



مركز الإحصاء
STATISTICS CENTRE

INDUSTRIAL PRODUCTION

INDEX (IPI)

(Manufacturing)

Second Quarter 2014
(2012=100)

September 2014

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Introduction

In the light of the rapid economic and social development in the Emirate of Abu Dhabi, production indices and indicators are considered key tools that express changes in the volumes of industrial and commercial production and services. These indices are also considered important economic indicators that provide accurate data to decision makers, economists, researchers and policy makers and planners.

The remarkable economic development witnessed by Abu Dhabi Emirate has called for the construction of a statistical index that reflects the growth of the economic production sectors. Therefore, Statistics Centre – Abu Dhabi constructed the industrial production and price index for the Emirate of Abu Dhabi.

The Industrial Production Index (IPI), which will be calculated on a quarterly basis, cover the manufacturing sector. The IPI design is based on the main list of products of the industrial manufacturing activities in the International Standard Industrial Classification-revision 4 (ISIC4) which covers all manufacturing economic activities.

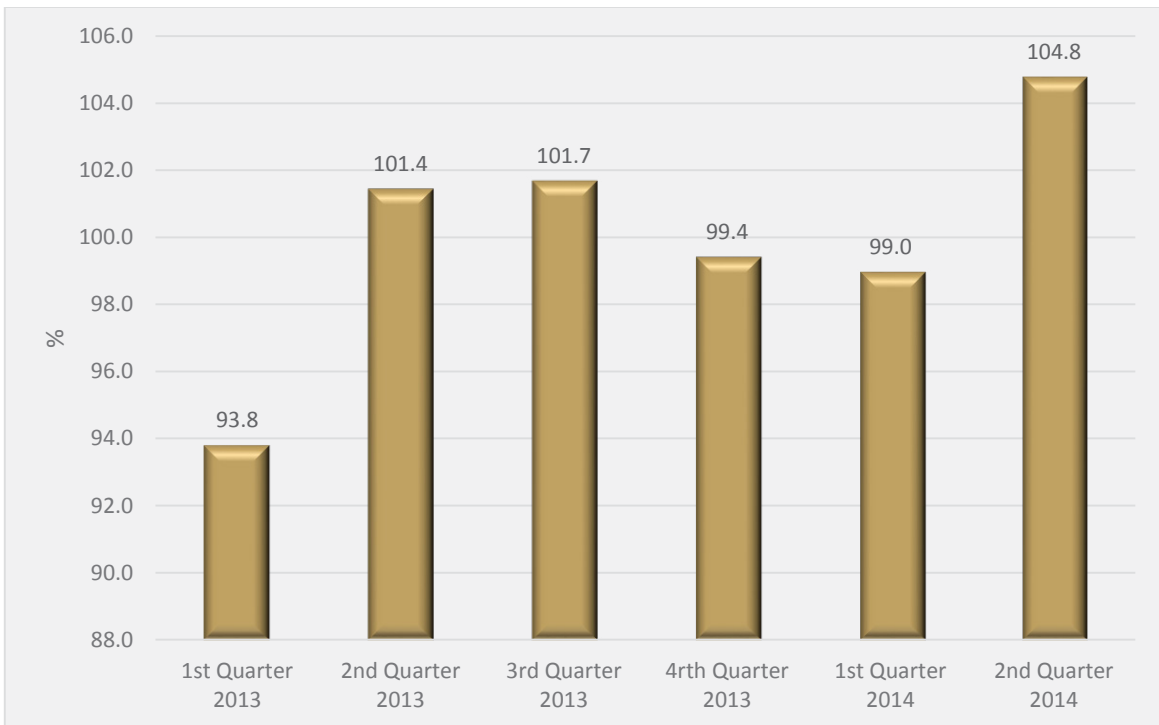
During the next phase development of the IPI, separate indices will be compiled for producers in the extractive industries and in the electricity and water sectors.

Key Points

This publication presents the Industrial Production Index results for the manufacturing industry in the second quarter of 2014 (base year 2012) .The key findings are as follows:

1. The IPI increased by 3.3% in the second quarter of 2014 compared with the same quarter in 2013, rising to 104.8 points in the second quarter of 2014 from 101.4 points in the second quarter of 2013.
2. In the second quarter of 2014, the IPI increased by 5.9% to 104.8 points compared with 99.0 points in the first quarter of 2014.

Figure 1: Quarterly Industrial Production Index (IPI) for 2013, 2014 (2012=100)



Source: Statistics Centre-Abu Dhabi

Industrial production index for the second quarter of 2014 compared with the second quarter of 2013

The Industrial Production Index increased by 3.3% in the second quarter of 2014 compared with the same quarter in 2013. The rise resulted from changes (increases and decreases) in the rates of the economic activities indices. The key economic activity contributing to this rise was 'Manufacture of chemicals and chemical products', which rose by 23.8% and contributed 116.2% of the total rise in the industrial producer quantities.

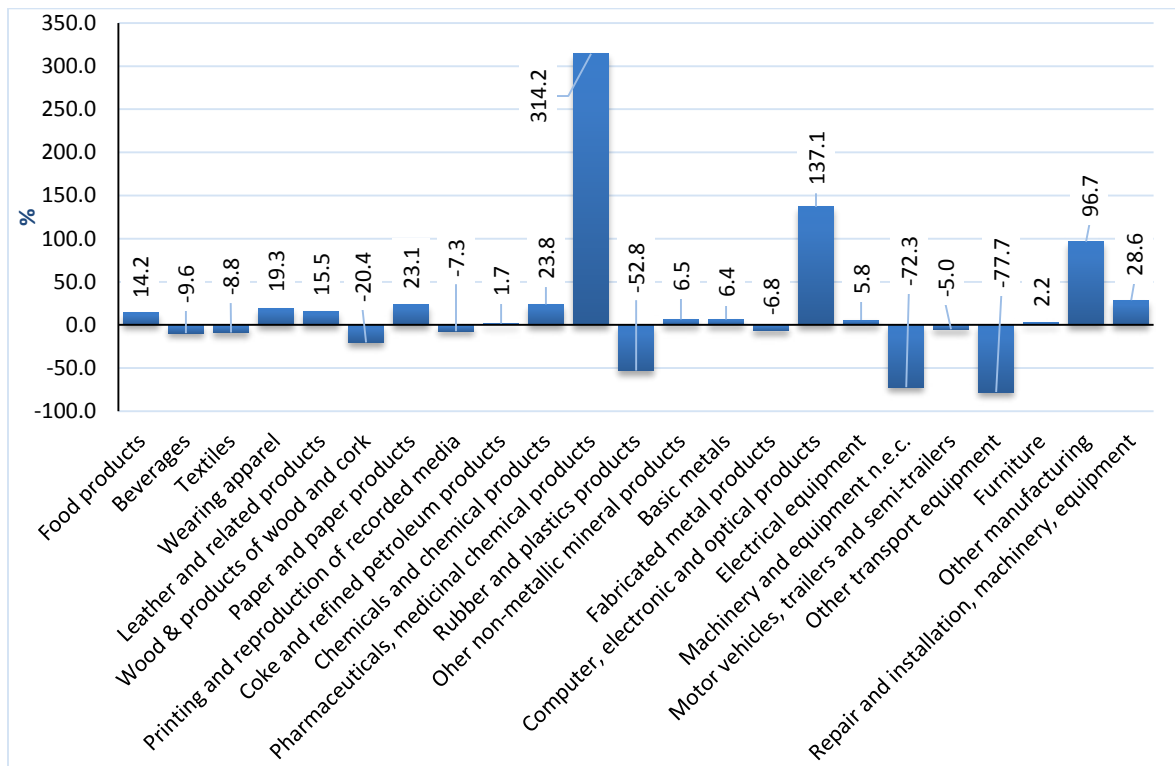
In addition, the industrial production index of the 'Repair and installation of machinery and equipment' activity increased by 28.6%, contributing 31.4% of the total rise, while the 'Manufacture of coke and refined petroleum products' and 'Manufacture of other non-metallic mineral products' activities increased by 1.7% and 6.5% respectively. These activities contributed 19.2% and 19.4% respectively to the overall increase. The quantities of the 'Manufacture of pharmaceuticals, medicinal chemical and botanical products' activity increased by 314.2% and contributed 15.4%. The quantities of the 'Manufacture of food products' activity increased by 14.2%, contributing 13.9%, while quantities of the 'Manufacture of basic metals' activity increased by 6.4% and contributed 12.5%. The quantities of the 'Manufacture of electrical equipment' activity increased by 5.8%, contributing 8.2% of the overall increase.

The key activity that recorded a decrease in its production quantities, during the second quarter of 2014 compared with the corresponding quarter in 2013, was the 'Manufacture of other transport equipment' activity for which quantities decreased by 77.7%, contributing by (83.4%) to the change in the IPI.

Likewise, the quantities of the 'Manufacture of rubber and plastics products' activity decreased by 52.8%, contributing by (27.1%) to the change in the IPI, while the 'Manufacture of fabricated metal products, except machinery and equipment' activity decreased by 6.8%, contributing by (18.4%). In addition the 'Manufacture of machinery and equipment n.e.c.' activity decreased by 72.3%, contributing by (14.7%).

Figure 2 shows the relative change in the Industrial Production Index during the second quarter of 2014 compared with the same quarter in 2013 by economic activity.

Figure 2: Relative change in the Industrial Production Index in Q2 2014 compared with Q2 2013



Source: Statistics Centre-Abu Dhabi

Table 1 shows the contribution of each activity to the change in the general index in the second quarter of 2014 compared with the corresponding quarter in 2013.

Table 1: Contribution to change in the Industrial Production Index by activity, Q2/2014 compared with Q2/2013

Activity	Contribution %
Food products	13.9
Beverages	-2.8
Textiles	-1.0
Wearing apparel	7.3
Leather and related products	0.3
Wood & products of wood and cork	-4.6
Paper and paper products	3.1
Printing and reproduction of recorded media	-0.7
Coke and refined petroleum products	19.2
Chemicals and chemical products	116.2
Pharmaceuticals, medicinal chemical products	15.4
Rubber and plastics products	-27.1
Other non-metallic mineral products	19.4
Basic metals	12.5
Fabricated metal products	-18.4
Computer, electronic and optical products	3.5
Electrical equipment	8.2
Machinery and equipment n.e.c.	-14.7
Motor vehicles, trailers and semi-trailers	-0.2
Other transport equipment	-83.4
Furniture	0.5
Other manufacturing	2.2
Repair and installation, machinery, equipment	31.4

Source: Statistics Centre-Abu Dhabi

Industrial production index for the second quarter of 2014 compared with the first quarter of 2014

The Industrial Production Index increased by 5.9% in the second quarter of 2014 compared with the first quarter of 2014. The production quantities of 'Manufacture of beverages' and 'Manufacture of fabricated metal products, except machinery and equipment' increased by 46.5% and 42.9% respectively. The quantities of the 'Repair and installation of machinery and equipment' activity increased by 28.5%. Likewise, the quantities of the 'Manufacture of computer, electronic and optical products', 'Manufacture of food products' and 'Manufacture of chemicals and chemical products' activities increased by 23.5%, 22.5% and 20.3% respectively.

The quantities index of the 'Manufacture of other transport equipment' activity decreased by 71.2%, and similarly the 'Manufacture of rubber tyres and pipes, and renewal and restructure of outer surfaces of rubber tyres' and 'Manufacture of leather and related products' activities decreased by 58.7% and 49.5% respectively. Moreover, the quantities index of 'Manufacture of machinery and equipment n.e.c' and 'Manufacture of pharmaceuticals, medicinal chemicals and botanical products' decreased by 47.2% and 45.8% respectively.

Table 2 shows the Industrial Production Index for the second quarter 2013 and first and second quarters of 2014. The table also shows the relative importance (weights) and the relative change in the quantities index in the second quarter of 2014 compared with the first quarter of 2014 by economic activity.

Table 2: Industrial Production Index & relative change Q2 with Q1 2014 by economic activity

Economic Activity	Relative Importance	IPI_Q2 2013	IPI_Q1 2014	IPI_Q2 2014	Relative change 2014 Q2_Q1 (%)
Manufacturing Industry	10,000.0	101.4	99.0	104.8	5.9
Manufacture of food products	287.4	112.8	105.3	128.9	22.5
Manufacture of beverages	84.9	114.5	70.6	103.5	46.5
Manufacture of textiles	33.9	106.6	122.5	97.2	-20.7
Manufacture of wearing apparel	118.4	107.2	117.3	127.9	9.1
Manufacture of leather and related products	5.3	112.0	256.4	129.4	-49.5
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	65.8	115.0	97.8	91.5	-6.5
Manufacture of paper and paper products	37.7	119.7	238.4	147.4	-38.2
Printing and reproduction of recorded media	33.1	102.4	89.2	95.0	6.5
Manufacture of coke and refined petroleum products	3653.8	100.6	97.0	102.3	5.5
Manufacture of chemicals and chemical products	1690.4	96.2	99.1	119.1	20.3
Manufacture of pharmaceuticals, medicinal chemical and botanical products	23.0	70.9	541.8	293.8	-45.8
Manufacture of rubber and plastics products	126.3	135.6	155.0	64.0	-58.7
Manufacture of other non-metallic mineral products	1104.4	89.5	94.2	95.4	1.3
Manufacture of basic metals	626.5	104.6	110.0	111.3	1.1
Manufacture of fabricated metal products, except machinery and equipment	960.1	93.5	61.0	87.2	42.9
Manufacture of computer, electronic and optical products	11.7	71.7	137.7	170.0	23.5
Manufacture of electrical equipment	410.9	114.5	119.9	121.2	1.1
Manufacture of machinery and equipment n.e.c.	59.0	114.9	60.2	31.8	-47.2
Manufacture of motor vehicles, trailers and semi-trailers	12.1	131.6	110.6	125.0	13.0
Manufacture of other transport equipment	164.5	217.5	168.2	48.5	-71.2
Manufacture of furniture	75.0	97.8	114.9	100.0	-13.0
Other manufacturing	7.5	100.7	209.4	198.1	-5.4
Repair and installation of machinery and equipment	408.0	89.5	89.6	115.1	28.5

Source: Statistics Centre-Abu Dhabi

Next release

The IPI for the third quarter of 2014, will be released in December 2014. For more information about price indices and other official statistics, please visit the website of the Statistics Centre Abu Dhabi: www.scad.ae

Industrial Production Index Methodology

Definition

The Industrial Production Index (IPI) is an economic and statistical indicator that measures the change in the quantities of industrial production (manufacturing industries) in two periods, the base period and the comparison period.

IPI importance

- The IPI reflects the trends of the industrial production quantities in the Emirate of Abu Dhabi, which help decision makers, planners and researchers to make sound decisions that support the industry sector to grow and developed over time.
- The IPI measures the change in the quantities of industrial production and is used by the government to process and create economic plans and strategies.
- The IPI is used as a main deflator for economic indicators over time. It is used to deflate economic data , such as the Gross Domestic Product (GDP).
- The IPI is used as a tool that monitors abrupt rises in sale and purchase contracts, especially futures contracts in which a future date for payment is set. It is often recommended to list the items whose quantities have increased for further study, and to identify their impact on input quantities.
- The IPI is used by international economic organizations such as the International Monetary Fund as a tool for comparison and evaluation purposes.

IPI representation and coverage level

The Industrial Production Index (IPI) covers all manufacturing activities in the Emirate of Abu Dhabi; representing all twenty three manufacturing activities based on the International Standard Industrial Classification, revision 4 (ISIC4/2-digit). At the current time, SCAD is developing the IPI to include the 'Mining and quarrying' activities and 'Water and electricity'.

Data Collection

Quantities are collected on a monthly basis from the sampled establishments through field visits or e-mail; these 65 establishments are carefully selected to represent the manufacturing industry. SCAD field enumerators, who have been appropriately prepared and trained for this purpose, explain the items of the questionnaire and the

required data to ensure the collection of accurate data. Field enumerators are also provided with questionnaires that are specially designed for this purpose.

Data source

The quantities of 285 products are collected from 65 establishments at the 2-digit level. The sample distribution covers 52 establishments in the Abu Dhabi region and 13 establishments in the Al Ain region.

IPI periodicity

The IPI is designed on a quarterly basis; while quantities are collected on a monthly basis. The IPI sample is fixed; all establishments included in the sample are visited by enumerators to collect the quantities of the establishment's key products.

Auditing

The Auditing phase aims to validate all data to ensure consistency. It also includes comparing the prices against the quantities and the quantities of the month with the previous month to avoid input errors, collection errors and incorrect specification of products.

IPI calculation

The IPI is calculated using the 'Laspeyres Equation':

$$IPI_L = \sum \frac{q_{1i}}{q_{0i}} \times W_{0i}$$

The quarterly average quantities of the product is calculated using the arithmetic mean of the product quantities during the three months. Then, the quantities level is calculated for the product in each establishment and the higher levels aggregated using the product weights within the same economic activity.

Base year

The year 2012 was adopted as a base year for the industrial production index, while 2009 was adopted as a base year for the weights used in the IPI, when the latest economic data was provided from field surveys. Accordingly, the base year for the IPI weights is 2009 and 2012 for the IPI quantities.

Weights and relative importance

The weights used in the IPI calculation depend on the available data of the economic establishment census, which was conducted in 2010. The census has provided a frame for the economic establishments in Abu Dhabi Emirate. This frame was used to design and select the 2009 Economic Survey's sample. The IPI sample was drawn as a partial sample of the 2009 Economic Surveys sample to represent the index for the industrial producers' quantities. The data provided on production and revenues in the partial sample was used to calculate weights at the two-digit economic activity level. Weights were also calculated at establishment level. Weights at item level were calculated through the proportional distribution of the establishment's weight by its key products.

Relative importance of manufacturing activities in 2012

Activity name	Weight
Manufacturing industry	10,000.0
Manufacture of food products	287.4
Manufacture of beverages	84.9
Manufacture of textiles	33.9
Manufacture of wearing apparel	118.4
Manufacture of leather and related products	5.3
Manufacture of wood, wood products and cork, except furniture, and manufacture of straw items and plaiting material	65.8
Manufacture of paper and paper products	37.7
Printing and reproduction of recorded media	33.1
Manufacture of coke and refined petroleum products	3653.8
Manufacture of chemicals and chemical products	1690.4
Manufacture of pharmaceuticals, medicinal chemicals and botanical products	23.0
Manufacture of rubber tyres and pipes, and renewal and restructure of outer surfaces of rubber tyres	126.3
Manufacture of other non-metallic mineral products	1104.4
Manufacture of basic metals	626.5
Manufacture of fabricated metal products, except machinery and equipment	960.1
Manufacture of computer, electronic and optical products	11.7
Manufacture of electrical equipment	410.9
Manufacture of machinery and equipment n.e.c.	59.0
Manufacture of motor vehicles, trailers and semi- trailers	12.1
Manufacture of other transport equipment	164.5
Manufacture of furniture	75.0
Other manufacturing industries	7.5
Repair and installation of machinery and equipment	408.0

Source: Statistics Centre-Abu Dhabi

Publishing

SCAD publishes the IPI quarterly report by the third month after each reference quarter and it is made accessible to everyone on the SCAD website.

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