



مركز الإحصاء
STATISTICS CENTRE

Industrial Production Index (IPI)

(Manufacturing)
(2012 = 100)

2014

Quarter (4)

March 2015

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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.

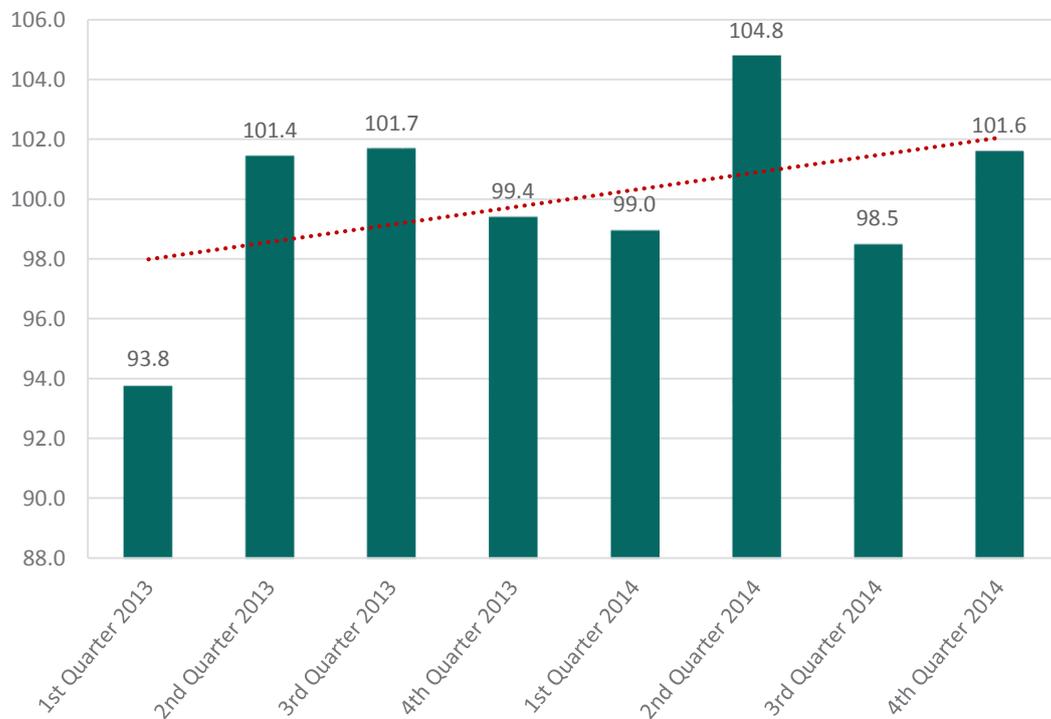
During the next phase development of IPI, separate indices will be compiled for producers in extractive industries and in electricity and water sectors.

Key Points

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

1. The IPI increased by 2.2% in the fourth quarter of 2014 compared with the same quarter in 2013, rising to 101.6 points from 99.4 points in the fourth quarter of 2013.
2. In the fourth quarter of 2014, the IPI also increased by 3.1% to 101.6 points compared with 98.5 points in the third 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 Fourth Quarter of 2014 Compared with the Fourth Quarter of 2013

The Industrial Production Index rose by 2.2% in the fourth 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' activity for which quantities increased by 38.3% and contributing 261.2% to the change in the IPI, while the 'Manufacture of fabricated metal products, except machinery and equipment' activity increased by 10.7%, contributing by 45.5%. The 'Manufacture of basic metals' activity increased by 9.8%, contributing by 28.2%.

In addition the 'Manufacture of pharmaceuticals, medicinal chemical and botanical products' activity increased by 418.3%, contributing by 27.6%, and increased production of both 'Electrical equipment' and 'Furniture' activities by 8.0% and 21.9% respectively, contributing by 17.5% and 7.1%, while 'Manufactures of food products' increased by 5.5%, contributing by 6.9% to total increases.

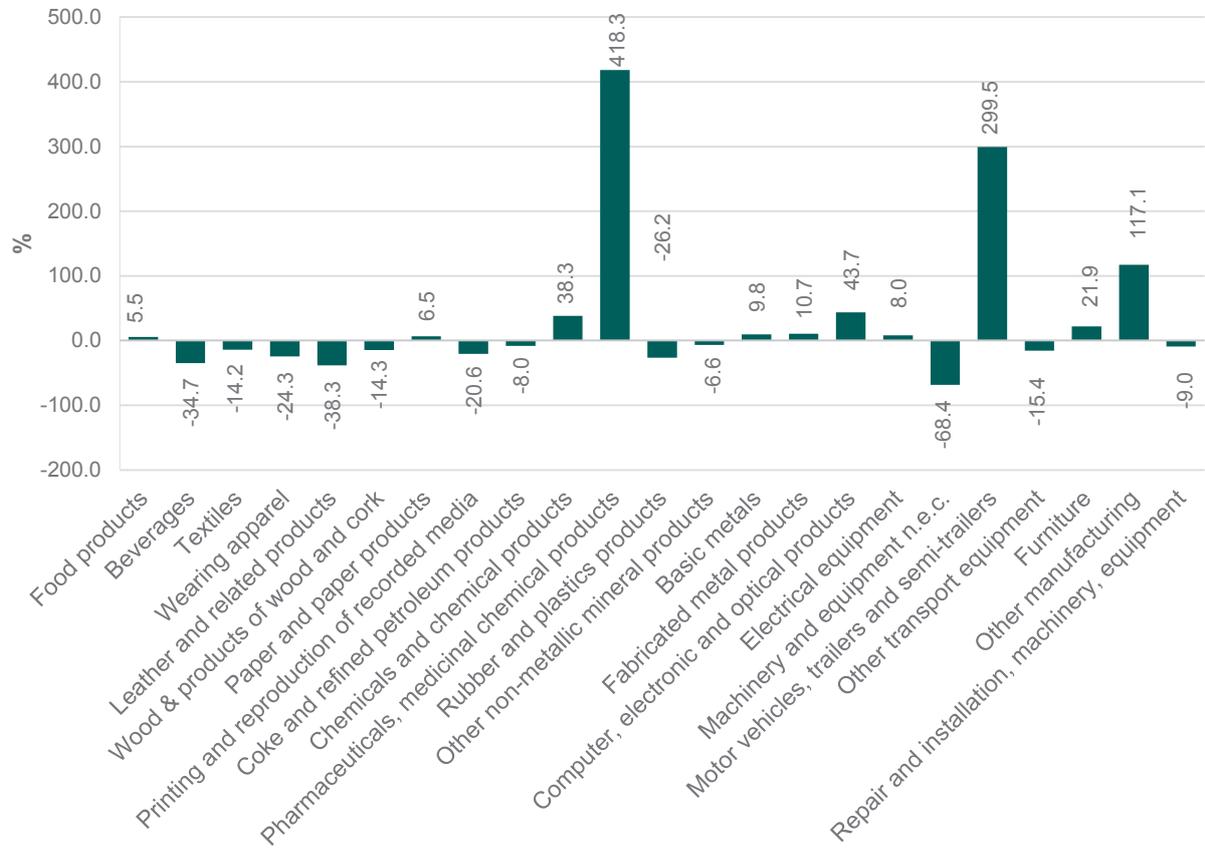
The 'Manufacture of Motor vehicles, trailers and semi-trailers' and 'Other manufacturing' activities increased by 299.5% and 117.1% respectively, contributing by 6.6% and 3.1% respectively.

The activities that contributed to a decreased in the production index in the fourth quarter 2014 compared with the fourth quarter of 2013 included the 'Manufacture of coke and refined petroleum products' which decreased by 8.0% and contributed 131.4% to the total decrease in the industrial producer quantities.

In addition, the industrial production index of the 'Machinery and equipment n.e.c.' activity decreased by 68.4%, contributing 46.3 and 'Other non-metallic mineral products' activity decreased by 6.6%, contributing 30.6% of the total decrease, while the 'Manufacture of rubber and plastics products' and 'Repair and installation, machinery, equipment' activities decreased by 26.2% and 9.0% respectively, contributing 24.5% and 24.0%, to the overall decrease.

The quantities produced of the 'Manufacture Wearing apparel' and 'Beverages' activities also decreased by 24.3% and 34.7% respectively, with contributions of 15.5%, and 14.3% respectively. Quantities produced of the 'Other transport equipment' activity decreased by 15.4% and contributed 10.1%.

Figure (2): Relative change in the Industrial Production Index in the fourth quarter of 2014 compared with the fourth quarter of 2013



Source: Statistics Centre-Abu Dhabi

Table (1): Contribution to change in the Industrial Production Index by activity, fourth quarter of 2014 compared with the fourth quarter of 2013

Economic Activity	Contribution %
Food products	6.9
Beverages	-14.3
Textiles	-2.7
Wearing apparel	-15.5
Leather and related products	-0.6
Wood & products of wood and cork	-4.7
Paper and paper products	2.1
Printing and reproduction of recorded media	-3.9
Coke and refined petroleum products	-131.4
Chemicals and chemical products	261.2
Pharmaceuticals, medicinal chemical products	27.6
Rubber and plastics products	-24.5
Other non-metallic mineral products	-30.6
Basic metals	28.2
Fabricated metal products	45.5
Computer, electronic and optical products	2.6
Electrical equipment	17.5
Machinery and equipment n.e.c.	-46.3
Motor vehicles, trailers and semi-trailers	6.6
Other transport equipment	-10.1
Furniture	7.1
Other manufacturing	3.1
Repair and installation, machinery, equipment	-24.0

Source: Statistics Centre-Abu Dhabi

Industrial Production Index for the Fourth Quarter of 2014 Compared with the Third Quarter of 2014

The Industrial Production Index increased by 3.1% in the fourth quarter of 2014 compared with the third quarter of 2014. The production quantities of 'Repair and installation of machinery and equipment' activity increased by 149.7%, and 'Manufacture of paper and paper products' increased by 139.0%, while the 'Manufacture of other transport equipment' activity increased by 49.6%, and 'Manufacture of motor vehicles, trailers and semi-trailers' activity increased by 39.2%. The quantities produced of the 'Manufacture of electrical equipment' and 'Manufacture of food products' activities increased by 31.8% and 12.1%, respectively.

Likewise, the quantities of the 'Manufacture of rubber and plastics products' activity increased by 10.8%, and the quantities production of 'Manufacture of basic metals' and 'Manufacture of furniture' and 'Manufacture of other non-metallic mineral products' activities increased by 8.1%, 7.6% and 6.9% respectively.

The activities that recorded decreased production in the fourth quarter of 2014 compared with the third quarter of 2014 the 'Manufacture of leather and related products' activity which decreased by 89.4%, 'Manufacture of machinery and equipment n.e.c' by 80.2%, and 'Manufacture of computer, electronic and optical products' by 39.3%, and 'Manufacture of pharmaceuticals, medicinal chemical and botanical products' by 37.7%, while the 'Manufacture Wearing apparel' and 'Beverages' activities also decreased by 36.1% and 33.4% respectively, Similarly the 'Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials', 'Manufacture of coke and refined petroleum products', 'Textiles' and 'Other manufacturing' decreased by 11.7%, 2.6%, 0.5%, and 0.5%, respectively.

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

Table (2): Industrial Production Index and relative change between quarter four and quarter three of 2014 by economic activity

Economic Activity	Relative Importance	IPI_Q4 2013	IPI_Q3 2014	IPI_Q4 2014	Relative change Q4 2014 /Q3 2014
Industry	10,000.0	99.4	98.5	101.6	3.1
Food products	287.4	93.5	88.0	98.6	12.1
Beverages	84.9	104.8	102.9	68.5	-33.4
Textiles	33.9	121.5	104.8	104.3	-0.5
Wearing apparel	118.4	116.8	138.4	88.4	-36.1
Leather and related products	5.3	68.6	399.8	42.3	-89.4
Wood & products of wood and cork	65.8	106.7	103.5	91.4	-11.7
Paper and paper products	37.7	187.5	83.6	199.7	139.0
Printing and reproduction of recorded media	33.1	124.8	94.0	99.1	5.4
Coke and refined petroleum products	3653.8	97.1	91.7	89.3	-2.6
Chemicals and chemical products	1690.4	87.2	118.2	120.6	2.0
Pharmaceuticals, medicinal chemical	23.0	62.0	515.6	321.3	-37.7
Rubber and plastics products	126.3	160.0	106.5	118.0	10.8
Other non-metallic mineral products	1104.4	91.2	79.7	85.2	6.9
Basic metals	626.5	99.0	100.6	108.7	8.1
Fabricated metal products	960.1	95.5	104.2	105.7	1.5
Computer, electronic and optical products	11.7	112.1	265.3	161.0	-39.3
Electrical equipment	410.9	116.0	95.0	125.2	31.8
Machinery and equipment n.e.c.	59.0	248.1	396.0	78.4	-80.2
Motor vehicles, trailers and semi-trailers	12.1	39.5	113.3	157.6	39.2
Other transport equipment	164.5	86.1	48.7	72.8	49.6
Furniture	75.0	94.2	106.7	114.8	7.6
Other manufacturing	7.5	76.3	166.6	165.7	-0.5
Repair and installation, machinery,	408.0	141.6	51.6	128.9	149.7

Source: Statistics Centre-Abu Dhabi

Next release

The IPI for the first quarter of 2015 will be released in June 2015. 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
Food products	287.4
Beverages	84.9
Textiles	33.9
Wearing apparel	118.4
Leather and related products	5.3
Wood & products of wood and cork	65.8
Paper and paper products	37.7
Printing and reproduction of recorded media	33.1
Coke and refined petroleum products	3653.8
Chemicals and chemical products	1690.4
Pharmaceuticals, medicinal chemical products	23.0
Rubber and plastics products	126.3
Other non-metallic mineral products	1104.4
Basic metals	626.5
Fabricated metal products	960.1
Computer, electronic and optical products	11.7
Electrical equipment	410.9
Machinery and equipment n.e.c.	59.0
Motor vehicles, trailers and semi-trailers	12.1
Other transport equipment	164.5
Furniture	75.0
Other manufacturing	7.5
Repair and installation, machinery, 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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