Quarterly Index of Industrial Production (QIIP)
First Quarter 2022
(Base year: 2018 =100)

1. Introduction

The Index of Industrial Production shows the evolution of the volume of output of the Industrial Sector, which covers "Mining and quarrying", "Manufacturing", "Electricity, gas, steam and air conditioning supply" and "Water supply; sewerage, waste management and remediation activities". The value added of these activities accounts for around 13% of Gross Value Added (GVA). The index compiled on a quarterly basis is one of the most important industrial short-term indicators, which aims at measuring, on a quarterly basis, the changes in the volume of industrial output.

In order to reflect the changes in the relative importance of products or product groups within the Industrial Sector, a new set of weights has been calculated with year 2018 as base period; the previous one being 2013. The weights for QIIP have been derived from the results of the 2018 Census of Economic Activities,

2. Contents of publication

This issue of "Economic and Social Indicators" presents the quarterly indices for the first quarter of 2019 to the first quarter of 2022.

The indices are given separately for the four sections, namely, "Mining and quarrying", "Manufacturing", "Electricity, gas, steam and air conditioning supply" and "Water supply; sewerage, waste management and remediation activities". Within "Manufacturing", estimates by broad group, namely "Export Oriented Enterprises" (EOE), "Non-EOE" and "Sugar milling" as well as by main industry group are given. Wherever possible, the annual averages of the quarterly indices have been worked out and included in the tables. It is to be noted that, due to incomplete data, indices for the first quarter of 2022 are provisional and published at section and broad group level only. They are therefore subject to revision in future issues of the Economic and Social Indicators on QIIP.

The published indices are not seasonally adjusted. The user is therefore advised to base comparisons for a particular quarter of a year on the corresponding quarter of the previous year.

The methodology used and changes in weights from 2013 to 2018 as well as main explanations for the changes, are given in the Annex of this publication.

3. Overall index - Industrial Sector

In the first quarter of 2022, the overall index of industrial production contracted by 12.7% compared to the previous quarter and expanded by 7.8% when compared to the corresponding quarter of 2021.

For year ending first quarter 2022, i.e. second quarter 2021 to first quarter 2022, real industrial output grew by 10.4%. This is explained by expansions in "Mining and quarrying" (+25.4%), "Manufacturing" (+12.0%), "Electricity, gas, steam and air conditioning supply" (+5.0%) and "Water supply; sewerage, waste management and remediation activities" (+7.5%).

Chart 1: Industrial Sector: Quarterly index of industrial production, Q₁ 2019 - Q₁ 2022
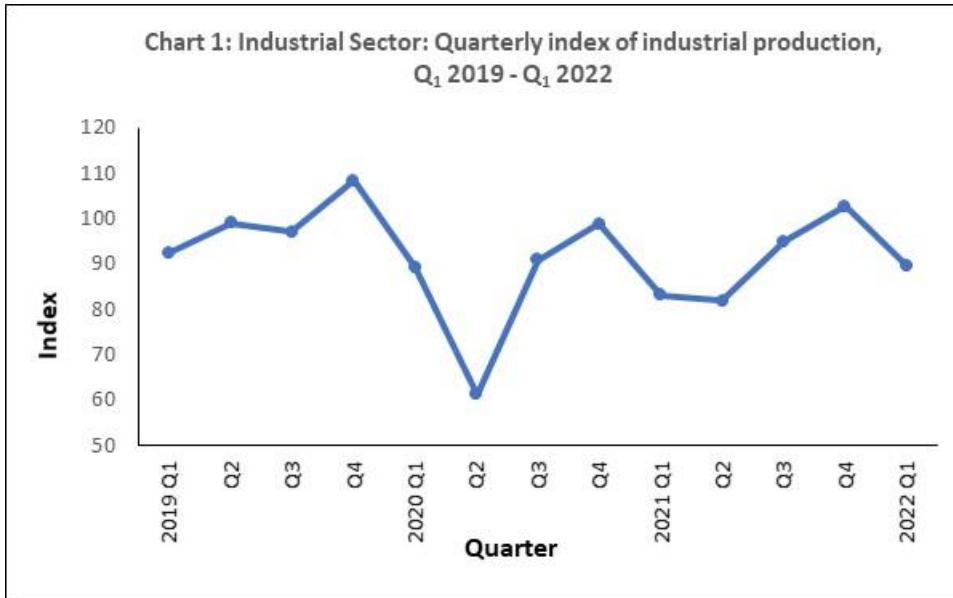
4. Changes by section

4.1 Mining and quarrying

"Mining and quarrying" comprises activities relating to quarrying of decorative stones, sand and salt extraction as well as stone crushing and represents only 2% of the output of the industrial sector. In the first quarter of 2022, real output contracted by 33.8% compared to the previous quarter and grew by 17.5% compared to the corresponding quarter of 2021. In year ending first quarter 2022, a positive growth of 25.4% was noted (Table 1).

Chart 2: Mining and Quarrying- Quarterly index of production, Q₁ 2019 - Q₁ 2022
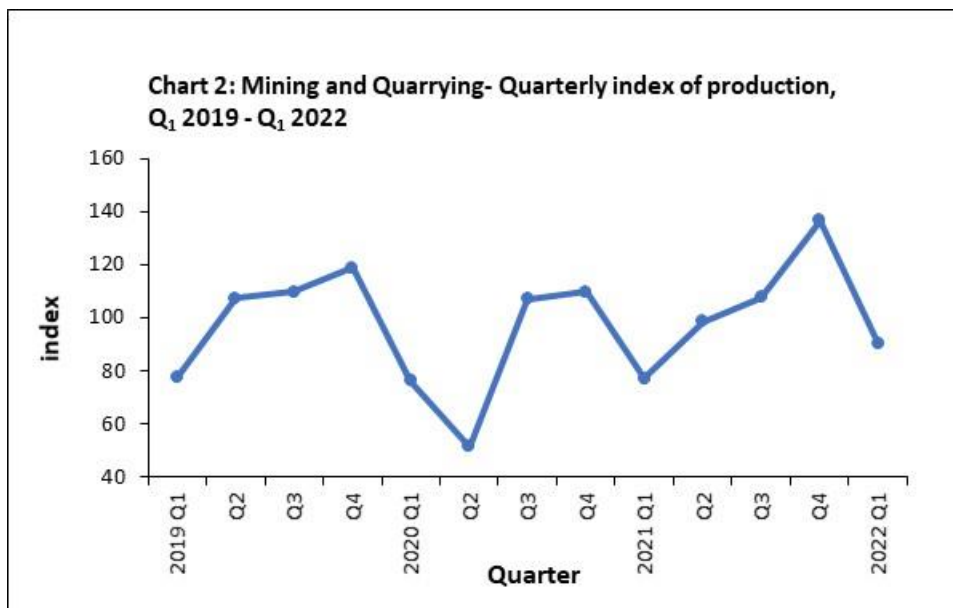
4.2 Manufacturing

Manufacturing output, which covers the production of a wide range of goods, represented 85% of the output of the industrial sector in 2018. For analysis purposes, "Manufacturing" is broken down into the following broad groups:

- Sugar milling representing 1.3% of manufacturing output
- EOE (40%)
- Non–EOE (59%)

Chart 3: Manufacturing- Quarterly index of production, Q_1 2019 - Q_1 2022

Manufacturing output in the first quarter of 2022 decreased by 17.4% compared to the previous quarter and expanded by 7.9% when compared to the corresponding quarter of 2021 (Table 1). In year ending first quarter 2022, a growth of 12.0% was noted in real manufacturing output. This is due to positive growths in "EOE" (+9.0%) and "Non-EOE" (+13.2%) sectors; partly offset by a negative growth of 4.6% in "Sugar milling". The performances of "EOE" and "Non-EOE" by detailed industry group up to fourth quarter 2021 are analysed separately in Section 5.

Chart 4: % growth in Manufacturing output in year ending first quarter 2022
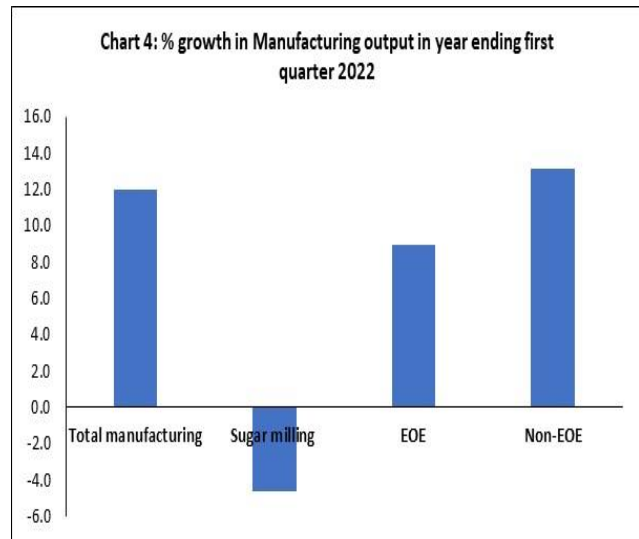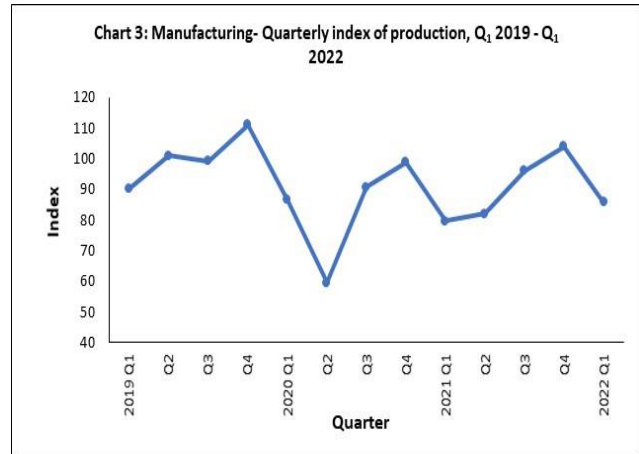
4.3 Electricity, gas, steam and air conditioning supply

"Electricity, gas, steam and air conditioning supply" accounts for 10.5% of the output of the industrial sector. In the first quarter of 2022, real output of this sector increased by 22.1% compared to the previous quarter and by 9.0% compared to the corresponding quarter of 2021. In year ending first quarter 2022, production grew by 5.0% (Table 1).

Chart 5: Electricity,gas, steam& air conditioning supply - Quarterly index of production, Q_1 2019 - Q_1 2022
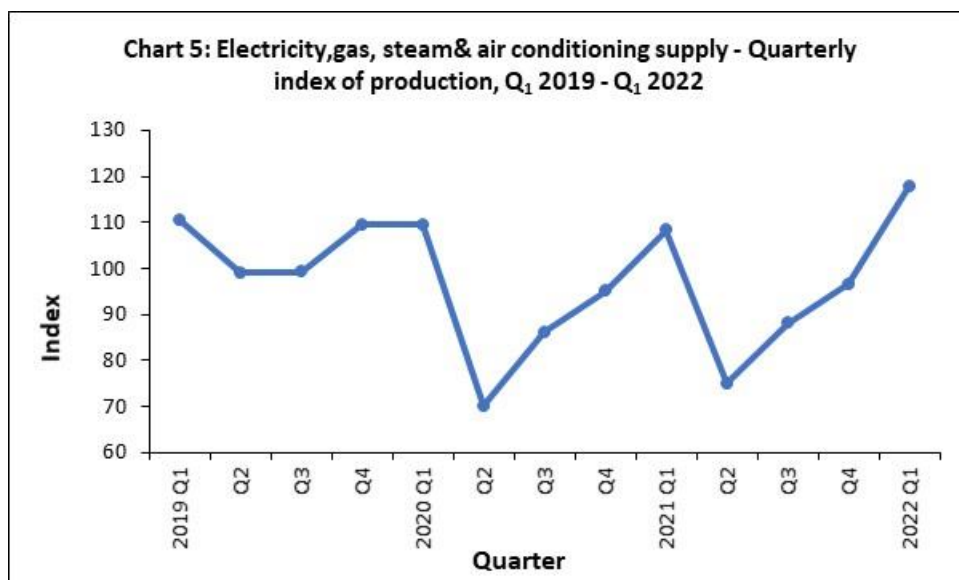
4.4 Water supply; sewerage, waste management and remediation activities

"Water supply; sewerage, waste management and remediation activities" accounts for around 2.4% of the output of the industrial sector. In the first quarter of 2022, real output of this sector contracted by 2.5% compared to the previous quarter and expanded by 7.3% when compared to the corresponding quarter of 2021. In year ending first quarter 2022, real output went up by 7.5% (Table 1).

Chart 6: Water supply; sewrage, wate management & remediation activities - Quarterly index of production, Q_1 2019 - Q_1 2022
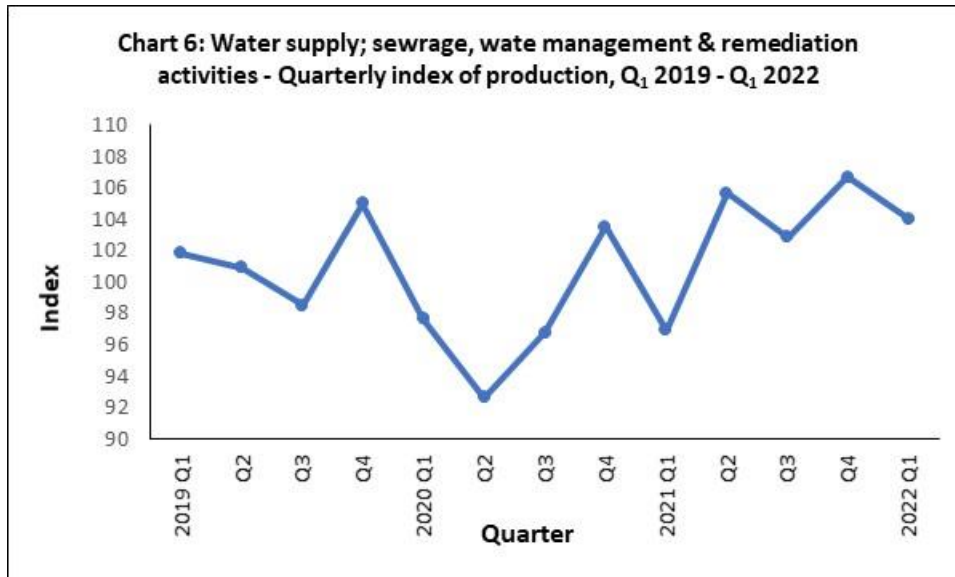
**5. Changes by broad group**

5.1 Export Oriented Enterprises (EOE)

Real output of EOE sector expanded by 4.8% in the first quarter of 2022 compared to the previous quarter and by 2.8% compared to the corresponding quarter of 2021. In year ending first quarter 2022, the EOE sector expanded by 9.0% (Table 1).

Chart 7: EOE - Quarterly index of production, Q_1 2019 - Q_1 2022
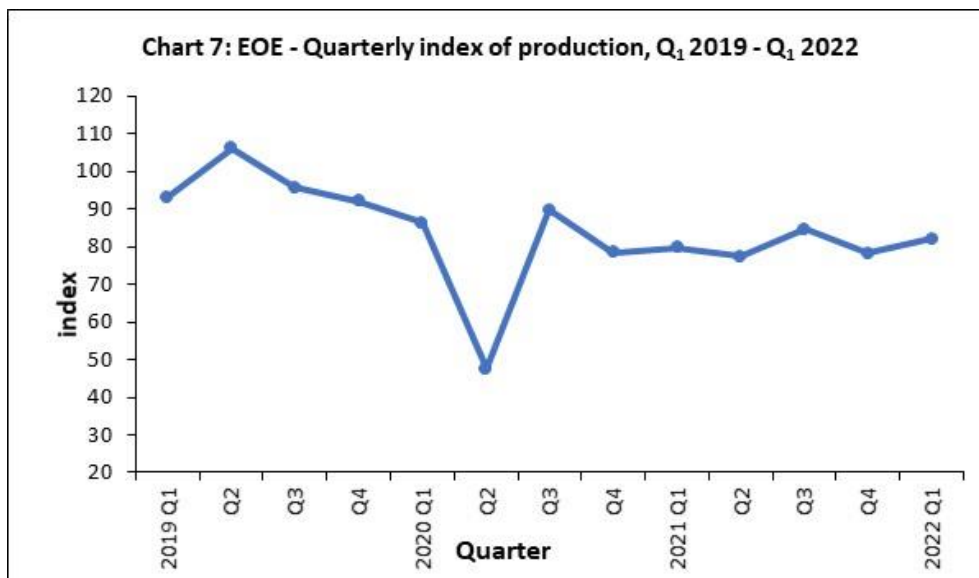
Lower level indices for the first quarter of 2022 are not yet available. However, an indication of the annual performance at sub-group levels can be obtained by comparing indices available for year 2021 to those for year 2020 (Table 3). Real output of "Wearing apparel", the most important industry group within the EOE, grew by 3.6% and that of "Textiles" by 4.3%. These two sub-groups account for almost 63% of the total weight allocated to the EOE. Expansions were also noted in "Computer, electronic and optical products" (+116.5%) and "Other manufacturing" (+9.0%). Contractions were observed in "Food products" (-1.7%) and "Jewellery, bijouterie & related articles n.e.c." (-32.0%). Details of changes of selected sub-groups are shown in Chart 8.

Chart 8: EOE Output - % growth in year 2021
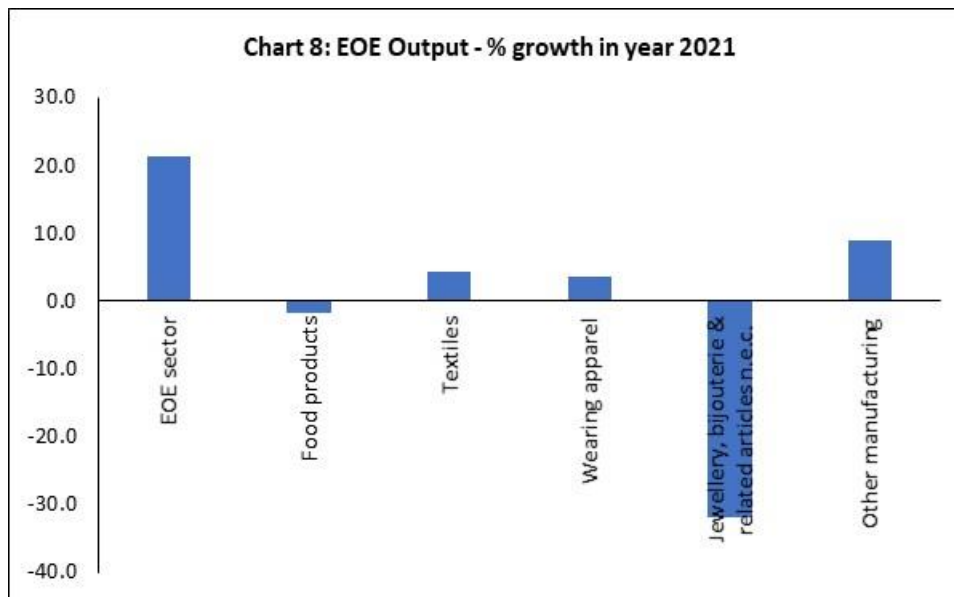
5.2 Non-EOE excluding "Sugar milling"

In the first quarter of 2022, the real output of Non-EOE sector went down by 24.5% compared to the previous quarter and expanded by 10.6% when compared to the corresponding quarter of 2021. In year ending first quarter 2022, it grew by 13.2% (Table 1).

Chart 9: Non-EOE Excl. "Sugar Milling" - Quarterly index of production, Q1 2019 - Q1 2022
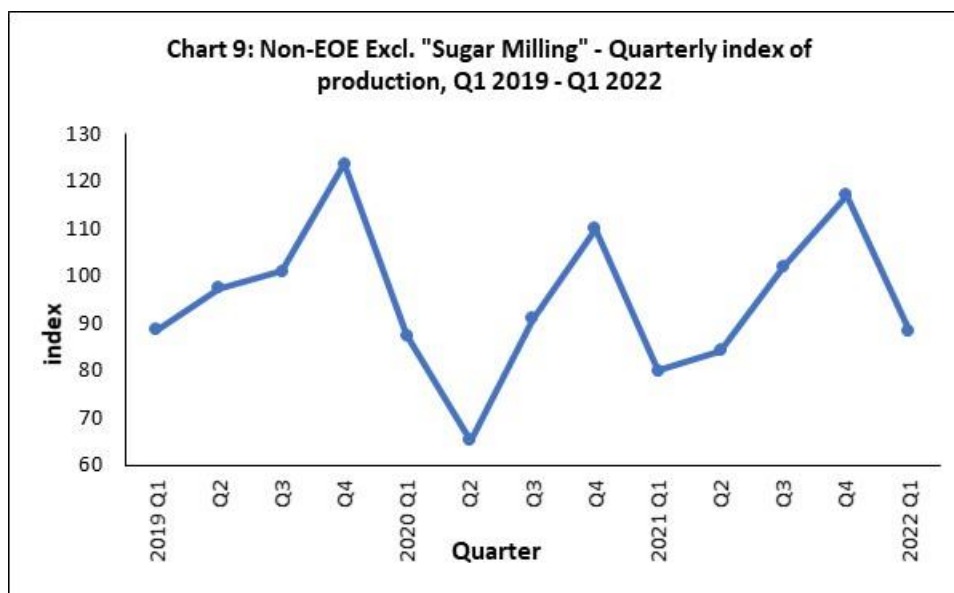
The annual performance at sub-group level is obtained by comparing the detailed indices available for year 2021 to those for year 2020 (Table 4).   Expansions were noted in "Food products excluding sugar" (+11.2%), "Beverages" (+1.4%), "Textiles & wearing apparel" (+20.3%), "Chemicals & chemical products" (+0.6%), "Basic metals and fabricated metal products" (+22.7%) and "Furniture" (+42.5%).   On the other hand, negative growths were observed in "Printing and reproduction of recorded media" (-10.5%), "Plastic and non-metallic product" (-1.2%) and "Other manufacturing" (-8.5%); as illustrated in Chart 10.

Chart 10: Non-EOE excl. "Sugar Milling" % growth in year 2021
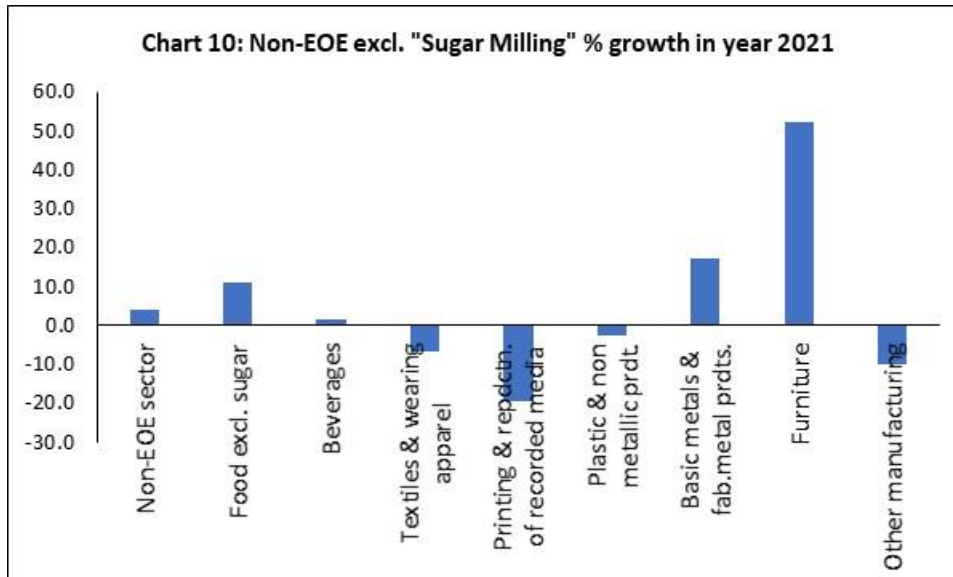
Statistics Mauritius
Ministry of Finance, Economic Planning and Development
PORT LOUIS
23 June 2022

Table 1: Index of industrial production by industry group - annual and quarterly indices, Q_1 2019 to Q_1 2022

Base period: Year 2018 = 100

| | Industrial sector | Mining and quarrying | Manufacturing | | | | | Electricity, gas, steam and air conditioning supply | Water supply; sewerage, waste management & remediation |
			Total	Total exc. sugar milling	Sugar milling	EOE	Non-EOE		
NSIC Division/Subclass	05 - 33, 35 - 39	05 - 09	10 - 33	10 - 33 except 10720	10720	10 - 33	10 - 33	35	36-39
Weight (Year 2018)	1000	23	848	837	11	336	501	105	24
Annual									
2019	98.6	103.3	100.5	100.4	109.3	96.8	102.7	104.6	101.6
2020	83.4	86.2	84.0	83.9	90.6	75.6	88.4	90.2	97.7
2021	90.7	105.0	90.5	90.6	86.0	80.0	95.8	91.9	103.0
Quarterly									
2019 Q1	92.4	77.3	90.3	90.5	76.8	93.2	88.6	110.5	101.8
Q2	99.0	107.3	101.1	100.9	120.9	106.1	97.4	99.0	100.9
Q3	97.0	109.8	99.2	99.0	120.4	95.8	101.1	99.2	98.5
Q4	108.4	118.9	111.3	111.1	119.2	92.2	123.8	109.6	105.0
2020 Q1	89.2	76.1	86.8	87.1	63.6	86.4	87.5	109.5	97.7
Q2	61.3	51.6	59.5	59.0	100.1	47.6	65.2	70.0	92.7
Q3	90.9	107.2	90.8	90.7	99.8	89.9	91.1	86.2	96.8
Q4	98.8	109.9	98.8	98.8	98.8	78.5	110.0	95.0	103.5
2021 Q1	83.2	77.1	79.7	80.0	60.4	79.9	80.0	108.2	96.9
Q2	81.9	98.6	82.1	81.9	95.0	77.3	84.2	75.0	105.7
Q3	94.9	107.6	96.1	96.1	94.7	84.6	101.9	88.0	102.9
Q4	102.7	136.7	104.1	104.3	93.7	78.3	117.2	96.6	106.7
2022 Q1	89.6	90.6	86.0	86.4	59.1	82.1	88.5	117.9	104.0
% change, latest quarter over: [1]									
previous quarter	-12.7	-33.8	-17.4	-17.1	-37.0	4.8	-24.5	22.1	-2.5
same quarter a year ago	7.8	17.5	7.9	8.0	-2.1	2.8	10.6	9.0	7.3
% growth in output in year	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
first quarter 2022	10.4	25.4	12.0	12.3	-4.6	9.0	13.2	5.0	7.5

[1] Provisional

Table 2: Index of industrial production by main industry group of the manufacturing sector, Q₁ 2019 to Q₄ 2021

Base period: Year 2018 = 100

	Total manufacturing	Food incl. sugar	Beverages	Textile	Wearing apparel	Printing & reproduction of recorded media	Chemical products	Non Metallic products	Basic metals& fabricated metals	Furniture	Other
						Main industry group					
NSIC Division	10 -33	10	11	13	14	18	20 & 21	22 & 23	24 & 25	31	15-17, 19, 26-30,32,33
Weight (Year 2018)	1000	226	138	40	248	26	48	40	55	36	144
Annual											
2019	100.5	101.2	103.9	90.9	95.2	103.4	107.3	97.7	103.3	118.9	147.9
2020	84.0	90.9	91.8	67.9	66.0	85.5	112.4	87.9	88.0	81.3	82.9
2021	90.5	96.9	94.2	71.8	72.3	80.9	92.5	88.3	107.7	115.8	95.0
Quarterly											
2019 Q1	90.3	95.4	91.2	83.5	87.5	87.2	88.3	83.6	99.0	82.8	125.6
Q2	101.1	101.7	96.5	103.3	102.7	97.3	103.4	99.2	98.3	90.3	145.2
Q3	99.2	102.1	95.4	86.7	95.5	94.0	113.5	101.4	102.3	120.8	143.9
Q4	111.3	105.7	132.4	90.0	94.9	135.2	124.1	106.4	113.7	181.7	177.0
2020 Q1	86.8	95.1	91.8	68.3	76.0	113.3	125.9	72.3	84.3	65.6	83.8
Q2	59.5	80.8	65.9	39.5	37.0	59.4	81.9	60.1	61.3	35.1	51.2
Q3	90.8	93.0	92.4	80.5	78.2	78.0	128.0	105.1	78.7	101.3	92.6
Q4	98.8	94.6	117.2	83.4	73.0	91.3	113.8	114.1	127.8	123.2	104.2
2021 Q1	79.7	88.6	82.7	56.5	66.9	73.9	105.6	70.0	98.9	52.9	70.7
Q2	82.1	92.0	86.7	76.7	65.5	70.1	70.0	90.4	90.2	76.2	82.9
Q3	96.1	97.3	83.1	72.8	86.0	87.5	90.9	98.8	115.1	177.0	114.8
Q4	104.1	109.9	124.4	81.1	70.8	92.1	103.4	93.9	126.8	157.3	111.4
% change, latest quarter over:											
previous quarter	8.3	12.9	49.8	11.3	-17.6	5.3	13.8	-4.9	10.2	-11.1	-3.0
same quarter a year ago	5.3	16.2	6.1	-2.8	-2.9	0.9	-9.1	-17.7	-0.7	27.6	6.9
% growth in output in:											
year 2021	7.8	6.7	2.6	5.6	9.5	-5.4	-17.7	0.4	22.4	42.4	14.5

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Table 3: Index of industrial production by main industry group of the EOE sector, Q₁ 2019 to Q₄ 2021

Base period: Year 2018 = 100

	EOE, Manufacturing	Food products	Textiles	Wearing apparel	Computer, electronic & optical products	Jewellery	Other manufacturing
NSIC Division/Subclass	10 - 33	10	13	14	26	32100	11,15-18, 20-23, 25, 27, 31, 32 except 32100
Weight (Year 2018)	1000	184	73	553	26	30	134
Annual							
2019	96.8	96.5	89.4	93.8	102.4	98.1	132.4
2020	75.6	88.6	66.8	61.7	79.8	71.3	105.0
2021	80.0	87.1	69.7	63.9	172.8	48.5	114.5
Quarterly							
2019 Q1	93.2	98.1	84.7	90.1	96.7	108.7	118.8
Q2	106.1	104.8	108.5	102.1	111.6	104.8	144.4
Q3	95.8	90.4	82.0	96.3	100.7	82.1	130.2
Q4	92.2	92.7	82.3	86.9	100.7	96.6	136.0
2020 Q1	47.6	107.6	68.8	72.7	77.2	90.5	110.6
Q2	47.6	65.2	39.6	31.1	45.4	28.3	81.4
Q3	89.9	90.9	79.3	77.2	101.2	87.1	127.3
Q4	78.5	90.7	79.7	65.7	95.5	79.3	100.9
2021 Q1	79.9	101.2	59.9	58.9	124.5	73.8	112.0
Q2	77.3	87.3	82.4	58.3	245.1	35.8	110.4
Q3	84.6	76.3	67.2	72.7	214.6	42.3	128.1
Q4	78.3	83.5	69.3	65.6	107.2	42.2	107.3
% change, latest quarter over:							
previous quarter	-7.4	9.5	3.1	-9.8	-50.0	-0.1	-16.2
same quarter a year ago	-0.2	-7.9	-13.0	-0.1	12.3	-46.8	6.4
% growth in output in:							
year 2021	21.4	-1.7	4.3	3.6	116.5	-32.0	9.0

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Table 4: Index of industrial production by main industry group of the Non-EOE sector (exc. Sugar), Q₁ 2019 to Q₄ 2021

Table 4: Index of industrial production by main industry group of the Non-EOE sector (exc. Sugar), Q_1 2019 to Q_4 2021

Base period: Year 2018 = 100

	Non-EOE, manufacturing	Food excl. Sugar	Beverages	Textiles & wearing apparel	Printing and reproduction of recorded media	Chemicals & chemical products	Plastic & non metallic product	Basic metals & fabricated metal products	Furniture	Other
Main industry group										
NSIC Division	10-33	10	11	13 &14	18	20	22 & 23	24 &25	31	15-17, 19, 21, 26-30, 32-33
Weight (Year 2018)	1000	238	227	67	36	72	55	88	59	157
Annual										
2019	102.7	103.0	104.0	102.3	105.9	103.9	95.2	103.4	119.0	69.6
2020	88.4	91.8	93.4	84.8	84.0	98.5	87.5	88.0	81.6	79.6
2021	95.8	102.1	94.8	102.1	75.2	99.1	86.5	108.0	116.3	72.8
Quarterly										
2019 Q1	88.6	95.7	91.2	71.5	89.9	83.7	79.2	99.5	82.7	60.4
Q2	97.4	98.4	96.8	102.5	98.6	98.6	97.1	96.9	90.6	68.9
Q3	101.1	106.6	95.4	92.1	94.9	111.8	98.5	102.9	121.2	68.1
Q4	123.8	111.2	132.5	143.3	140.1	121.6	105.9	114.1	181.4	81.2
2020 Q1	87.5	90.3	92.1	87.1	117.0	95.9	70.6	84.2	66.1	77.4
Q2	65.2	87.0	67.2	61.3	55.9	71.3	56.3	61.1	35.4	53.1
Q3	91.1	93.8	94.5	83.5	73.9	106.4	107.7	77.5	101.4	86.7
Q4	110.0	96.1	119.9	107.4	89.1	120.4	115.4	129.2	123.4	101.0
2021 Q1	80.0	85.9	83.3	89.5	72.7	84.9	67.5	99.5	53.1	61.2
Q2	84.2	93.6	87.3	89.2	66.2	86.4	92.1	89.8	76.4	61.2
Q3	101.9	106.4	83.6	131.4	80.6	100.6	98.6	115.0	178.0	79.7
Q4	117.2	122.4	124.8	98.2	81.2	124.4	87.8	127.5	157.7	89.1
% change, latest quarter over:										
previous quarter	15.0	15.0	49.2	-25.3	0.7	23.6	-10.9	10.9	-11.4	11.7
same quarter a year ago	6.6	27.3	4.1	-8.6	-8.9	3.3	-23.9	-1.3	27.8	-11.8
% growth in output in:										
year 2021	8.4	11.2	1.4	20.3	-10.5	0.6	-1.2	22.7	42.5	-8.5

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Quarterly Index of Industrial Production (QIIP)

Methodology for the computation of the QIIP

1.   Introduction

The Index of Industrial Production shows the movement of the volume of output of the Industrial Sector. Prior to 2001, the index was calculated annually and published in the Digest of Industrial Statistics. Following the needs expressed by various institutions, both public and private, Statistics Mauritius started to compile and disseminate the index on a quarterly basis as from the first quarter of 2001. The compilation and dissemination of high frequency (monthly/quarterly) Index of Industrial Production is also one of the requirements of the **I**nternational **M**onetary **F**und (**IMF**) **S**pecial **D**ata **D**issemination **S**tandard (**SDDS**)**.**

2.   Objectives

The **Q**uarterly **I**ndex of **I**ndustrial **P**roduction (**QIIP**) is one of the most important industrial short-term indicators which aims at measuring, on a quarterly basis, the ups and downs of the volume of industrial output with a special focus on detecting, as early as possible, the turning points of the business cycle. This enables planners, decision makers and the business community at large to be aware of any sign of change in the progress of the economy in order to take appropriate and timely measures.

The index provides useful and reliable inputs for the estimates of quarterly and annual value added for the Industrial Sector.

3.   Concepts and definitions

Basically, the Index of Industrial Production is a measurement of the change in real value added (value added at constant price). Value added is defined as the difference between output and input. Computation of quarterly value added at current and constant prices requires data on inputs and outputs in the different industry groups within a given time frame. In the absence of the detailed data required, an approximation of the index is based on change in deflated turnover, physical quantity of goods produced and other indicators of change in real value added generated by industrial enterprises.

The indicators/methods used in compiling QIIP and data sources by sector/industry group are given at section 5.

4.   Scope and classification

The indices are compiled by industry group according to the National Standard Industrial Classification Rev.2 (NSIC Rev.2), based on the UN International Standard Industrial Classification Rev.4 (ISIC Rev.4).

The Quarterly Index of Industrial Production covers the Industrial Sector, which comprises the following sections of NSIC Rev.2:

       Section B: Mining and quarrying;

       Section C: Manufacturing;

       Section D: Electricity, Gas, Steam and Air Conditioning Supply; and

       Section E: Water Supply; Sewerage, Waste Management and Remediation Activities

5. Indicators and data sources

The table below shows price and volume indicators used as well as corresponding data sources by industry group.

Sector/Industry group	Indicators used	Data sources
Mining and quarrying	Value added deflated by relevant components of Consumer Price Index (CPI)	• Quarterly survey of establishments • Monthly and quarterly data from VAT Department
Industry groups within manufacturing (excluding sugar milling)	Turnover data deflated by: (i) Export Price Index (EPI) for EOE (ii) Producer Price Index – Manufacturing (PPI-M) for Non-EOE	• Monthly and quarterly data from VAT Department • Quarterly exports statistics • Quarterly Stock Survey. • Building permits statistics for small establishments engaged in the manufacture fabricated metal products.
Sugar milling	Gross output deflated by sugar prices and inputs deflated by a weighted price index based on relevant components of CPI.	• Annual survey of establishments • Production of sugar and prices from Mauritius Sugar Syndicate
Electricity, gas, steam and air conditioning supply	Volume of electricity produced	• Quarterly returns from Central Electricity Board and Independent Power Producers (IPPs)
Water supply; sewerage, waste management and remediation activities	Volume of water sold used as volume indicator for water supply and waste management services; Value added deflated by relevant components of CPI for other activities.	• Quarterly returns from Central Water Authority • Monthly and quarterly data from VAT Department

6. Weights

6.1 Calculation of weights

Weights for the QIIP are derived from value added by detailed industry group (5-digit subclass level) compiled from the Census of Economic Activities (CEA). The current weights have been based on the results of the 2018 CEA.

For the manufacturing sector the weights are computed separately for Export Oriented Enterprises (EOE) and Non-EOE sub-sectors. Prior to 2008, the weight of the Non-EOE sub-sector was based on large establishments (engaging 10 or more persons) only. As from 2008, value added of small establishments (engaging less than 10 persons) has been considered in the calculation of the weights.

6.2 Evolution of weights from 2013 to 2018

The weights by industry group for 2013 and 2018 are given in the table below. The main changes from 2013 to 2018 are as follows:

(i) The share of "EOE" in the industrial sector has decreased from 34.7% to 33.6%, mainly due to decrease in "textile and wearing apparel" (23.9% to 21.0%).

(ii) The share of "Non EOE" in the industrial sector has decreased from 52.3% to 50.1%, mainly due to decrease in "Food products and beverages" (26.2% to 23.3%)

Distribution of weights by industry group, 2013 and 2018

Industry Group	Weight 2013	Weight 2018
Mining and quarrying	**15**	**23**
Manufacturing	**882**	**848**
Sugar milling	13	11
EOE	347	336
of which		
Food & beverages	*50*	*62*
Textiles and wearing apparel	*239*	*210*
Other	*58*	*64*
Non-EOE	523	501
of which		
Food & beverages	*262*	*233*
Textiles and wearing apparel	*26*	*34*
Other	*235*	*234*
Electricity, gas, steam and air conditioning supply	**81**	**105**
Water supply; sewrage, waste management and remediation	**22**	**24**
Total	**1,000**	**1,000**

7. Reliability of the indices

The practical difficulties in compiling an index showing the evolution of value added at constant prices requires a number of approximation methods which are listed at section 5. Each of these methods has a number of constraints, the main ones being:

Deflated turnover:

- Quality of the data from the different sources. The output figures in a given industry group may include output of some other activities (secondary activities) which should have been classified elsewhere;

- Time-lag between production and sales may lead to a late identification of a turning point in the business cycle;
- Turnover data need to be adjusted for changes in stocks for a true picture of production. This exercise is partly done, based on available information from the Quarterly Stock Survey;
- The quality of the index is subject to the precision and relevance of the different price indices used for deflation; and
- The base year ratio of value added to gross output is maintained throughout the period covered by the indices, when, in fact, the ratio may change as a result of technological changes, productivity changes as well as seasonal variation in the production structure.

Volume of production:
- does not take account of quality changes

Indirect Indicators
- In the absence of data for small establishments, indirect indicators such as household consumption expenditure and building permits are used for activities concerned

In spite of the above limitations, it is observed that the index shows relative consistency and is of reliable quality for the measurement of quarterly and other changes. However, great care should be taken when interpreting small changes at the more detailed level.

8. Index calculation

The QIIP is calculated according to a modified Laspeyre's index as follows:

$$I_t = \frac{\sum W_i (Q_{it}/Q_{io})}{\sum W_i} \times 100$$

with

I_t = index for quarter t

W_i = weight for activity i

(Q_{it}/Q_{io}) = is the growth in real value added of activity i in quarter t relative to the base year as estimated by an appropriate proxy indicator