

National Bureau of Statistics

STATISTICAL

BULLETIN

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EXPERIMENTAL PRODUCER PRICE INDEX MANUFACTURING (PPIM)

Quarter 2 - 2014

The Seychelles Producer Price Index for Manufacturing (PPIM) increased by 0.3% in June 2014 compared to May 2014. On a year on year comparison, the index increased by 6.3% from June 2013.

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1. INTRODUCTION

The Producer Price Index for Manufacturing (PPIM) presents a monthly measure of inflation from the perspective of the producer in the manufacturing industry. Concepts, sources and methods are given in Part 4. Note that this index is experimental and will be subject to revisions until the end of 2014 as the coverage is increased to include more manufacturers.

This bulletin will be released every quarter and will contain monthly price indexes.

Figures for January 2013 to June 2014 with 2013 as the reference period are presented in this bulletin. Table 1 presents the monthly

index numbers and percentage changes for the total PPIM.

Charts 1 and 2 present index numbers and month on month percentage changes respectively.

2. RESULTS AND HIGHLIGHTS

The total PPIM Index in June 2014 stood at 105.6 compared to 105.3 in May 2014. This represents an increase of 0.3%. The year on year movement from June 2013 to June 2014 is 6.3%. Quarter two of 2014 increased by 2.0% compared to quarter one of 2014.

3. TABLES AND CHARTS

Table 1

| | Monthly index | Month on month % change | Year on year % change | Quarterly Index | Quarterly % change |
|-------------|---------------|-------------------------|-----------------------|-----------------|--------------------|
| 2013 | | | | | |
| Jan | 106.2 | | | | |
| Feb | 99.3 | -6.4 | | | |
| Mar | 97.8 | -1.6 | | 101.1 | |
| Apr | 97.2 | -0.6 | | | |
| May | 98.7 | 1.6 | | | |
| Jun | 99.3 | 0.6 | | 98.4 | -2.7 |
| Jul | 97.8 | -1.5 | | | |
| Aug | 98.5 | 0.7 | | | |
| Sep | 101.1 | 2.6 | | 99.2 | 0.8 |
| Oct | 102.2 | 1.0 | | | |
| Nov | 100.5 | -1.7 | | | |
| Dec | 101.5 | 1.0 | | 101.4 | 2.2 |
| 2014 | | | | | |
| Jan | 103.4 | 1.9 | -2.6 | | |
| Feb | 103.5 | 0.1 | 4.2 | | |
| Mar | 104.1 | 0.6 | 6.4 | 103.6 | 2.2 |
| Apr | 106.1 | 1.9 | 9.2 | | |
| May | 105.3 | -0.7 | 6.7 | | |
| Jun | 105.6 | 0.3 | 6.3 | 105.7 | 2.0 |

(1) Year on year % change is calculated as the percentage change from the same month of the previous year.

(2) Quarterly index is calculated as the average of the monthly indexes for that quarter.

(3) Reference base is 2013 = 100.

Table 2 Producer Price Index by Manufacturing Sector

| ISIC REV 4 FOURTH DIVISION CLASSIFICATION | Jan- 13 | Feb- 13 | Mar- 13 | Apr- 13 | May- 13 | Jun- 13 | Jul- 13 | Aug- 13 | Sep- 13 | Oct- 13 | Nov- 13 | Dec- 13 | Jan- 14 | Feb- 14 | Mar- 14 | Apr- 14 | May- 14 | Jun- 14 |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| MANUFACTURING OF ARTICLES OF CONCRETE, CEMENT AND PLASTER | 99.9 | 100.1 | 99.6 | 100.0 | 100.1 | 100.1 | 100.0 | 100.0 | 99.9 | 100.0 | 100.0 | 100.2 | 99.9 | 102.5 | 102.8 | 103.1 | 103.1 | 103.1 |
| MANUFACTURE OF TOBACCO PRODUCTS | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| PROCESSING AND PRESERVING OF FISH, CRUSTACEANS AND MOLLUSCS | 107.2 | 98.1 | 96.0 | 95.2 | 97.2 | 98.1 | 98.1 | 99.0 | 102.5 | 103.9 | 101.6 | 103.0 | 105.5 | 105.6 | 106.4 | 108.5 | 107.5 | 107.9 |
| DISTILLING, RECTIFYING AND BLENDING OF SPIRITS | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| MANUFACTURE MALT LIQUORS AND MALT | 98.2 | 98.2 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 | 100.4 |
| MANUFACTURE OF SOFT DRINK; PRODUCTION OF MINERAL WATER AND OTHER BOTTLED WATER | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.7 | 99.7 | 99.7 | 99.7 | 99.7 |
| MANUFACTURING OF OTHER FOOD PRODUCTS N.E.C | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.3 | 99.3 | 99.3 |
| MANUFACTURE OF OTHER ARTICLES OF PAPER AND PAPERBOARD | 107.9 | 107.9 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 | 98.4 |
| TOTAL | 106.2 | 99.3 | 97.8 | 97.2 | 98.7 | 99.3 | 97.8 | 98.5 | 101.1 | 102.2 | 100.5 | 101.5 | 103.4 | 103.5 | 104.1 | 106.1 | 105.3 | 105.6 |

*Index reference period 2013 = 100

Chart 1
PPI - Index Number

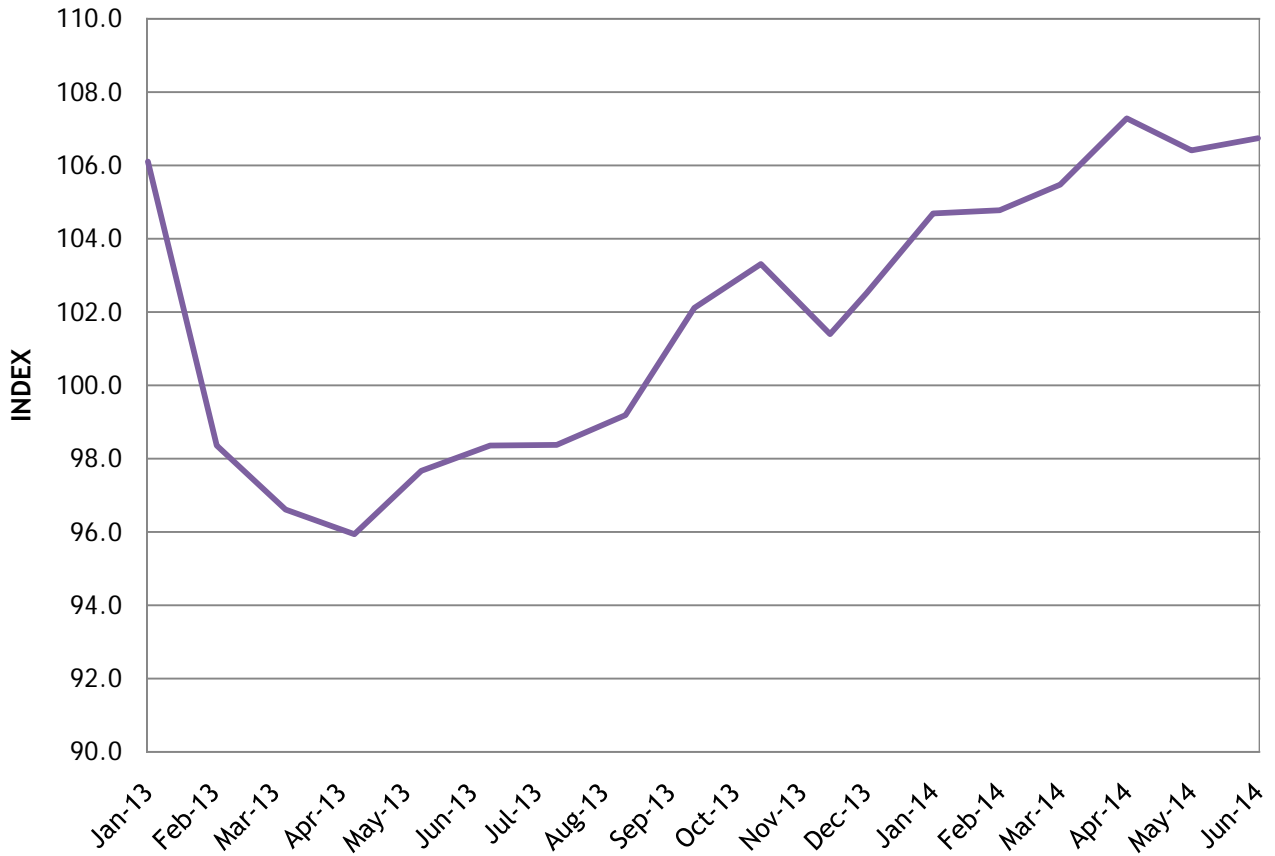
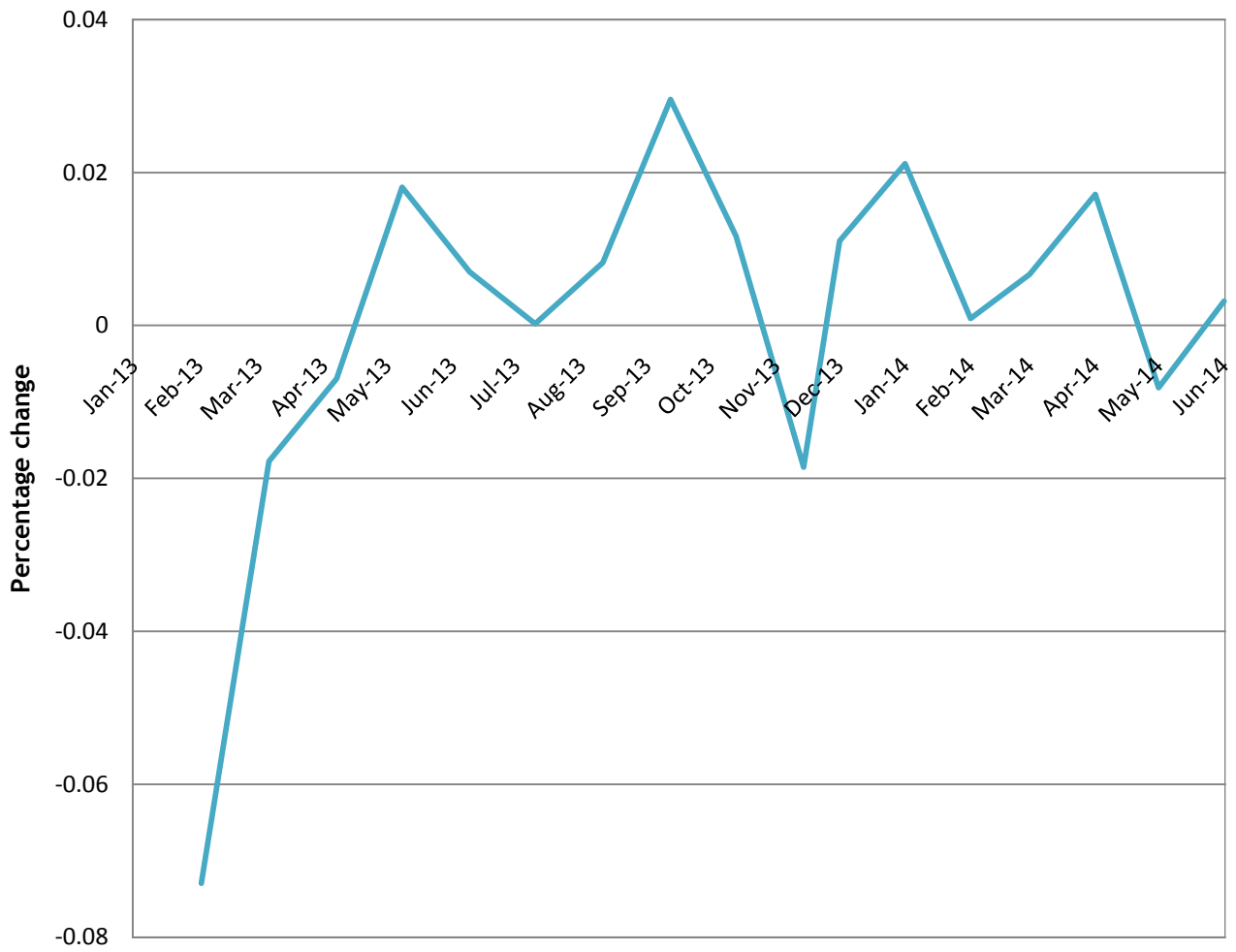


Table 1: Index reference period 2013 = 100

Chart 2
PPI- Month on Month Percentage Change



4. CONCEPTS, SOURCES AND METHODS

4.1 Introduction

The PPIM measures the monthly price change of products produced by the Seychelles manufacturing industry.

4.2 Purpose and uses of PPIM

Like the Consumer Price Index (CPI), the PPIM is a measure of price inflation. Whereas the CPI measures price change from **the household purchaser's perspective**, the PPIM measures price change from **the perspective of domestic producers**.

The CPI is an **input** price index which measures change in the price of products purchased. The PPIM is an **output** price index which measures change in price of products produced for sale.

Aside from being a measure of price changes of the output of producers, the index can also be used as an indicator to monitor changes in wholesale prices.

An important use of the PPIM is in the production of the National Accounts where it is used as a deflator to produce GDP in volume measures.

4.3 Coverage and classification

In concept, the pricing basis of PPIM is at basic prices, meaning that it excludes taxes (such as the VAT), trade margins and transport margins. It is measuring prices from the factory.

The design of the index is based on the International Standard Industrial

Classification (ISIC) Rev 4. Currently, index coverage is restricted to Section C Manufacturing and includes only those Divisions for which there is manufacturing activity in the Seychelles. These are:

- Manufacturing of Articles of Concrete, Cement And Plaster;
- Manufacture of Tobacco Products;
- Processing and Preserving of Fish, Crustaceans and Molluscs;
- Distilling, Rectifying and Blending of Spirits;
- Manufacture Malt Liquors and Malt;
- Manufacture of Soft Drink; Production of Mineral Water and other Bottled Water;
- Manufacturing of other Food Products N.E.C;
- Manufacture of other Articles of Paper and Paperboard;

4.4. Data source

The information used in the compilation of the index is gathered from a monthly survey of selected large businesses in the manufacturing industry and data from production indicators.

4.5 Price indexes

Price index numbers are compiled from collected price observations through time; their significance lies in a series of index numbers which compare prices between a particular period and a reference base.

For an index to provide information on price changes, at least two index numbers from the same series need to be available, and these index numbers must relate to the same basket of goods.

Movements in indexes from one period to any other period can be expressed as either changes in index points or percentage changes. The following example illustrates these calculations for PPIM Total between June 2013 and December 2013. The same procedure is applicable for any two periods.

| | Index numbers |
|-------------------------------|-------------------------|
| December 2013 | 101.5 |
| Less June 2013 | 99.3 |
| Equals change in index points | 2.2 |
| Percentage change = | 2.2 / 99.3 x 100 = 2.2% |

The PPIM does not attempt to measure the actual level of prices but is limited to the measurement of the change in prices from one period to another.

4.6 Calculation of the PPIM

Concept

There are a number of different formulas which can be used to calculate price indexes. The PPIM is calculated using the Laspeyres formula, which is considered acceptable by international standards. The Laspeyres method measures percentage change in the production value of a set of products whose quantities are fixed in an earlier period.

The Laspeyres formula is represented as follows:

$$I_{Laspeyres}^{0:t} = \frac{\sum_{i=1}^n p_i^t q_i^0}{\sum_{i=1}^n p_i^0 q_i^0} \times 100$$

Where:

p^t is the price in period t

p^0 is the price in the base or reference period

q^0 is the quantity produced in the base or reference period

The Laspeyres formula can be rearranged into the equivalent value share form where: S_i^0 is the reference period value share (or weight) of product i.

$$I_{Laspeyres}^{0:t} = \sum_{i=1}^n \left(\left(\frac{p_i^t}{p_i^0} \right) \times \frac{p_i^0 q_i^0}{\sum_{i=1}^n p_i^0 q_i^0} \right) \times 100$$

$$= \sum_{i=1}^n \left(\left(\frac{p_i^t}{p_i^0} \right) \times s_i^0 \right) \times 100$$

$$\text{where } s_i^0 = \frac{p_i^0 q_i^0}{\sum_{i=1}^n p_i^0 q_i^0}$$

Value shares (weights)

Weights are a key element in the construction of any index as they provide a measure of the relative importance of each index component. In the case of the PPIM, weights reflect the relative importance of a product, product group or industry within the overall scope of industrial production.

In practice, when compiling the PPIM, the first process is to derive a set of value shares or weights which will be used to combine price movements. Value shares are derived from the value of production for the previous year and are updated every January. The information that forms the value of production is requested from the participating manufacturers and consists of the monthly output quantity of production by commodity and the monthly price by commodity. Quantity is multiplied by price

to derive production value. Monthly production values are aggregated to an annual production value which is then used to derive the proportional value shares (or weights) per commodity.

Unit price

This is the information that is gathered on a monthly basis from the participating manufacturers and is the monthly wholesale prices of the products produced.

In Seychelles, we recognise that some products are seasonal and therefore unit prices are not always available each month. In cases where the information is missing, an imputation is made based on last known price to ensure the PPI reflects the price increase or decrease when the product becomes available in the next season.

Price Relative

The price relative is calculated by taking the price in the current month divided by the reference price. The reference price is the average of monthly prices for the previous year.

Index aggregation

This index creates detailed indexes at the International Standard Industrial Classification (ISIC) Rev4 Class level. The indexes are aggregated using value shares.

Annual chaining

When the value shares and reference prices are updated every January, the PPIM is chain linked.

5. CHANGES IN THIS ISSUE

The PPIM has been revised in this issue to include additional data sources and align the reference period to 2013 consistent

with the Seychelles Industrial Production Index (SIPI).

6. FUTURE IMPROVEMENTS

The PPIM is still experimental as NBS improves and secures reliable data sources. There are also plans to review the treatment of seasonal products.

We welcome user feedback and suggestions regarding the experimental monthly Producer Price Index.

7. NEXT RELEASE

The next issue of the PPI will be released on Friday 28 November 2014 and will contain data for July, August and September 2014.

8. CONTACT US

For more information regarding this Bulletin, the concepts, sources or methodology to compile producer price indexes, please contact Rudy Sinon Tel: + (248) 4 611 657 | Fax: + (248) 4 225 634 or email: rudy@nbs.gov.sc

To access any of our statistics please visit our website: www.nbs.gov.sc