices was influenced by wood prices (up 4.4 percent). Forestry products include wood, wood pulp, and paper products.

In the year to the June 2013 quarter, forestry product prices rose 5.3 percent, compared with a fall of 12 percent in the year to the June 2012 quarter.

Forestry products export price index
Annual change from the same quarter of the previous year



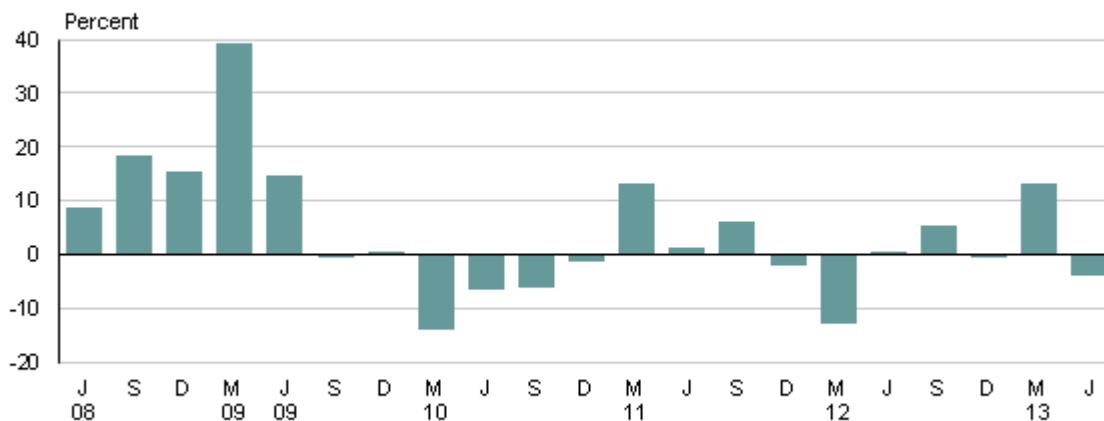
Source: Statistics New Zealand

Fruit and vegetable prices make downward contribution to export prices

Fruit and vegetable prices fell 11 percent in the June 2013 quarter, compared with a rise of 3.4 percent in the March 2013 quarter. This fall was influenced by fruit, reflecting lower prices for kiwifruit. Vegetable prices showed little movement this quarter.

In the year to the June 2013 quarter, fruit and vegetable prices fell 3.8 percent, compared with a rise of 0.5 percent in the year to the June 2012 quarter.

Fruit and vegetables export price index
Annual change from the same quarter of the previous year



Source: Statistics New Zealand

Import goods prices fall

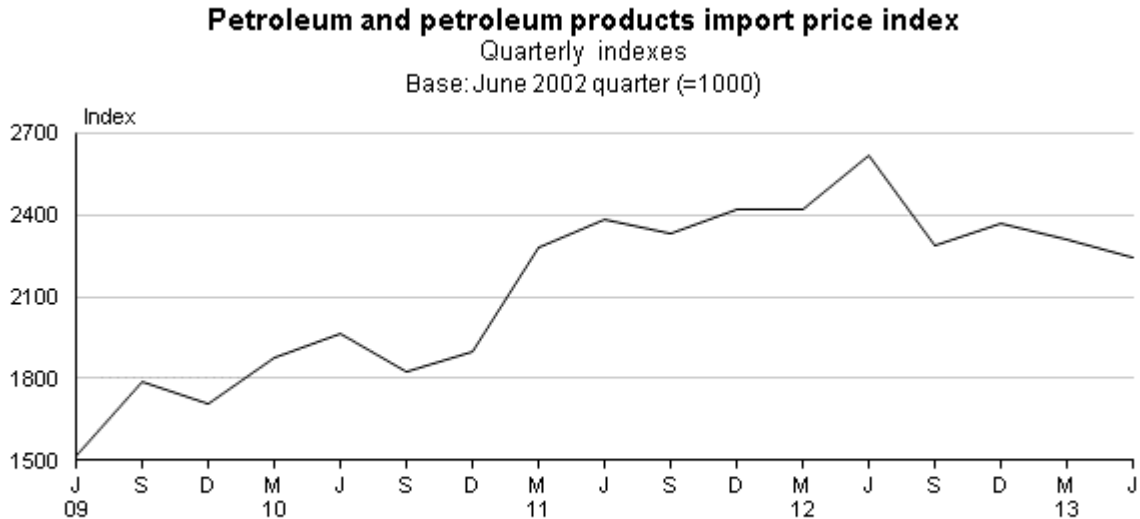
Import goods prices fell 1.5 percent in the June 2013 quarter to a level similar to that in the December 2009 quarter.

Excluding petroleum and petroleum products, import prices fell 1.1 percent this quarter.

Petroleum and petroleum product import prices fall

The most significant downward contribution to the fall in import prices came from petroleum and petroleum product prices, which fell 3.0 percent in the June 2013 quarter. Petroleum and petroleum product prices are at similar levels to 2011. Lower prices for crude oil (down 4.2 percent) influenced the latest fall.

Crude oil had the largest weight in the petroleum and petroleum products imports index. Monthly prices for crude oil fell in April but increased in May and June.



Source: Statistics New Zealand

In the year to the June 2013 quarter, petroleum and petroleum product prices decreased 14 percent. This compares with a 10 percent increase in the year to the June 2012 quarter.

Fall in transport equipment prices affects overall import prices

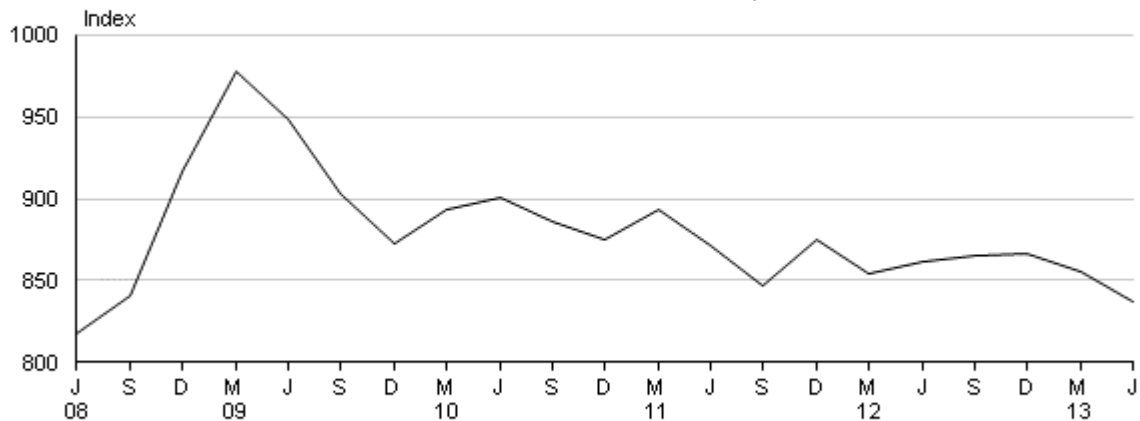
Transport equipment prices fell 2.2 percent in the June 2013 quarter, influenced by lower prices for used cars and new cars. Transport equipment prices are at the lowest level in five years.

Transport equipment includes cars, trucks, aeroplanes, and parts.

Transport equipment import price index

Quarterly

Base: June 2002 quarter (=1000)



Source: Statistics New Zealand

In the year to the June 2013 quarter, transport equipment prices decreased 2.8 percent. This compares with a 1.2 percent decrease in the year to the June 2012 quarter.

Imported capital, intermediate, and consumption goods prices fall

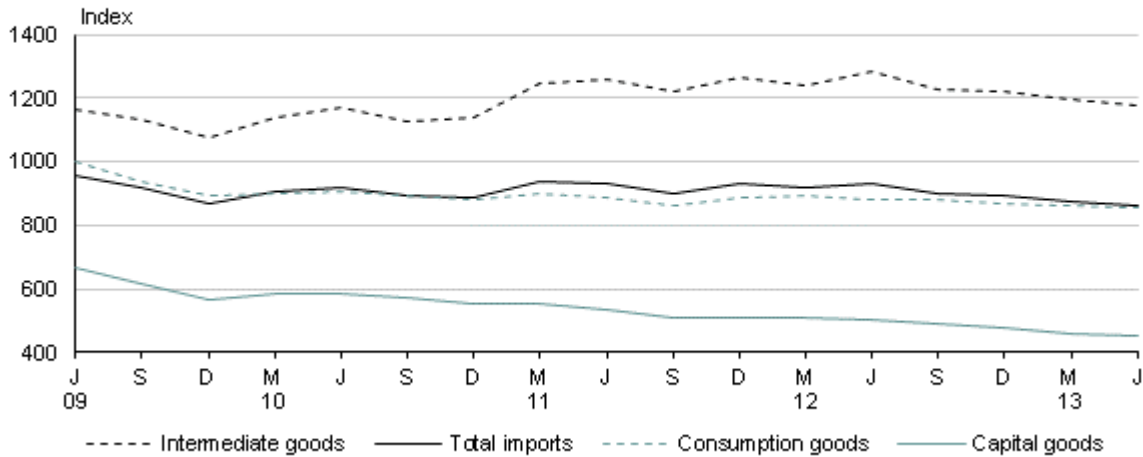
In the June 2013 quarter:

- capital goods prices fell 1.4 percent, reflecting lower prices for both non-transport and transport capital goods
- intermediate goods prices fell 1.6 percent, reflecting lower prices for primary fuels and lubricants (mainly crude oil)
- consumption goods prices fell 1.0 percent, influenced by non-durable goods and unprocessed food and beverages for households (eg grapes and tea).

See [definitions](#) for more information on non-durable goods.

Import prices by broad economic category

Quarterly
Base: June 2002 quarter (=1000)



Source: Statistics New Zealand

Prices for exports of services rise less than for imports of services

The services terms of trade fell 1.0 percent due to services export prices rising less than import prices.

Prices for **services exports** (ie services to non-residents) rose slightly, up 0.1 percent in the June 2013 quarter, following a 0.5 percent fall in the March 2013 quarter and a 0.9 percent rise in the December 2012 quarter.

Transportation services (up 1.6 percent) made the most significant upward contribution to services exports in the June 2013 quarter. Transportation export services measures New Zealand air and sea transportation services used by foreigners. In the latest quarter, air fares had the largest impact on transportation services.

This rise was offset by a fall in travel services (down 0.5 percent) due to seasonally lower prices for accommodation. Travel services measures the price changes for New Zealand travel services used by foreigners, such as holiday packages and restaurant meals.

Prices for **services imports** (ie services provided by non-residents) rose 1.2 percent in the June 2013 quarter, following decreases of 3.7 percent and 1.0 percent in the March 2013 and December 2012 quarters, respectively.

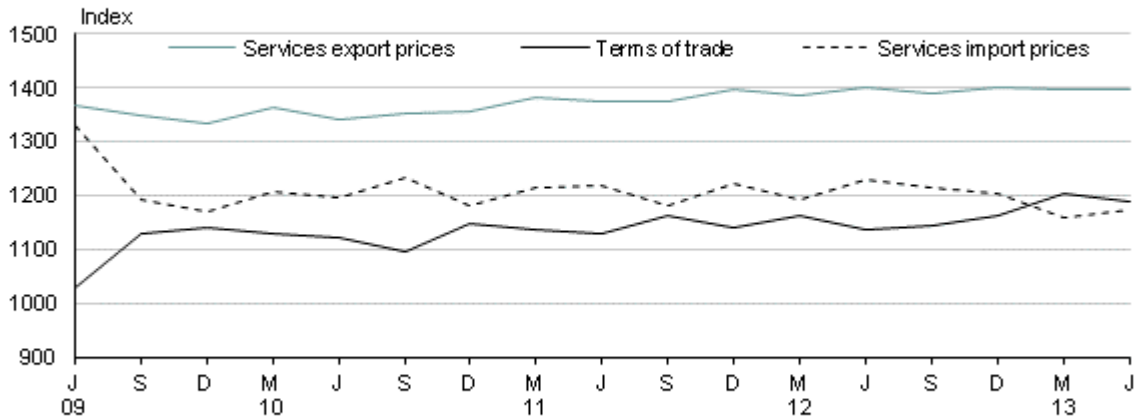
The main upward contributions for import services came from:

- other services (up 1.2 percent, ie services other than transportation, travel, and government services), reflecting higher prices for engineering services
- travel (up 1.4 percent), influenced by higher prices for overseas accommodation
- transportation (up 0.9 percent), reflecting higher prices for sea freight.

Travel imports measure what New Zealanders spend while travelling overseas. Transportation imports measure New Zealand consumers and businesses using foreign air and sea services.

Services price and terms of trade indexes

Quarterly
Base: June 1997 quarter (=1000)



Source: Statistics New Zealand

Exchange rate information

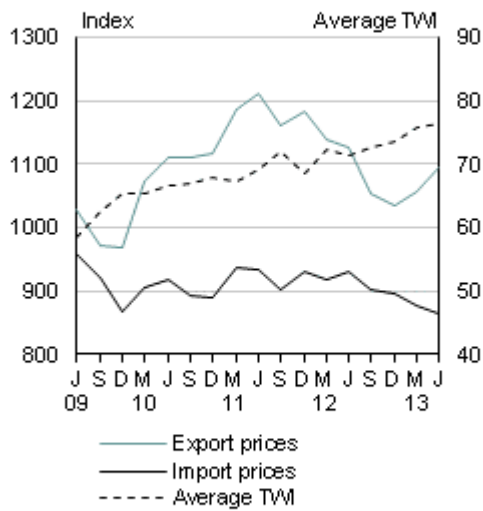
The Reserve Bank of New Zealand's trade weighted index (TWI) rose 0.7 percent in the June 2013 quarter. A rising New Zealand dollar has a downward influence on both export and import prices.

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 rose 1.0 percent.

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 June 2013 quarter.

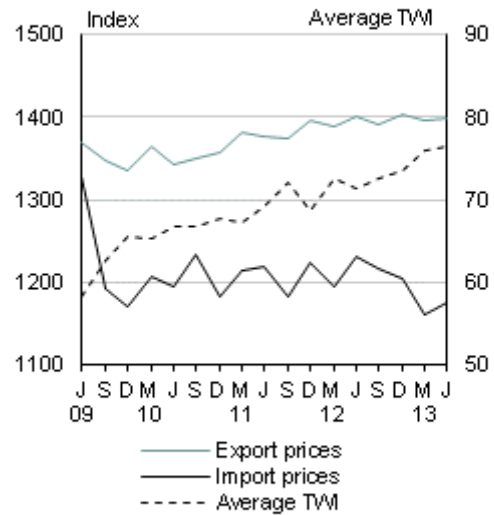
Merchandise trade indexes⁽¹⁾ and average trade weighted index⁽²⁾
Quarterly



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

Source: Statistics New Zealand and Reserve Bank

Exchange rates for June 2013 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 Mar 2013 quarter (%)	-1.6	-0.7	3.1	5.2	-0.6	0.7

Exchange rates for June 2013 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 Mar 2013 quarter (%)	-0.7	2.2	1.7	7.8	1.0	1.0

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 1997 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): September 2013 quarter (provisional) and *Overseas Trade Indexes (Volumes): September 2013 quarter (provisional)* will both be released on 2 December 2013.

[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.

- [Timing of published data](#)
- [Imputation for the June 2013 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](#)
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- [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](#)
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- [More information](#)

Period-specific information

Timing of published data

The merchandise price indexes in this release are calculated from the same data used in the [Overseas Merchandise Trade: July 2013](#) information release published on 26 August 2013. 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 following 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 March 2013 quarter are based on later data than that used for the previous overseas trade indexes release (for the March 2013 quarter), published on 31 May 2013.

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 June 2013 quarter

For the June 2013 quarter, the base annual imputation rates were 20.2 percent for exports and 37.9 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) rose 0.7 percent in the June 2013 quarter. A rising New Zealand dollar has a downward influence on export prices. The New Zealand dollar rose against two of our five major trading partners' currencies.

The trade weighted index that Statistics NZ calculates using New Zealand Customs Service (NZCS) exchange rates, which are used to value imports, rose 1.0 percent in the June 2013 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) 2007 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.

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
	Cellular phones	US producer 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 9 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

More detailed explanatory notes and a full list of available indexes and related dollar-value series are available on request.

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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.

March 2013 quarter merchandise overseas trade indexes (prices)			
	Export price index	Import price index	Terms of trade index
Series ref: OTPQ	SEO1E95	SIO1I95	STTZZ5
Provisional Mar 2013 qtr Published 31 May 2013	1056	877	1204
Final Mar 2013 qtr Published 2 Sept 2013	1056	877	1205

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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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Group: **Overseas Trade Indexes – Prices**