

**VOORBURG 2004**

**CARGO HANDLING,  
STORAGE AND WAREHOUSING  
IN THE NEW ZEALAND  
PRODUCERS PRICE INDEXES**

**BY**

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## **Introduction**

Statistics New Zealand is currently redeveloping its suite of Business Price Indexes. This will include, among other things, redevelopment of the transport and storage industry. Cargo handling services and storage and warehousing services fall within the other transport and storage services section of this industry and are therefore part of the redevelopment. This paper examines the description of the indexes as they are at present.

## **Industry Output**

Statistics New Zealand's Producers Price Index (PPI) currently classifies industries using the Australian and New Zealand Standard Industrial Classification System (ANZSIC96). Work is currently underway on an updated version of ANZSIC to be released in 2006 and to be implemented in indexes in 2008. Statistics New Zealand is working to ensure that the necessary commodity indexes are in place to moving to the new structure. In this paper, we will be looking at current ANZSIC96 classifications.

### *Storage Services Index:*

The following shows the storage services index classification within ANZSIC96:

Division I: Transport and Storage  
Sub-division I67: Storage  
Group I670: Storage  
Class I6709: Storage nec  
Sub-Class I670900: Storage nec

This sub-class consists of units mainly engaged in providing storage and warehousing services nec.

### *Cargo Handling Index:*

The cargo handling index within the PPI falls under the main representative commodity index stevedoring services. Other cargo handling services appear throughout the index, including some in wharfage charges, however these will not be looked at in this paper due to the small weights applied to them.

Stevedoring services consists of units mainly engaged in the provision of labour for the loading or unloading of vessels. The index classification is as follows:

Division I: Transport and Storage  
Sub-division I66: Services to Water Transport  
Group I662: Services to Water Transport  
Class I6621: Stevedoring  
Sub-Class I662100: Stevedoring

Index structures for these commodities can be found in Appendix A at the end of this paper.

## Index and Pricing Methodology

Pricing services within the PPI are often difficult to observe or define. Three approaches can be used however, to overcome these difficulties:

1. Model service, which is the most accurate and most representative, as it gives detailed specifications for the provision of the service.
2. Priced service, which is standardised and gives a direct collection of detailed specifications.
3. Charge-out rate, which represents the price of the service with the charge-out rate of the person providing the service.

The storage services index contains 18 items (all excluding goods and services tax (GST)) with approximately 12 different respondents being surveyed using the Commodity Price Survey. A range of prices are collected for the storage of specific goods, with charge-out rates and standardised prices being used to price them. The price specifications for these items are any one or a combination of the following:

- General storage (assorted storage, basic storage, static storage, palletised goods, general goods)
  - short and long-term storage
  - per metre or per pallet per week (1.2 cubic metre pallet)
  - covered space
  - not stackable, of reasonable standard of care, away from dust
  - basic handling charge.
- Frozen/cool storage (at -18 degrees celsius or colder)
  - small/large quantities
  - first/second/subsequent month's storage
  - per 100kg or tonnes per month.
- Standard storage (milk powder, paper and wood products)
  - per metres squared or 20/40 foot ISO container<sup>1</sup> per day
  - per 1,000kg per day.
- Reefer<sup>2</sup> charges (power supply/storage)
  - per refrigerated container
  - per day or part thereof.

As noted above cargo handling falls under the main representative commodity index stevedoring services.

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<sup>1</sup> International Organisation for Standardisation. Designed for transportation by more than just one mode such as truck and rail or rail and ship.

<sup>2</sup> Refrigerated container. Used to keep perishable goods such as meat and fruit frozen or chilled.

Stevedoring is a labour intensive operation, so the major expense for stevedoring firms is salaries and wages. The approaches used for this index are a combination of charge-out rates and standardised prices.

The stevedoring services index contains 29 items (all excluding GST) with approximately six different respondents being surveyed using the Commodity Price Survey and one using an internal source, namely the Labour Cost Survey. A range of prices are collected for the processes involved in the loading and stowing of cargo. The price specifications for these items are any one or a combination of the following:

- Cargo handling (ship exchange)
  - rate per 20 foot ISO container
  - hiring of container cranes, 3 to 7.5 tonne mobile cranes or light fork lifts.
- Washing of containers (per 20 foot ISO container).
- Berthage (charge for gross registered tonnes (ie 100,500 or 5,000)
  - per day.
- Stevedoring (palletised general goods)
  - per 20 foot ISO container
  - per tonne
  - receiving/ delivery of cargo.

### **Sampling and Weights**

Weights for items priced within the commodity indexes are obtained from respondents in the sample or where information is not available, equal weights are assigned. Weights for the commodity indexes and the National Accounts Working Industry Indexes (NAWI) are obtained from income and expenditure information in the Annual Enterprise Survey (AES). Where AES information is not sufficient, additional information is obtained from respondents in the sample during the development stage of the index.

Weights are based on the contribution of the item (or commodity) included in the sample to total income or expenditure of the firm concerned. We choose an item to represent a group of items since we can not possibly price all items that a firm produces every quarter. Therefore, the weight of the item we choose not only represents the importance of that item in total sales, but also a group of similar items that we chose not to price.

The weighting process is an arithmetical procedure that reflects the value of expenditure or income for the item(s) as index weights. These weights relate to a common numeric base such as 100, 1000, 10,000 and so on. Statistics

New Zealand sums the PPI weights to 10,000 for calculation purposes and expresses them as percentages for publication of index regimens.

Below is the regimen for the rail, other transport, and storage services index (on NAWI level). Note that rail transport has been combined with other transport, storage services for confidentiality reasons.

The table below shows weights for inputs indexes on the left and for outputs indexes on the right.

## RAIL, OTHER TRANSPORT, & STORAGE SERVICES

ANZSIC Division I, Subdivision 62 & 6

Weighting Base: 1995

INPUTS		OUTPUTS	
Percentage of Total Inputs in Industry		Percentage of Total Outputs in Industry	
<b>Fuel and Power</b>	<b>6.0</b>	<b>Rail Transport</b>	<b>14.5</b>
Non-Domestic NZ Electricity	2.3		
Diesel & Fuel Oil	3.0	<b>Other Transport and Storage</b>	<b>85.5</b>
LPG	0.6	Travel Agency Services (Package Tours)	15.9
CPI Petrol 91	0.1	Storage Services	12.8
		Stevedoring Services	7.8
<b>Transport and Storage</b>	<b>25.6</b>	Air Passenger Transport (International)	7.4
Air Passenger Transport	8.3	Warfare Charges	5.4
Road Freight Transport	5.5	Other	5.4
Air Freight Transport	6.0	Pilotage Services	3.8
Transport Equipment Hiring & Leasing	2.9	Airways Corporation Charges	3.2
Sea Freight (International)	2.5	Air Freight Transport (International)	3.1
Port Charges	0.4	Airport Landing Charges	3.0
		Road Freight Transport	2.9
<b>Communication</b>	<b>2.6</b>	Commercial Rent - Factory & Industrial	2.7
		Sea Freight (International)	2.5
<b>Finance and Insurance</b>	<b>0.2</b>	Air Freight Transport (Domestic)	2.0
		Airport Concession Rentals	1.6
<b>Business Services</b>	<b>18.7</b>	Engineering Services	1.5
Commercial Rent - Factory & Industrial	7.1	Management Fees	1.4
Management Fees	3.2	Parking Services	1.1
Computer Services	1.9	Airport Departure Charges	1.1
Pest Control & Cleaning Services	1.6	Document Handling Services	0.9
Plant & Machinery Hiring & Leasing	1.4		
Legal Services - Corporate	1.3		
Commercial Rent - Office & Admin	0.9		
Stevedoring Services	0.7		
Other Consultants Services	0.3		
Accounting Services	0.2		
Advertising	0.1		
<b>Other Expenses</b>	<b>46.9</b>		
Other	31.5		
CPI - Hotel / Motel	13.7		
Stationery	1.7		
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>

Notes:

- \* The regimen summarises weights applied to commodities included in the index
- \* Weights are derived from estimates of approximate basic value and intermediate consumption expenditure
- \* Items with small weights (usually less than 1%) may not be individually specified above
- \* Rounding error may occur

Current weights on all levels are out of date and are being addressed in the redevelopment of the indexes. This includes weights for items within commodity indexes, weights of the commodities within the NAWI level indexes and weights of the NAWI indexes within the published industry indexes. This is being addressed in the current redevelopment of the indexes.

### **Issues on Maintaining Constant Quality**

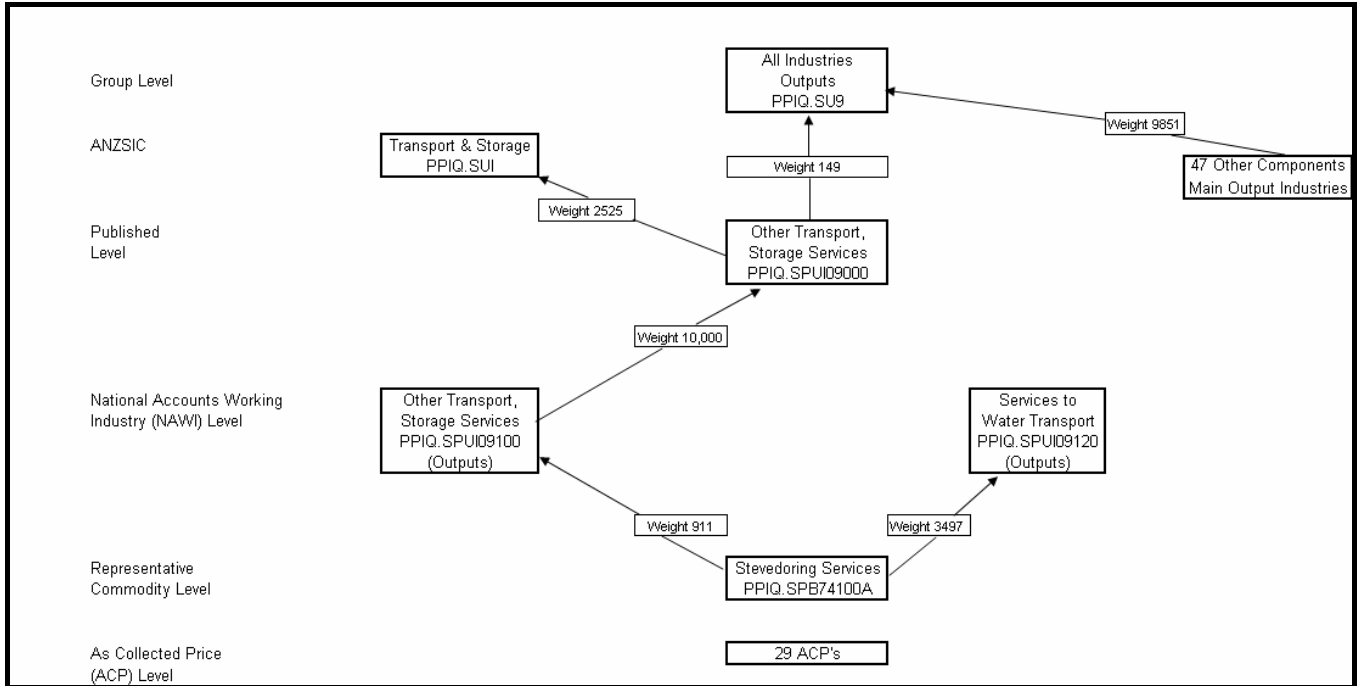
Any factor that affects the characteristics of a product or service or volume of production is regarded as a quality/quantity issue and is removed from the price movement to ensure the indexes reflect only real or actual price movements. These factors include physical differences, location, time, sale conditions, circumstances of delivery and changes in quantity as well as differences in the experience or qualifications of the service provider.

Therefore whenever it is determined that a change in quality has occurred in a product or service being priced, the aim is to eliminate the affect that the quality change has on the price without interfering with the measurement of any true price movement that might have occurred over the same period.

In the stevedoring services index we mostly use charge-out rates of the stevedore. (i.e. the person (un)loading and stowing cargo on the ships). If the stevedore specifies that they are working more hours than is currently being surveyed, but their salary or wage rate *remains unchanged* then this would be reflected in the index. The index would show a drop in wage rate as working more hours would mean a drop in pay rate as they are working longer hours for the same amount of money.

# Appendix A

## Flowchart of Cargo Handling Services in the PPI



## Flowchart of Storage Services in the PPI.

