

# PRODUCER PRICE INDEX - MANUFACTURING (PPI-M)

(January 1994 - March 1994)

## Introduction

As mentioned in the Methodological Paper annexed, the Producer Price Index - Manufacturing (PPI-M) measures the average change in the selling prices received by manufacturers for that part of their output which is sold on the local market. The present set of indices, which also incorporates indices for the base period, is confined to establishments falling in the "Food, Beverages and Tobacco" sector. It is proposed to gradually extend the coverage to the whole Manufacturing sector.

## 2. PPI-M: Food, Beverages and Tobacco (1993 = 100)

The aggregated index for "Food, Beverages and Tobacco" rose by 0.4% in March 94 after remaining stable in the two previous months (Table 1).

On a quarterly average basis (Table 2), the index in the 1st quarter rose by 1.2% over the previous quarter as a result of higher prices in "Beverages and Tobacco" (2.1%) and in "Food" (0.4%).

When compared to the corresponding quarter of the previous year the overall index shows a significant increase of 7.9% attributable to price increases of 9.0% in "Food" and 6.6% in "Beverages and Tobacco". Within the former group, prices moved up by 33.5% in the "Manufacture of bakery products" followed by 16.3% in the "Manufacture of dairy products". As regards the beverages sector, producer prices of soft drinks rose by 14%.

Producer Price Index - Manufacturing (PPI-M), 1993 = 100

Table 1: Monthly Indices and percent changes by ISIC group\*, December 93 - March 94

| ISIC group*                                     | Weight      | Index        |              |              |              | Percent Change(%) from |                  |                  |            |
|---|-------------|--------------|--------------|--------------|--------------|------------------------|------------------|------------------|------------|
|   |             | Dec 93       | Jan 94       | Feb 94       | Mar 94       | Dec 93 to Jan 94       | Jan 94 to Feb 94 | Feb 94 to Mar 94 | Mar 94     |
| <b>Manufacture of food</b>                      | <b>556</b>  | <b>103.6</b> | <b>103.9</b> | <b>103.9</b> | <b>104.7</b> | <b>0.1</b>             | <b>0.0</b>       | <b>0.8</b>       | <b>0.8</b> |
| Slaughtering, preparation & preserving meat     | 132         | 103.5        | 103.5        | 103.5        | 103.5        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Manufacture of dairy products                   | 25          | 111.4        | 111.9        | 111.9        | 111.9        | 0.5                    | 0.0              | 0.0              | 0.0        |
| Canning & preserving of fruits & vegetables     | 36          | 101.4        | 102.3        | 102.8        | 102.8        | 0.8                    | 0.5              | 0.0              | 0.0        |
| Canning & processing of fish & similar products | 9           | 103.8        | 106.4        | 105.7        | 105.7        | 2.5                    | -0.6             | 0.0              | 0.0        |
| Man. of vegetable & animal oils & fats          | 81          | 103.0        | 103.0        | 103.0        | 103.0        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Manufacture of grain mill products              | 65          | 100.0        | 98.0         | 98.0         | 98.0         | -2.0                   | 0.0              | 0.0              | 0.0        |
| Manufacture of bakery products                  | 103         | 110.2        | 111.2        | 111.2        | 111.2        | 0.9                    | 0.0              | 0.0              | 0.0        |
| of which:                                       |             |              |              |              |              |                        |                  |                  |            |
| Bakery & pastries                               | 81          | 111.8        | 113.0        | 113.0        | 113.0        | 1.1                    | 0.0              | 0.0              | 0.0        |
| Biscuits & sweets                               | 13          | 102.7        | 102.7        | 102.7        | 102.7        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Manufacture of sugar and sugar confectionery    | 32          | 100.0        | 100.0        | 100.0        | 100.0        | 0.0                    | 0.0              | 0.0              | 0.0        |
| of which:                                       |             |              |              |              |              |                        |                  |                  |            |
| Sugar   | 30          | 100.0        | 100.0        | 100.0        | 100.0        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Manufacture of tea                              | 15          | 99.6         | 100.3        | 100.5        | 100.2        | 0.7                    | 0.2              | -0.3             | -0.3       |
| Manufacture of other food products              | 9           | 100.0        | 100.0        | 100.0        | 100.0        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Manufacture of prepared animal feeds            | 49          | 100.0        | 100.0        | 100.0        | 109.4        | 0.0                    | 0.0              | 9.4              | 9.4        |
| <b>Man. of beverages and tobacco</b>            | <b>444</b>  | <b>105.2</b> | <b>105.2</b> | <b>105.1</b> | <b>105.1</b> | <b>0.0</b>             | <b>0.0</b>       | <b>0.0</b>       | <b>0.0</b> |
| of which:                                       |             |              |              |              |              |                        |                  |                  |            |
| Distilling, blending, bottling of spirit        | 128         | 101.1        | 101.1        | 101.1        | 101.1        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Wine  | 9           | 103.6        | 103.6        | 103.6        | 103.6        | 0.0                    | 0.0              | 0.0              | 0.0        |
| Soft drinks                                     | 81          | 109.0        | 109.0        | 108.9        | 108.9        | 0.0                    | -0.1             | 0.0              | 0.0        |
| <b>Man. of Food, Beverages &amp; Tobacco</b>    | <b>1000</b> | <b>104.4</b> | <b>104.5</b> | <b>104.5</b> | <b>104.9</b> | <b>0.0</b>             | <b>0.0</b>       | <b>0.4</b>       | <b>0.4</b> |

\* according to the national version of the International Standard Industrial Classification of economic activities (ISIC)

Producer Price Index - Manufacturing (PPI-M). 1993 = 100

Table 2: Quarterly average and percent changes by ISIC group\*, 1st Qr 93 - 1st Qr 94

| ISIC group*                                     | Weight      | Quarterly average |             |              |              |              | Percent Change (%) from |                        |
|---|-------------|-------------------|-------------|--------------|--------------|--------------|-------------------------|------------------------|
|   |             | 1st Qr 93         | 2nd Qr 93   | 3rd Qr 93    | 4th Qr 93    | 1st Qr 94    | 1st Qr 93 to 1st Qr 94  | 4th Qr 93 to 1st Qr 94 |
| <b>Manufacture of food</b>                      | <b>556</b>  | <b>95.6</b>       | <b>99.1</b> | <b>102.0</b> | <b>103.8</b> | <b>104.2</b> | <b>9.0</b>              | <b>0.4</b>             |
| Slaughtering, preparation & preserving meat     | 132         | 98.1              | 99.0        | 99.4         | 103.5        | 103.5        | 5.5                     | 0.0                    |
| Manufacture of dairy products                   | 25          | 96.2              | 96.2        | 96.2         | 111.4        | 111.9        | 16.3                    | 0.5                    |
| Canning & preserving of fruits & vegetables     | 36          | 97.1              | 100.1       | 101.4        | 101.4        | 102.6        | 5.7                     | 1.2                    |
| Canning & processing of fish & similar products | 9           | 98.3              | 98.9        | 99.9         | 102.9        | 105.9        | 7.8                     | 2.9                    |
| Man. of vegetable & animal oils & fats          | 81          | 96.7              | 98.2        | 102.1        | 103.0        | 103.0        | 6.5                     | 0.0                    |
| Manufacture of grain mill products              | 65          | 100.0             | 100.0       | 100.0        | 100.0        | 98.0         | -2.0                    | -2.0                   |
| Manufacture of bakery products                  | 103         | 83.3              | 99.1        | 110.1        | 110.2        | 111.2        | 33.5                    | 0.9                    |
| of which:                                       |             |                   |             |              |              |              |                         |                        |
| Bakery & pastries                               | 81          | 80.4              | 99.4        | 111.8        | 111.8        | 113.0        | 40.6                    | 1.1                    |
| Biscuits & sweets                               | 13          | 95.4              | 99.8        | 102.1        | 102.7        | 102.7        | 7.6                     | 0.0                    |
| Manufacture of sugar and sugar confectionery    | 32          | 100.0             | 100.0       | 100.0        | 100.0        | 100.0        | 0.0                     | 0.0                    |
| of which:                                       |             |                   |             |              |              |              |                         |                        |
| Sugar   | 30          | 100.0             | 100.0       | 100.0        | 100.0        | 100.0        | 0.0                     | 0.0                    |
| Manufacture of tea                              | 15          | 100.0             | 100.3       | 99.8         | 100.0        | 100.3        | 0.3                     | 0.4                    |
| Manufacture of other food products              | 9           | 100.0             | 100.0       | 100.0        | 100.0        | 100.0        | 0.0                     | 0.0                    |
| Manufacture of prepared animal feeds            | 49          | 100.0             | 100.0       | 100.0        | 100.0        | 103.1        | 3.1                     | 3.1                    |
| <b>Man. of beverages and tobacco</b>            | <b>444</b>  | <b>98.6</b>       | <b>98.6</b> | <b>99.9</b>  | <b>102.9</b> | <b>105.1</b> | <b>6.6</b>              | <b>2.1</b>             |
| of which:                                       |             |                   |             |              |              |              |                         |                        |
| Distilling, blending, bottling of spirit        | 128         | 99.2              | 99.2        | 100.5        | 101.1        | 101.1        | 1.9                     | 0.0                    |
| Wine  | 9           | 98.1              | 98.1        | 100.3        | 103.6        | 103.6        | 5.7                     | 0.0                    |
| Soft drinks                                     | 81          | 95.5              | 95.5        | 100.0        | 109.0        | 108.9        | 14.0                    | 0.0                    |
| <b>Man. of Food, Beverages &amp; Tobacco</b>    | <b>1000</b> | <b>96.9</b>       | <b>98.9</b> | <b>101.0</b> | <b>103.4</b> | <b>104.6</b> | <b>7.9</b>              | <b>1.2</b>             |

\* according to the national version of the International Standard Industrial Classification of economic activities (ISIC)

Producer Price Index - Manufacturing (PPI-M), 1993 = 100

Table 3: Monthly Indices for the base period (year 1993) by ISIC group\*

| ISIC group*                                     | Weight      | January     | February    | March       | April       | May         | June         | July         | August       | Sept.        | October      | Nov          | Dec          | Year<br>93=Base |
|---|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| <b>Manufacture of food</b>                      | <b>556</b>  | <b>95.6</b> | <b>95.6</b> | <b>95.6</b> | <b>96.5</b> | <b>98.2</b> | <b>101.2</b> | <b>101.9</b> | <b>101.9</b> | <b>102.1</b> | <b>103.8</b> | <b>103.8</b> | <b>103.8</b> | <b>100.0</b>    |
| Slaughtering, preparation & preserving meat     | 132         | 98.1        | 98.1        | 98.1        | 98.1        | 99.4        | 99.4         | 99.4         | 99.4         | 99.4         | 103.5        | 103.5        | 103.5        | 100.0           |
| Manufacture of dairy products                   | 25          | 96.2        | 96.2        | 96.2        | 96.2        | 96.2        | 96.2         | 96.2         | 96.2         | 96.2         | 111.4        | 111.4        | 111.4        | 100.0           |
| Canning & preserving of fruits & vegetables     | 36          | 96.7        | 97.2        | 97.2        | 100.1       | 100.1       | 100.1        | 101.4        | 101.4        | 101.4        | 101.4        | 101.4        | 101.4        | 100.0           |
| Canning & processing of fish & similar products | 9           | 98.7        | 98.0        | 98.1        | 98.9        | 99.2        | 98.7         | 98.8         | 99.0         | 101.9        | 102.4        | 102.6        | 103.8        | 100.0           |
| Man. of vegetable & animal oils & fats          | 81          | 96.7        | 96.7        | 96.7        | 97.8        | 98.4        | 98.4         | 101.7        | 101.7        | 103.0        | 103.0        | 103.0        | 103.0        | 100.0           |
| Manufacture of grain mill products              | 65          | 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 of bakery products                  | 103         | 83.3        | 83.3        | 83.3        | 86.1        | 93.4        | 109.6        | 110.1        | 110.1        | 110.1        | 110.2        | 110.2        | 110.2        | 100.0           |
| of which:                                       |             |             |             |             |             |             |              |              |              |              |              |              |              |                 |
| Bakery & pastries                               | 81          | 80.4        | 80.4        | 80.4        | 84.0        | 92.2        | 111.8        | 111.8        | 111.8        | 111.8        | 111.8        | 111.8        | 111.8        | 100.0           |
| Biscuits & sweets                               | 13          | 95.4        | 95.4        | 95.4        | 95.4        | 102.1       | 102.1        | 102.1        | 102.1        | 102.1        | 102.7        | 102.7        | 102.7        | 100.0           |
| Manufacture of sugar and sugar confectionery    | 32          | 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           |
| of which:                                       |             |             |             |             |             |             |              |              |              |              |              |              |              |                 |
| Sugar   | 30          | 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 of tea                              | 15          | 99.2        | 100.4       | 100.5       | 100.6       | 100.2       | 100.1        | 99.8         | 99.7         | 99.9         | 100.2        | 100.2        | 99.6         | 100.0           |
| Manufacture of other food products              | 9           | 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 of prepared animal feeds            | 49          | 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           |
| <b>Man. of beverages and tobacco</b>            | <b>444</b>  | <b>98.6</b> | <b>98.6</b> | <b>98.6</b> | <b>98.6</b> | <b>98.6</b> | <b>98.6</b>  | <b>98.6</b>  | <b>99.2</b>  | <b>101.7</b> | <b>101.7</b> | <b>101.7</b> | <b>105.2</b> | <b>100.0</b>    |
| of which:                                       |             |             |             |             |             |             |              |              |              |              |              |              |              |                 |
| Distilling, blending, bottling of spirit        | 128         | 99.0        | 99.2        | 99.2        | 99.2        | 99.2        | 99.2         | 99.2         | 101.1        | 101.1        | 101.1        | 101.1        | 101.1        | 100.0           |
| Wine  | 9           | 98.1        | 98.1        | 98.1        | 98.1        | 98.1        | 98.1         | 98.1         | 101.4        | 101.4        | 103.6        | 103.6        | 103.6        | 100.0           |
| Soft drinks                                     | 81          | 95.6        | 95.5        | 95.5        | 95.5        | 95.5        | 95.5         | 95.5         | 95.5         | 109.0        | 108.9        | 109.0        | 109.0        | 100.0           |
| <b>Man. of Food, Bev. &amp; Tobacco</b>         | <b>1000</b> | <b>96.9</b> | <b>97.0</b> | <b>97.0</b> | <b>97.4</b> | <b>98.4</b> | <b>100.1</b> | <b>100.4</b> | <b>100.7</b> | <b>101.9</b> | <b>102.9</b> | <b>102.9</b> | <b>104.4</b> | <b>100.0</b>    |

\* according to the national version of the International Standard Industrial Classification of economic activities (SIC)

## **ANNEX**

### **Methodology paper on the construction of the Producer Price Index - Manufacturing (PPI-M)**

#### **1. Definition**

The Producer Price Index (PPI-M) measures changes in the effective selling prices received by manufacturers for their output. It normally refers to a family of indices which include:

- (i) Industry output price indices
- (ii) Detailed commodity price indices, and,
- (iii) Stage-of-processing price indices

The emphasis of the PPI program is the production of Industry output price indices which will reflect the price trends of a constant basket of goods representative of the total output of an industry.

#### **2. Scope**

The PPI-M will, in the long run, cover all large manufacturing establishments irrespective of whether their output is sold on the local or foreign market. In the first instance, the index will be limited to establishments falling in "Food, Beverages and Tobacco" and whose output is sold on the domestic market.

Indices will be produced for each detailed (i.e 4-digit ) ISIC classification as well as for higher industry classification levels.

The Central Statistical Office is also working on an Export Price Index which will cover establishments whose output is exported. An overall producer price index will thereafter be calculated combining the index for the local market with that for exports.

#### **3. Price definition**

The price is the amount realised by a producer when selling his products on the local market. This includes excise duties but excludes sales tax. Services, if performed by the producer, for example, transport and other distribution costs are considered to be part of the price.

#### **4. Weighting Scheme**

In the compilation of the indices, use is being made of value weights derived from the gross output, that is, production in the National Accounts concept. Gross output is valued at producer's price inclusive of excise duties in line with the price definition.

A list of weights based on gross output by industry group from the 1992 Census of Economic Activities is given as an Annex. The base year for calculation of weights is, therefore, 1992.

#### 5. Sampling of establishments

The frame used for the selection of respondents is the list of around 89 large establishments engaged in "Food, Beverages and Tobacco". For each industry group where the number of establishments is less than 4, all the establishments have been selected. For the other groups, probability proportional to output has been used and the sample size is determined according to homogeneity within the industry group.

Some 40 establishments have been sampled, the output of which represents 80 % of that of "Food, Beverages and Tobacco" sector.

#### 6. Selection of products

For each industry group a number of products was selected that typically represent the output of that industry. The products were roughly specified products. However, for consistency in price collection and in order to measure real change in prices, there is need for detail specifications as to type, grade, packaging, quality, terms of sales, etc. of each product, the price of which have to be reported. This exercise has been done through a pilot survey carried in November 1992. Selected establishments were visited and a list of products with detailed specifications drawn with the cooperation of the entrepreneurs taking into consideration such factors as product life cycle, representativeness, etc. The weights allocated to an industry group is redistributed among the products representing that group taking into consideration the relative importance of the selected products within the industry group.

#### 7. Reference year

The reference year for the calculation of price relatives is 1993. The prices of products are being collected on a monthly basis from the selected establishments at the end of each quarter. The simple average of the 12 monthly prices for each product in 1993 will provide the required base price for that product.

#### 8. Publication and Confidentiality.

Initially, the monthly PPI will be published on a quarterly basis as from September 1994 onwards. Data relating to an industry group consisting of less than 3 establishments will not be published so as not to disclose information pertaining to individual establishment.

## 9. Index calculation.

The PPI for an industry will be calculated according to a modified Laspeyres formula:

$$I_t = ((\sum(P_{it}/P_{io}).W_i)/\sum W_i)*100$$

which is the weighted average of price relatives, i.e., price ratios for each selected product ( $P_{it}/P_{io}$ ).

$I_t$  is the index for the current month

$P_{io}$  is the base price of product  $i$  in the reference year (1993)

$P_{it}$  is its current price

$W_i$  is the weight associated with product  $i$ .

## 10. Uses

- (i) The PPI is a leading indicator of the future status of inflation. Movement of PPI is usually indicative of a similar change of part of the CPI. PPI can also be used in the economic analysis of inflation transmission process.
- (ii) The PPI will provide specific price deflators for the computation of national accounts at constant prices in order to measure real growth.
- (iii) The PPI will be helpful in the formulation of contract agreement. It can be used as an escalation clause to protect buyers and sellers against inflation or deflation.
- (iv) PPI is also used in econometric models, in forecasting and in inventory accounting.

## 11. Reliability of the PPI

The statistical accuracy of PPI depends heavily on the **quality** of information provided by respondents. This office places great emphasis on the need for reporting effective selling prices, i.e. the amount realised by a producer when selling its products on the market inclusive of all discounts and other price deductions rather than the list or catalogue prices. Respondents must be assured that any information they give to the office will be safeguarded under the strictest guarantee of confidentiality and that only aggregated data will be published.

## Weights by industrial group

| <u>Description</u>                              | <u>Weights</u>    |
|---|-------------------|
| Slaughtering, preparing & preserving meat       | 132               |
| Manufacture of dairy products                   | 25                |
| Canning & preservation of fruits and vegetables | 36                |
| Canning & processing of fish & similar products | 9                 |
| Manufacture of vegetable & animal oils & fats   | 81                |
| Manufacture of grain mill products              | 65                |
| Manufacture of bakery products                  | 103               |
| of which:                                       |                   |
| Bakery and pastries                             | (81)              |
| Biscuits & sweets                               | (13)              |
| Manufacture of sugar and sugar confectionery    | 32                |
| of which:                                       |                   |
| Sugar   | (30)              |
| Manufacture of tea                              | 15                |
| Manufacture of other food products              | 9                 |
| Manufacture of prepared animal feeds            | 49                |
| Manufacture of beverages and tobacco            | 444               |
| of which:                                       |                   |
| Distilling, blending & bottling spirits         | (128)             |
| Wine  | (9)               |
| Soft drinks                                     | (81)              |
|   | <hr/>             |
| <b>Food, Beverages and tobacco</b>              | <b>1000</b> <hr/> |

Central Statistical Office  
 Ministry of Economic Planning and Development  
 Port Louis.

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