

# Producer Price Index (PPI- Manufacturing)

## Fourth Quarter 2005

### 1. Background

This is the fourth issue of monthly Producer Price Index for the Manufacturing sector (PPI-M) covering the period October 2003 to December 2005. Work on the development of the methodology for the construction of the PPI-M started in March 2003 with technical assistance from the IMF EastAFRITAC and financial assistance, from the UK DFID. The PPI project is a joint project between the National Statistics Institute of Rwanda (NSIR) and the National Bank of Rwanda (NBR). In addition, Rwanda joined the IMF General Data Dissemination System (GDDS) in October 2003, and the development of monthly PPI for Manufacturing was included among the list of priorities and as a core economic indicator.

### 2. PPI- Manufacturing (PPI-M)

#### *2.1 Definition*

The PPI-M is designed to measure the monthly change in the effective selling prices received by manufacturers for their products as they leave the factory gate. *Price information is at basic prices, that is, they do not include taxes on products (e.g. VAT and excise duties) and include any subsidy.* The PPI-M will therefore reflect the price trends of a constant basket of well-specified products representing the output of the manufacturing establishments. The PPI-M will initially cover manufacturing establishments employing 10 or more workers.

The monthly PPI-M will be published in each quarter, about 8 weeks following the last data collection quarter. More details on the compilation methodology are provided in the Technical Note at Annex.

#### *2.2 Uses of the PPI*

The main uses of the PPI are:

- As a leading indicator of inflationary trends.
- As deflators for national accounting at constant prices.
- As “escalators’ to adjust prices of inputs in long term sales contracts.

Table 1a: Monthly Producer Price Indices by activity group: Fourth Quarter 2005  
Goods Produced mainly for local sales

(Base Period: Fourth Quarter 2003 = 100)

ISIC(Rev 3)	Activity group	Weight	Dec.04	Oct.05	Nov.05	Dec.05	% change over	
							Previous month	12 months
<b>1511 - 3610</b>	<b>PPI for Mainly Local Sold products</b>	<b>1000</b>	<b>111.7</b>	<b>118.0</b>	<b>117.8</b>	<b>117.5</b>	<b>-0.3</b>	<b>5.2</b>
1511-1600	Food Products, Beverages and Tobacco	456	107.4	111.4	111.4	110.7	-0.6	3.1
1511-1542	Food Products	129	114.1	130.0	129.9	127.6	-1.8	11.8
1511	Production, processing and preserving of meat and meat products	3	114.7	130.6	140.1	140.1	0.0	22.1
1513	Processing and preserving of fruits and vegetables	8	118.5	130.4	130.4	130.4	0.0	10.1
1520	Manufacture of dairy products	32	106.6	137.2	133.4	133.4	0.0	25.1
1531-1533	Manufacture of grain mill and animal feeds products	27	121.8	113.1	112.9	112.8	0.0	-7.4
1541	Manufacture of bakery products, pastry, biscuits	13	126.6	127.9	127.9	127.8	-0.1	0.9
1542	Manufacture of sugar	45	110.3	135.5	137.4	130.8	-4.8	18.6
1552-1600	Beverages and Tobacco	327	104.8	104.1	104.1	104.1	0.0	-0.7
1552-1600	Manufacture of beer, soft drinks and tobacco	327	104.8	104.1	104.1	104.1	0.0	-0.7
<b>1711-3610</b>	<b>Other than Food, Beverages and Tobacco</b>	<b>544</b>	<b>115.3</b>	<b>123.4</b>	<b>123.2</b>	<b>123.2</b>	<b>-10.1</b>	<b>6.8</b>
1711-1920	Manufacture of textiles, wearing apparel, tanning and dressing of leather	47	120.6	122.5	122.5	122.5	0.0	1.5
2029-2221	Manufacture of paper and paper products, publishing of books, newspapers	40	113.8	122.6	121.0	120.3	-0.5	5.8
2422-2429	Manufacture of chemical products	172	110.7	117.1	117.1	117.1	0.0	5.7
2511-2520	Manufacture of plastic products, tubes, retreading and rebuilding of rubber tyres	45	119.5	121.0	119.7	119.8	0.1	0.3
2693-2695	Manufacture of ceramic products, cement, lime and articles of concrete	126	112.0	129.0	129.0	129.0	0.0	15.2
2811-2899	Manufacture of fabricated metal products	70	129.8	137.7	137.7	137.7	0.0	6.1
3610	Manufacture of furniture	43	111.4	113.8	113.8	113.8	0.0	2.1

Source: Quarterly Producer Price Survey

Table 1b: Monthly Producer Price Indices by activity group: Fourth Quarter 2005  
Goods produced mainly for export

(Base Period : Fourth Quarter 2003 = 100)

ISIC(Rev 3)	Activity group	Weight	Dec.04	Oct.05	Nov.05	Dec.05	% change over	
							Previous month	12 months
1549 and 2421	PPI for Mainly Export Products	1000	120.8	134.7	136.5	128.6	-5.8	6.5
1549	Manufacture of other food products n.e.c	978	121.2	135.5	137.4	129.4	-5.9	6.7
1549	Production of tea	585	117.3	98.3	93.1	96.8	4.0	-17.5
1549	Production of coffee	392	127.0	190.9	203.5	177.9	-12.6	40.0
2421	Manufacture of pesticides and other agro-chemical products	22	101.5	97.4	97.4	97.4	0.0	-4.1
2421	Production of pyrethrum	22	101.5	97.4	97.4	97.4	0.0	-4.1

Source: Quarterly Producer Price Survey

### 3. PPI-M (Base year: 4<sup>th</sup> Quarter 2003 =100)

#### 3.1 PPI-M: Local sales

At the end of December 2005 the index for products manufactured for sale on the local market stood at 117.5, following a decrease of 0.3% in December and also a decrease of 0.3% and 0.1% registered in October and November respectively.

However, Compared to December 2004 (111.7), the index for December 2005 was 5.2% higher.

The 5.2% increase between December 2004 and December 2005, is mainly attributable to price increases in the following subgroups: « Food products, Beverages and Tobacco» increased by 3.1%, with the index moving from 107.4(i.e. for December 2004) to 110.7(December 2005). Within this sub- group, prices for « Food products » rose by 11.8%. The increase in the producer prices for food products is as follows: Manufacture of dairy products (+25.1%), Production, processing and preserving of meat and meat products (+22.1%), Sugar (+18.6%), and Processing and preserving of fruits and vegetables (+10.1%), while prices for «Beverages and Tobacco», registered a slight decrease of 0.7%. Generally the main reasons for the price changes as reported by the producers are: (i) power shortage and increase in the cost of energy, (ii) increase of purchase price of imported raw materials and (iii) Competitiveness (iv) Sales promotion.

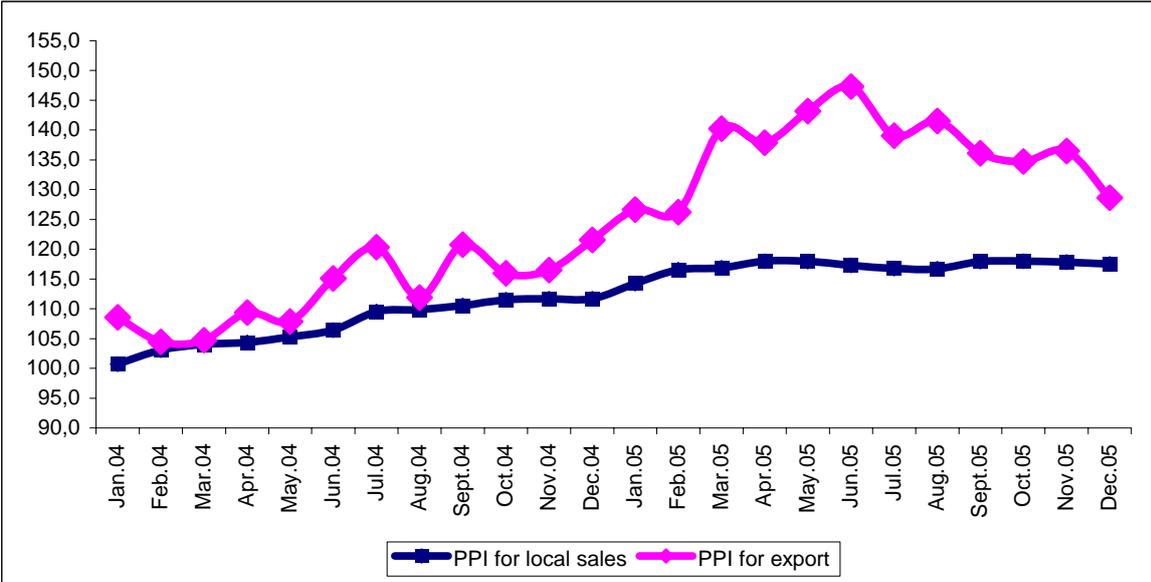
The index for the sub group « Other than Food, Beverages and Tobacco » increased by 6.8 % from 115.3 in December 2004 to 123.2 in December 2005. This rise was mostly due to the

overall effect of price changes in the following groups: “Manufacture of ceramic products, cement, lime and articles of concrete” (+15.2%), as a result of ongoing private construction and public works programs which led to high demand that exceeds supply, “Manufacture of fabricated metal products ” (+6.1%), “Manufacture of paper and paper products, publishing of books, newspapers (+5.8%), “Manufacture of chemical products (+5.7%). Higher selling prices therefore reflected the increase in the production cost, namely the higher prices paid for raw materials and energy.

**3.2 PPI-M Exports**

As shown in the table 1b, the PPI-M for goods mainly produced for exports stood at 134.7 in October, 136.5 in November and 128.6 in December 2005. The Prices fetched for coffee exports registered an increase of 6.2% in November and a decrease of 5.1% and 14.4% in October and December respectively. On the other hand, export price of tea registered an increase of 4.6% and 4.0% in October and December respectively, and a decrease of 5.3% in November, due to fall of tea prices on international market. However, the price fluctuations for both coffee and tea are caused by price changes on the international market. Compared to December 2004 (120.8), the index for December 2005 (128.6) was 6.5% higher. This increase was mainly attributable to higher prices fetched for coffee (+40.0%).

**Graph1: PPI for local sales and export products**  
(Fourth quarter 2003=100)



## 4. Analysis of trends- Quarterly Change

### 4.1 PPI-M Local sales

The quarterly PPI-M is obtained as an arithmetic average of the monthly PPI. When comparing the fourth quarter with the third quarter, the index moved slightly downward by 0.2%. The index for local sales stood at 111.7 in the fourth quarter 2004 and at 117.8 in the fourth quarter of 2005 which shows a year-on-year increase of 5.5%.

### 4.2 PPI-M Exports

Comparing current quarter (fourth quarter 2005) with the previous quarter (third quarter 2005) the index moved downward by 4.0%. The quarterly index for manufacturing exports rose from 118.0 in the fourth quarter of 2004 to 133.3 in the fourth quarter of 2005, thus comparing to prices 12 months ago, prices in the fourth quarter 2005 were therefore 13.0% higher. This increase is due to price rise for coffee by 37.0%.

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# Technical Note on PPI-M

- 1. Scope and composition:** For the purpose of these indices, manufacturing encompass all products produced for sale on the domestic market as well as for the exports that is divisions 15 to 36. The PPI-M will initially cover manufacturing establishments that operate with 10 or more workers.
- 2. Items and weights:** These indices are fixed weight indices. The weights were obtained from the gross output value reported by manufacturers at the 2000 Census of Industrial Production conducted in 2001. Gross output is valued at basic prices, and thus excludes all taxes on products, namely excise duties and Value added tax. Each selected product is assigned a weight representing its share in the total turnover for the fourth quarter of 2003 as reported by the establishments.
- 3. Price information:** The point of pricing is the establishment. The price is the selling price received by the producer for the selected product as it leaves the factory gate. In general prices are collected at *mid - point of each month*.
- 4. Reference base period for PPI\_M:** The reference period for the calculation of PPI-M is the fourth quarter 2003. The base price for a particular product is an arithmetic mean of the fourth quarter monthly prices in 2003.
- 5. Index formula:** The PPI is calculated according to the Laspeyres' formula, which is the weighted average of price relatives.

$$I_c = \frac{\sum W_i * \left( \frac{P_{ci}}{P_{oi}} \right)}{\sum W_i} * 100$$

Where  $I_c$  = Index for current month

$W_i$  = Weight associated with product  $i$

$P_{ci}$  = Price of product  $i$  for the current month

$P_{oi}$  = Price for product  $i$  for the reference period

- 6. Dissemination of PPI-M:** The monthly PPI-M will be published in each quarter, about 8 weeks following the quarter under review.

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