**Quarterly Export and Import Price Indices**

**4th Quarter 2020**

**(Base year: 2013=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 2019 to the 4th quarter of 2020 with year 2013 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 2013 have been used as base prices. To facilitate analysis, chain-linked indices with base year 2013 for the period 1st quarter 2005 to 4th quarter 2020 are given in Tables 4 and 8.

Detailed indices prior to 1st quarter 2019 are posted on Statistics Mauritius website in the historical series of external trade statistics:

<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 2020, export prices increased by 4.2% and import prices decreased by 2.4% when compared to the previous quarter. The terms of trade index increased by 7.9 points to reach 124.6 from 116.7 in the third quarter of 2020. Compared to the corresponding quarter of 2019, the terms of trade increased by 7.5 points.

|  |  |  |
| --- | --- | --- |
| **Price indices**  | **2019** | **2020** |
| 1st Qr | 2nd Qr | 3rd Qr | 4th Qr | **Year** | 1st Qr | 2nd Qr | 3rd Qr | 4th Qr | **Year** |
| **Export** | 96.8 | 99.1 | 102.7 | 106.7 | **101.3** | 110.0 | 116.9 | 119.4 | 124.4 | **117.7** |
| **Import** | 89.0 | 92.9 | 93.3 | 91.1 | **91.6** | 99.4 | 101.7 | 102.3 | 99.8 | **100.8** |
| **Terms of trade** | 108.8 | 106.7 | 110.1 | 117.1 | **110.6** | 110.7 | 114.9 | 116.7 | 124.6 | **116.8** |

**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 91.0% of total exports in the base year. Sub-indices are also available at division and section level of the SITC (Table 1).

**3.2 Changes in quarterly EPI (4th quarter 2020)**

3.2.1 Overall Index

The average quarterly EPI increased from 119.4 in the third quarter to 124.4 in the fourth quarter of 2020, representing an increase of 4.2%. That was mainly due to an increase in the prices of “Miscellaneous manufactured articles” (+7.5%).

Compared to price levels in the corresponding quarter of 2019, the index increased by 16.6%. That was mainly due to increases in the prices of “Miscellaneous manufactured articles” (+17.4%) and “Food and live animals” (+16.1%).

### 3.2.2 Section 0: Food and live animals

“Food and live animals” which carries 49.1% of the total weight, is the most important section covered by the export price index. It consists mostly of “Fish and fish preparations” (50.0%) and “Sugar, sugar preparations and honey” (41.4%).

The index for “Food and live animals” remained unchanged at 96.7 during the fourth quarter of 2020 when compared to the previous quarter. That was mainly explained by the effect of increases in the prices of “Live animals” (+1.8%) and “Cereals and cereal preparations” (+1.0%), offset by a decrease in the prices of “Feeding stuff for animals” (-1.1%).

Compared to the corresponding quarter of 2019, the index rose by 16.1%, mainly due to increases in the prices of “Sugar, sugar preparations and honey” (+19.4%) and “Fish and fish preparations” (+14.5%).

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

During the fourth quarter of 2020, the index for “Chemicals and related products, n.e.s” stood at 131.6 from 130.0 in the third quarter of 2020, representing an increase of 1.2%. That was mainly explained by an increase in the prices of “Medicinal and pharmaceutical products” (+1.4%).

Compared to the corresponding quarter of 2019, the index rose by 17.8% mainly as a result of an increase in the prices of “Medicinal and pharmaceutical products” (+18.8%).

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

### The index for “Manufactured goods classified chiefly by material” decreased by 0.7% from 127.7 to 126.8 in the fourth quarter of 2020, compared to the previous quarter. This fall is explained by a decrease of 0.7% in the prices of “Textile yarn, fabrics, made-up articles, n.e.s., & related products”.

Compared to the corresponding quarter of 2019, the index rose by 8.3% due to an increase of 8.3% 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” carries about 45.7% of the total weight. It consists mainly of “Articles of apparel and clothing accessories” (92.6%).

The index for “Miscellaneous manufactured articles” increased from 142.9 to 153.6 in the fourth quarter of 2020 representing a rise of 7.5%. That was mainly explained by the higher prices of “Articles of apparel and clothing accessories” (+7.7%).

Compared to the corresponding quarter of 2019, the index increased by 17.4% mainly explained by an increase in the prices of “Articles of apparel and clothing accessories” (+17.3%).

**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 a constant quality. Imports of goods falling under the covered sections make up for 89.0% of total imports in the base year. Sub-indices are also available at division and section level of the SITC (Table 5).

**4.2 Changes in quarterly IPI (4th quarter 2020)**

4.2.1 Overall Index

The Import Price Index (IPI), calculated on a quarterly basis, decreased by 2.4% from 102.3 in the third quarter to 99.8 in the fourth quarter of 2020. That was mainly the effect of decreases in the prices of “Food and live animals” (-9.4%) and “Mineral fuels, lubricants and related materials” (-2.1%), partly mitigated by increases in the prices of “Miscellaneous manufactured articles” (+6.5%) and “Manufactured goods classified chiefly by material” (+1.8%).

Compared to the corresponding quarter of 2019, the index rose by 9.5%, mainly as a result of increases in the prices of “Food and live animals” (+9.5%), “Miscellaneous manufactured articles” (+59.7%), “Machinery and transport equipment” (+13.8%), “Manufactured goods classified chiefly by material” (+9.7%), “Mineral fuels, lubricants and related materials” (+2.3%) and “Chemical materials & related products, n.e.s” (+14.3%).

### 4.2.2 Section 0: Food and live animals

“Food and live animals” carries 25.1% of the total weight of the import price index. The two main components of this section are “Fish and fish preparations” (46.1%) and “Cereals and cereal preparations” (22.3%).

The index for this section decreased by 9.4% from 112.2 in the third quarter to 101.6 in the fourth quarter of 2020. This fall is mainly attributable to a decrease in the prices of “Fish and fish preparations” (-20.6%).

Compared to the corresponding quarter of 2019, the index increased by 9.5%, as a result of increases in the prices of “Fish and fish preparations” (+8.9%), “Dairy products and birds' eggs” (+15.2%) and “Vegetables and fruit” (+31.2%).

### 4.2.3 Section 1: Beverages and Tobacco

The index for “Beverages and Tobacco” increased by 3.1% from 152.6 in the third quarter to 157.3 in the fourth quarter of 2020 as a result of increases in the prices of “Tobacco and tobacco manufactures” (+2.5%) and “Beverages” (+5.9%).

Compared to the corresponding quarter of 2019, the index increased by 4.2% due to price increases in “Beverages” (+13.8%) and “Tobacco and tobacco manufactures” (+2.5%).

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

The index for “Crude materials, inedible, except fuels” decreased by 1.5% to 116.9 from 118.7 in the third quarter of 2020 mainly due to a decrease in the prices of “Textile fibres and their wastes” (-3.3%), partly mitigated by an increase in the prices of “Crude fertilisers and crude minerals” (+8.0%).

Compared to the corresponding quarter of 2019, the index increased by 12.0% mainly due to an increase in the prices of “Textile fibres and their wastes” (+12.4%).

## 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”, makes up for 40.0% of the weight of the IPI.

The index for “Mineral fuels, lubricants and related materials” fell by 2.1% from 75.8 in the third quarter to 74.2 in the fourth quarter of 2020. That was mainly explained by a decrease in the prices of “Petroleum, petroleum products and related materials” (-3.7%), partly mitigated by an increase in the prices of “Coal, coke and briquettes” (+22.1%).

Compared to the corresponding period of 2019, the index rose by 2.3%, mainly due to an increase in the prices of “Petroleum, petroleum products and related materials” (+3.3%), partly offset by a decrease in the prices of “Gas, natural and manufactured” (-16.1%).

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

The index for “Chemical materials & related products, n.e.s” increased by 2.0% from 120.0 in the third quarter to 122.4 in the fourth quarter of 2020. This rise is mainly explained by higher prices of “Medicinal and pharmaceutical products” (+2.1%) and “Essential oils and resinoids & perfume materials;toilet, etc.” (+2.2%).

Compared to the corresponding quarter of 2019, the index increased by 14.4%, mainly explained by increases in the prices of “Medicinal and pharmaceutical products” (+16.0%) and “Essential oils and resinoids & perfume materials;toilet, etc.” (+15.8%), partly offset by decreases in the prices of “Plastics in primary forms” (-4.5%) and “Fertilizers” (-3.9%).

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

The index for “Manufactured goods classified chiefly bymaterial”, with 11.2% of the total weight, stood at 117.1 in the fourth quarter of 2020. Compared to the previous quarter figure of 115.0, an increase of 1.8% is noted mainly due to higher prices of “Non-metallic mineral manufactures, n.e.s” (+2.5%), “Non-ferrous metals” (+8.3%) and “Textile yarn, fabrics, made-up articles, n.e.s” (+1.6%).

Compared to the corresponding quarter of 2019, the index rose by 9.7% mainly due to increases in the prices of “Non-metallic mineral manufactures, n.e.s.” (+14.0%), “Textile yarn, fabrics, made-up articles, n.e.s” (+9.1%), “Manufactures of metals, n.e.s.” (+16.2%) and “Non-ferrous metals” (+19.1%), partly offset by a decrease in the prices of “Iron and steel” (-2.0%).

## 4.2.8 Section 7: Machinery and transport equipment

The index for “Machinery and transport equipment” reached 126.9 in the fourth quarter of 2020 from 126.4 in the previous quarter, representing an increase of 0.4%. That was mainly due to an increase in the prices of “Road vehicles” (+1.3%), partly offset by decreases in the prices of “Office machines and automatic data processing machines” (-1.1%) and “General industrial machinery & equipment, n.e.s.” (-2.1%).

Compared to the corresponding quarter of 2019, the index rose by 13.8%, from 111.5 to 126.9, mainly due to increases in the prices of “Road vehicles” (+14.1%) and “Office machines and automatic data processing machines” (+14.7%).

## 4.2.9 Section 8: Miscellaneous manufactured articles

The index for “Miscellaneous manufactured articles” increased by 6.5% from 160.7 in the third quarter to 171.2 in the fourth quarter of 2020. That was mainly due to increases in the prices of “Miscellaneous manufactured articles, n.e.s.” (+27.8%) and “Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches & clocks” (+2.5%), partly offset by a decrease in the prices of “Prefabricated buildings; sanitary plumbing, heating & lighting fixtures and fittings, n.e.s.” (-4.2%).

Compared to the corresponding quarter of 2019, the index increased by 59.7% from 107.2 to 171.2. This rise was mainly attributable to higher prices of “Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches & clocks” (+150.2%) and “Miscellaneous manufactured articles, n.e.s.” (+40.1%).

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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 2013 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 91.0% 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 2013 EPI are “Articles of apparel and clothing accessories”, “Fish and fish preparations” and “Sugar”.

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 9% of total exports in 2013.

The index thus covers about 91% of the value of merchandise exported during 2013. Commodities directly represented (i.e, price movements followed) constitute 70% of the total value of exports. For the 21% not directly represented, their prices are considered to move similarly to those represented directly.

# 3. Selection of products to be priced and outlets

Around 55 exporters (outlets) have been selected from trade declarations submitted to the Customs Department in 2013 for pricing of the commodities through quarterly price surveys. These exporters are the major ones trading on a regular basis.

A total of around 140 products, representing the 34 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

Regarding price collection, the selected exporters are visited every quarter but prices are collected for each month of the quarter for the computation of 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 and 2007.

The current weights have been updated with year 2013 as base period.

# 6. 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

# 7. 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.

### 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. Imports of goods falling under the covered sections, make up for 89.0% of total imports in the base year. Sub-indices are produced by SITC section and division.

For the computation of the 2013 weights, some commodities accounting for around 11% of total imports in 2013 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 89% of the value of merchandise imported in 2013. Commodities directly represented (price movements followed), constitute around 55% of the total value of imports. For the 34% not directly represented, their prices are considered to move similarly to those represented directly.

# 3. Selection of products to be priced and outlets

Some 142 importers (outlets) have been selected from trade declarations submitted to the Customs Department in 2013 for the pricing of the commodities. These importers are the major ones importing the selected commodities on a regular basis.

A total of around 260 products, representing the 104 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

Regarding price collection, the selected importers are visited every quarter to collect 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**

Statistics Mauritius first published the IPI in July 2004 with 2002 as base period (2002 = 100). The base year was subsequently revised to 2007.

The current weights have been updated with year 2013 as base period.

# 6. 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

 Pit

 Pot

Σ means summation over all selected elements

# 7. Treatment of 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.

# 8. 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.