**Quarterly Export and Import Price Indices**

**4th Quarter 2022**

**(Base year: 2018=100)**

**1. Introduction**

The Export Price Index (EPI) provides an overall measure of pure price changes (in Mauritian rupees) of goods exported to other countries. The Import Price Index (IPI), on the other hand, measures pure price changes (in Mauritian rupees) of goods purchased from other countries.

This issue of Economic and Social Indicators presents a series of export and import price indices for the period covering the 1st quarter of 2021 to the 4th quarter of 2022 with the year 2018 as base year. The weights have been derived from exports and imports data for the base year, while the average import and export prices of representative products in 2018 have been used as base prices. To facilitate analysis, chain-linked indices with base year 2018 for the period 1st quarter 2007 to 4th quarter of 2022 are given in Tables 4 and 8.

Detailed indices prior to 1st quarter 2021 are posted on Statistics Mauritius website in the historical series at:

<https://statsmauritius.govmu.org/Pages/Statistics/By_Subject/Indices/SB_Indices.aspx>

The methodologies used for the computation of EPI and IPI are at Annex 1 and Annex 2.

**2. Terms of trade**

The terms of trade index is the ratio of export price index to import price index. A rise in this ratio indicates that the terms of trade have moved in favour of Mauritius. During the fourth quarter of 2022, export prices increased by 1.6% and import prices decreased by 8.1% when compared to the previous quarter. During the same period, the terms of trade index increased by 8.1 points (+10.5%) to reach 84.9 from 76.8 in the third quarter of 2022. Compared to the corresponding quarter of 2021, export and import prices increased by 6.7% and 18.1% respectively. During the same period, the terms of trade decreased by 9.1 points (-9.7%) from 94.0 to 84.9.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Price indices** | **2021** | | | | | **2022** | | | | |
| 1st Qr | 2nd Qr | 3rd Qr | 4th Qr | **Year** | 1st Qr | 2nd Qr | 3rd Qr | 4th Qr | **Year** |
| **Export** | 124.4 | 126.7 | 132.4 | 133.3 | **129.2** | 136.5 | 135.7 | 140.0 | 142.2 | **138.6** |
| **Import** | 115.1 | 126.3 | 137.1 | 141.8 | **130.1** | 162.3 | 186.6 | 182.3 | 167.5 | **174.7** |
| **Terms of trade** | 108.1 | 100.3 | 96.6 | 94.0 | **99.3** | 84.1 | 72.7 | 76.8 | 84.9 | **79.3** |

**3. Export Price Index (EPI) – (Tables 1 - 4)**

**3.1 Structure of EPI**

EPI covers four of the 10 sections of the Standard International Trade Classification (SITC Rev. 4), namely “Food and live animals”, “Chemicals and related products”, “Manufactured goods

classified chiefly by material” and “Miscellaneous manufactured articles”. Exports of goods falling under these sections covered 87% of total exports in the base year. Sub-indices are also available at the division and section levels of the SITC (Table 1).

**3.2 Changes in quarterly EPI (4th quarter 2022)**

3.2.1 Overall Index

The average quarterly EPI increased from 140.0 in the third quarter of 2022 to 142.2 in the fourth quarter, representing an increase of 1.6%. That was mainly due to increases in the prices of “Food and live animals” (+3.9%).

Compared to price levels in the corresponding quarter of 2021, the index increased by 6.7% which was mainly due to increases in the prices of “Food and live animals” (+8.6%), “Miscellaneous manufactured articles” (+5.5%) and “Chemicals and related products, n.e.s” (+9.5%).

### 3.2.2 Section 0: Food and live animals

“Food and live animals” carries 40.6% of the total weight. It consists mainly of “Fish and fish preparations” (64.5%) and “Sugar, sugar preparations and honey” (22.1%).

The index for “Food and live animals” increased by 3.9% from 126.9 in the third quarter of 2022 to 131.9 in the fourth quarter. That was mainly explained by increases in the prices of “Sugar, sugar preparations and honey” (+10.0%) and “Fish and fish preparations” (+2.6%).

Compared to the corresponding quarter of 2021, the index rose by 8.6%, mainly due to increases in the prices of “Sugar, sugar preparations and honey” (+17.1%) and “Fish and fish preparations” (+5.9%).

### 3.2.3 Section 5: Chemicals and related products, n.e.s

During the fourth quarter of 2022, the index for “Chemicals and related products, n.e.s” stood at 126.7 compared to 121.4 in the third quarter of 2022, representing an increase of 4.4%. That was explained by increases in the prices of “Organic chemicals” (+4.7%) and “Medicinal and pharmaceutical products” (+3.9%).

Compared to the corresponding quarter of 2021, the index increased by 9.5%, as a result of increases in the prices of “Organic chemicals” (+16.8%) and “Medicinal and pharmaceutical products” (+2.5%).

### 3.2.4 Section 6: Manufactured goods classified chiefly by material

### The index for “Manufactured goods classified chiefly by material” decreased by 2.3% from 141.8 in the third quarter of 2022 to 138.6 in the fourth quarter. This fall is explained by a decrease of 2.3% in the prices of “Textile yarn, fabrics, made-up articles, n.e.s., & related products”.

Compared to the corresponding quarter of 2021, the index rose by 3.4% due to an increase of 3.4% in the prices of “Textile yarn, fabrics, made-up articles, n.e.s., & related products”.

### 3.2.5 Section 8: Miscellaneous manufactured articles

“Miscellaneous manufactured articles” which carries 45.3% of the total weight, is the most important section covered by the export price index. It consists mainly of “Articles of apparel and clothing accessories” (85.5%).

The index for “Miscellaneous manufactured articles” increased from 153.7 in the third quarter of 2022 to 154.0 in the fourth quarter, representing a rise of 0.2%. That was mainly explained by increases in the prices of “Miscellaneous manufactured articles, n.e.s” (+ 3.9%), partly offset by decreases in the prices of “Articles of apparel and clothing accessories” (-0.1%) and “Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches & clocks” (-1.4%).

Compared to the corresponding quarter of 2021, the index increased by 5.5%, mainly explained by increases in the prices of “Articles of apparel and clothing accessories” (+5.8%).

**4. Import Price Index (IPI) (Tables 5 - 8)**

**4.1 Structure of IPI**

IPI covers nine out of the 10 SITC sections. The only section not covered is “Commodities and transactions not classified elsewhere”, because of the heterogeneity of the products and the inherent difficulties in pricing items of constant quality. Imports of goods falling under the covered sections make up 84% of total imports in the base year. Sub-indices are also available at the division and section levels of the SITC (Table 5).

**4.2 Changes in quarterly IPI (4th quarter 2022)**

4.2.1 Overall Index

The Import Price Index (IPI), calculated on a quarterly basis, decreased by 8.1% from 182.3 in the third quarter of 2022 to 167.5 in the fourth quarter. That was mainly the effect of decreases in the prices of “Mineral fuels, lubricants and related materials” (-14.4%) and “Food and live animals” (-1.6%).

Compared to the corresponding quarter of 2021, the index rose by 18.1%, mainly as a result of increases in the prices of “Mineral fuels, lubricants and related materials” (+34.7%), “Food and live animals” (+12.8%), “Crude materials, inedible, except fuels” (+21.0%) and “Machinery and transport equipment” (+3.4%).

### 4.2.2 Section 0: Food and live animals

“Food and live animals” carries 21.7% of the total weight of the import price index. The two main components of this section are “Fish and fish preparations” (28.4%) and “Cereals and cereal preparations” (21.6%).

The index for this section decreased by 1.6% from 152.2 in the third quarter of 2022 to 149.8 in the fourth quarter. That was mainly attributable to decreases in the prices of “Cereals and cereal preparations” (-3.3%), “Meat and meat preparations” (-5.7%), “Dairy products and birds’ eggs” (-3.2%) and “Miscellaneous edible products and preparations” (-2.7%), partly mitigated by higher prices of “Vegetables and fruit” (+12.5%).

Compared to the corresponding quarter of 2021, the index increased by 12.8%, mainly due to increases in the prices of “Fish and fish preparations” (+16.3%), “Cereals and cereal preparations” (+15.3%), “Vegetables and fruit” (+36.2%), “Dairy products and birds’ eggs” (+11.7%) and “Feeding stuff for animals” (+19.8%).

### 4.2.3 Section 1: Beverages and Tobacco

The index for “Beverages and Tobacco” decreased by 1.0% from 126.1 in the third quarter of 2022 to 124.9 in the fourth quarter, as a result of decreases in the prices of “Beverages” (-2.6%).

Compared to the corresponding quarter of 2021, the index increased by 3.2% due to price increases in “Tobacco and tobacco manufactures” (+3.9%) and “Beverages” (+2.1%).

## 4.2.4 Section 2: Crude materials, inedible, except fuels

The index for “Crude materials, inedible, except fuels” increased by 3.8% to 161.6 in the fourth quarter of 2022 from 155.7 in the third quarter due to increases in the prices of “Textile fibres and their wastes” (+5.6%).

Compared to the corresponding quarter of 2021, the index increased by 21.0%, mainly due to increases in the prices of “Textile fibres and their wastes” (+27.6%).

## 4.2.5 Section 3: Mineral fuels, lubricants and related materials

“Mineral fuels, lubricants and related materials” consisting mainly of “Petroleum, petroleum products and related materials”, make up for 37.7% of the weight of the IPI.

The index for “Mineral fuels, lubricants and related materials” decreased by 14.4% from 241.0 in the third quarter of 2022 to 206.3 in the fourth quarter due to decreases in the prices of “Petroleum, petroleum products and related materials” (-12.4%) and “Coal, coke and briquettes” (-31.2%).

Compared to the corresponding period of 2021, the index rose by 34.7%, due to increases in the prices of “Petroleum, petroleum products and related materials” (+39.9%) and “Coal, coke and briquettes” (+31.9%), partly offset by decreases in the prices of “Gas, natural and manufactured” (-21.8%).

## 4.2.6 Section 5: Chemical materials & related products, n.e.s

The index for “Chemical materials & related products, n.e.s” decreased by 3.2% from 130.0 in the third quarter of 2022 to 125.9 in fourth quarter. That was explained by the effect of decreases in the prices of “Medicinal and pharmaceutical products” (-3.1%), “Essential oils and resinoids & perfume materials;toilet, etc.” (-2.7%) and “Plastics in primary forms” (-4.2%).

Compared to the corresponding quarter of 2021, the index decreased by 0.5%, explained by decreases in the prices of “Medicinal and pharmaceutical products” (-4.1%), partly mitigated by increases in the prices of “Essential oils and resinoids & perfume materials;toilet, etc.” (+4.8%) and “Plastics in primary forms” (+3.4%).

## 4.2.7 Section 6: Manufactured goods classified chiefly by material

The index for “Manufactured goods classified chiefly bymaterial” decreased by 2.3% from 168.5 in the third quarter of 2022 to 164.7 in the fourth quarter mainly due to lower prices of

“Paper, paperboard and articles of paper pulp” (-14.4%), “Non-ferrous metals” (-5.3%) and “Textile yarn, fabrics, made-up articles, n.e.s” (-1.2%).

Compared to the corresponding quarter of 2021, the index rose by 2.0%, mainly due to increases in the prices of “Textile yarn, fabrics, made-up articles, n.e.s” (+3.9%) and “Manufactures of metals, n.e.s” (+15.9%), partly offset by decreases in the prices of “Non-ferrous metals” (-10.6%).

## 4.2.8 Section 7: Machinery and transport equipment

The index for “Machinery and transport equipment”, with 15.2% of the total weight, stood at 129.8 in the fourth quarter of 2022. Compared to the previous quarter’s figure of 131.2, a decrease of 1.1% is noted, mainly due to lower prices of “Telecommunications and sound recording” (-5.6%).

Compared to the corresponding quarter of 2021, the index rose by 3.4%, from 125.5 to 129.8 in the fourth quarter of 2022, mainly due to increases in the prices of “Office machines and automatic data processing machines” (+13.0%) and “Road vehicles” (+2.9%), partly offset by decreases in the prices of “Telecommunications and sound recording” (-3.5%) and “Machinery specialized for particular industries” (-8.8%).

## 4.2.9 Section 8: Miscellaneous manufactured articles

The index for “Miscellaneous manufactured articles” decreased by 0.7% from 130.5 in the third quarter of 2022 to 129.6 in the fourth quarter. That was mainly due to decreases in the prices of “Footwear” (-1.1%).

Compared to the corresponding quarter of 2021, the index decreased by 4.2% from 135.3 to 129.6 in the fourth quarter of 2022, as a result of lower prices of “Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches & clocks” (-14.6%) and “Miscellaneous manufactured articles, n.e.s.” (-5.7%), partly mitigated by increases in the prices of “Professional, scientific and controlling inst. and app” (+4.5%).

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### Annex 1

**Export Price Index (EPI)**

**Methodology for the computation of the EPI**

**1. Definition**

The Export Price index (EPI) provides an overall measure of pure price changes in Mauritian Rupees of goods exported to other countries. This index is constructed from the export prices of a "constant" well-defined representative basket of commodities selected from trade data in the base year.

The concepts and definitions of the EPI largely follow the guidelines provided in the “IMF Export and Import Price Index Manual, Theory and Practice, 2009”.

**2. Scope**

The 2018 index is based on the Nomenclature of the Standard International Trade Classification of the United Nations (SITC Rev 4). The EPI covers four of the 10 sections of the SITC, namely “Food and live animals”, “Chemicals and related products”, “Manufactured goods classified chiefly by material” and “Miscellaneous manufactured articles”. Exports of goods falling under these sections covered 87% of total exports in the base year. Separate sub-indices are produced for each SITC section and division.

The EPI covers total exports (domestic exports and re-exports). The most important commodities in the 2018 EPI are “Articles of apparel and clothing accessories”, “Fish and fish preparations”, “Sugar” and “Textile yarn, fabrics, made-up articles, n.e.s., and related products”.

However, some commodities were excluded in the computation of the weights because of their heterogeneity and the inherent difficulties in pricing them to a constant quality. Those were precious stones, jewellery, recorded media and free publications, and all products classified within the Sections 1, 3, 7 and 9 of the SITC; together they accounted for around 20% of total exports in 2018. In addition, SITC sections 2 and 4 were not represented due to low exports value.

The index thus covers about 80% of the value of merchandise exported during 2018. Commodities directly represented (i.e, price movements followed) constitute 62% of the total value of exports. For the 18% not directly represented, their prices are considered to move similarly to those represented directly.

**3. Selection of products to be priced and outlets**

Around 56 exporters (outlets) have been selected from trade declarations submitted to the Customs Department in 2018 for pricing of the commodities through quarterly price surveys. These exporters are the major ones trading on a regular basis.

A total of around 125 products, representing the 33 commodities directly represented in the index, were selected for pricing on the basis of their share in total exports, regularity of trade

of exports and also their importance in the trader’s exports. There must also be a sustained demand for the product variety.

Specifications of products to be priced (physical and qualitative) were established in collaboration with the selected exporters to ensure that same items are priced at each price survey. Specifications include: pricing basis, contract basis, country of destination, unit of measurement, mode of transport, terms of payment, currency and any other conditions like quality and quantity of the product, that have a bearing on the price.

**4. Price collection**

A preliminary survey of the selected exporters was conducted in 2021 to gather information on products (specific brand and type) relating to the selected commodities and monthly prices

for 2018 onwards were collected. Hereafter, the selected exporters are visited every quarter but prices are collected for each month of the quarter for the computation of monthly and quarterly indices. The collected prices are reported on a free on board (F.O.B.) basis and are mostly contract prices.

**5. Updating of weights**

Weights for each section, division, group and commodity are based on their export values. Products selected for pricing purposes represent all commodities that fall within that weight group.

**5.1 Historical background**

Statistics Mauritius first published the EPI in August 1996 with 1993 as base period (1993 = 100). The base year was subsequently revised to 1997, 2003, 2007 and 2013.

The current weights have been updated with year 2018 as base period.

**6. Uses of the EPI**

The Export Price Index is an important economic indicator which is used, inter alia, to:

1. measure changes in prices of exports
2. analyse the effect of export price changes on the various sectors of the economy
3. calculate changes in the volume of exports
4. calculate the terms of trade (that is the ratio of export prices to import prices)
5. analyse the effect of exchange rates on export prices.

It also serves as a basis to assess the competitiveness of Mauritian products in relation to price trends of common products of other countries with which Mauritius competes for markets.

**7. Calculation of the EPI**

The lowest level (SITC 7 digit) indices are calculated as a geometric average of the price relatives of the basic observations (products). Laspeyres formula, based on the weighted average of price relatives, is used to calculate higher level indices. The mathematical form of the formula is shown below:

 Where 1ot is the index for period t compared to base period 0

wi is the weight of the ith element

Pio is the base price of the ith element

Pit is the price of the ith element in period t

is the price relative of the ith element in period t relative to base period 0

Pit

Pot

Σ means summation over all selected elements

**8. Missing Prices**

In case of missing prices for a product, imputation is carried out as recommended in the “IMF Export and Import Price Index Manual, Theory and Practice, 2009”.

### Annex 2

**Import Price Index (IPI)**

**Methodology for the computation of the IPI**

**1. Definition**

The Import Price Index (IPI) provides an overall measure of pure price changes in Mauritian Rupees of goods imported into the country. This index is constructed from import prices of a "constant" well-defined representative basket of commodities selected from imports data in the base year.

The concepts and definitions of the IPI largely follow the guidelines provided in the “IMF Export and Import Price Index Manual, Theory and Practice, 2009”.

**2. Scope**

The commodities are classified according to the United Nations Standard International Trade Classification (SITC Rev 4). The IPI covers nine out of the 10 Standard International Trade Classification sections. The only section not covered is “Commodities and transactions not classified elsewhere”, because of the heterogeneity of the products and the inherent difficulties in pricing items of a constant quality.

For the computation of the 2018 weights, some commodities accounting for around 16% of total imports in 2018 were excluded because of their heterogeneity and the inherent difficulties in pricing them to a constant quality. Those were: precious stones, jewellery, cellular telephones, recorded media and free publications, aircraft, helicopters and marine vessels, certain machine parts, textile wastes and Section 9 of the SITC described as “Commodities and transactions not classified elsewhere”.

Thus, the index covers about 84% of the value of merchandise imported in 2018. Commodities directly represented (price movements followed) constitute around 57% of the total value of imports. For the 27% not directly represented, their prices are considered to move similarly to those represented directly.

**3. Selection of products to be priced and outlets**

Some 178 importers (outlets) have been selected from trade declarations submitted to the Customs Department in 2018 for the pricing of the commodities. These importers are the major ones importing the selected commodities on a regular basis.

A total of around 275 products, representing the 112 commodities directly represented, were selected for pricing on the basis of regularity of imports and also their importance in the trader’s imports. There must also be a sustained demand for the product variety.

Specifications of products to be priced (physical and qualitative) were established in collaboration with the selected importers to ensure that same items are priced every quarter. Specifications include: pricing basis, contract basis, country of origin, unit of measurement,

mode of transport, terms of payment, currency and any other conditions like quality and quantity of the product, that have a bearing on the price.

**4. Price collection**

A preliminary survey of the selected importers was conducted in 2021 to gather information on the products (specific brand and type) relating to the selected commodities and to collect prices for the four quarters of 2018. Hereafter, the selected importers are visited every quarter to collect the required prices for updating the index. Given that most imports occur at intervals longer than a month, prices refer to the last consignment of the quarter. The collected prices are reported on a cost, insurance, freight (C.I.F) basis and are mostly contract prices.

# 5. Updating of weights

Weights for each section, division, group and commodity are based on their import values. Products selected for pricing purposes represent all commodities that fall within that weight group.

**5.1 Historical background**

The first series of IPI were calculated with year 2002 as base and reference prices for the year 2003. It was subsequently rebased to years 2007, 2013 and the present series has as base period year 2018.

**6. Petroleum products and rice**

It is to be noted that the index for petroleum products is calculated differently given that these products, namely gasoline, gas oil, aviation fuel, fuel oil, LPG are imported more than once during a quarter. All prices available for the quarter are collected and average prices for the quarter are computed for each product. The same pricing system is applicable for rice imported by the State Trading Corporation.

**7. Uses of the Import Price Index**

The Import Price Index is an important economic indicator, which is used, inter alia, to:

1. measure changes in prices of imports
2. analyse the effect of import price changes on the various sectors of the economy
3. calculate changes in the volume of imports
4. calculate the terms of trade (that is the ratio of export prices to import prices)
5. analyse the effect of exchange rates on import prices.

**8. Calculation of the IPI**

The lowest level indices (SITC 7 digit) are determined as a geometric average of the price relatives of the basic observations (products). Laspeyres formula, based on the weighted average of price relatives, is used to calculate higher level indices.

The mathematical form of the formula is shown below:

 Where 1ot is the index for period t compared to base period 0

wi is the weight of the ith element

Pio is the base price of the ith element

Pit is the price of the ith element in period t

is the price relative of the ith element in period t relative to base period 0

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Σ means summation over all selected elements

**9. Missing Prices**

In case of missing prices for a product, imputation is carried out as recommended in the “IMF Export and Import Price Index Manual, Theory and Practice, 2009”.