



الهيئة العامة للإحصاء
General Authority for Statistics

Methodology and Quality Report for Industrial Production Statistics

V-3.2

Quality Management

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2. Methodology and Quality Update

2.1. Methodology and Quality last update	08/01/2025
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3. Statistical Presentation

3.1. Data description

The Industrial Production Survey presents data on (economic activities falling under the industrial sector) in the Kingdom of Saudi Arabia.

The Industrial Production Survey is a survey conducted to collect data on the following main objectives:

- Installation of the Industrial Production Index (IPI).
- Provide short-term data on the industry sector and its contribution to development.
- Demonstrate changes in production over time that can be used to predict future trends so that analysts and decision makers can make their decisions easier and easier.
- When a time series of indices is available, they can be used to analyze the behavior of the economy and thus policymakers can choose appropriate economic policies.
- It helps in making international comparisons.

Data is also used to estimate:

- General index of industrial production.
- Industrial production index by the national classification for the economic activities (ISIC4).
- Industrial production index by main economic activities.

3.2. Classification system

The following classifications are applied in the Industrial Production Survey.

The National Classification for Economic Activities (ISIC4):

The statistical classification based on the International Standard of Industrial Classification of All Economic Activities (ISIC4) is used to describe productive activities of an establishment.

United Nations Central Product Classification (CPC2) 2008:

The CPC is a complete classification of products that includes goods and services, the purpose of which is to compile and classify all types of data that require product details.

Methodology and Quality are collected through interviews, so that outputs can be produced in accordance with all relevant classifications.

The ISIC4 National Classification of Economic Activities is available on the website of the General Authority for Statistics: www.stats.gov.sa

3.3. Sector Coverage

The Industrial Production Survey covers economic activities that fall under the industrial sector:

- Mining and quarrying activity.
- Manufacturing industry activity.
- Electricity and gas supply activity.
- Water supply, sewerage, waste management and remediation activities.

The classification of size in this survey is divided into three categories based on the number of employees as follows:

- Small enterprises:

It includes all establishments in which the number of workers ranges between (6-49) workers.

- Medium enterprises:

It includes all establishments in which the number of workers ranges between (50-249) workers.

- Large-sized:

It includes all establishments in which the number of workers is more than (250) workers.

3.4. Statistical concepts and definitions

Terms and concepts for the Industrial Production Survey:

- General index of industrial production:

It is an economic indicator that reflects the relative changes in the volume of industrial production quantities depending on the data of the Industrial Production Survey, which is

carried out on a sample of industrial establishments that are engaged in the targeted industrial activities of mining and quarrying activity, manufacturing industry activity, and electricity and gas supply activity. water supply, sanitation, waste management and remediation activities, and the data of this indicator, which is published on a monthly basis, are classified according to the International Industrial Classification of Economic activities (ISIC 4).

- Monthly rate of change:

The indicator reflects the monthly relative changes in production volumes between the current month and the previous month.

- Annual rate of change:

An indicator that reflects the relative annual changes in production volumes between the target month and the corresponding month of the previous year.

- Production:

These activities are related to the process of providing goods and services through the transformation of inputs into outputs.

- Goods:

A set of benefits obtained by consumers to meet their needs.

- Quantity:

Production outputs produced during the target month and measured in a specific unit of measurement (ton, kilogram, liter, etc.).

- Value:

Is the sale value of the entire quantity without tax.

3.5. Statistical unit

The statistical unit used in the survey of industrial production is the establishment.

3.6. Statistical population

The Statistical Society for the Survey of Industrial Production consists of all industrial establishments in the Kingdom of Saudi Arabia.

3.7. Reference area

The survey sample is a representative sample at the level of the Kingdom of Saudi Arabia.

3.8. Time coverage

The data are available from 2016 in quarterly periodicals to move to the monthly release stage from 2019 until the present time.

3.9. Base period

2021 is the base year used to calculate:

General index of industrial production and other indicators targeted in the survey.

4. Unit of measure

The results are calculated as a percentage % (the annual and monthly change in the general index of industrial production - the percentage of annual and monthly change in indices of sub-economic activities) after the calculation of indices of economic activities.

5. Reference period

References period to the variables as following. The data of the Industrial Production Survey for the previous month are attributed to the period of implementation.

6. Confidentiality

6.1. Confidentiality- Policy

According to Royal Decree No. 23 dated 07/12/1397, data must always be kept confidential, and must be used by GASTAT for statistical purposes only.

Therefore, the data are protected in the data servers of GASTAT.

6.2. Confidentiality- Data treatment

Data were displayed in appropriate tables to facilitate its summarization, comprehension, and results extraction. Also, to compare data with other data and extract statistical meanings for the study community. It is also easier to check tables without the need to see the original questionnaire, which usually include data like names and addresses of individuals, and names of data providers, which violates data confidentiality of statistical data.

"Anonymity of data" is one of the most important procedures. To keep data confidential, GASTAT removed information on individual persons, households, or business entities such a way that the respondent cannot be identified either directly such as: (Names, addresses, contact numbers, or identification numbers. etc.) or indirectly (by combining different - especially rare - characteristics of respondents: (age, occupation, education etc.).

7. Release policy

7.1. Release calendar

The publication dates of the monthly editions of the Industrial Production Survey are announced through the statistical calendar on the website of the General Authority for Statistics.

7.2. Release calendar accessibility

The release calendar is available at: <https://www.stats.gov.sa/statistical-calendar-releases>

7.3. User access

One of GASTAT's objectives is to better meet its clients' needs, so it immediately provides them with the publication's results once the industrial production publication is published.

It also receives questions and inquiries of the clients about the Publication and its results through various communication channels, such as:

- GASTAT official website: www.stats.gov.sa
- GASTAT official e-mail address: info@stats.gov.sa
- Client support e-mail: info@stats.gov.sa
- Official visits to GASTAT's official head office in Riyadh or one of its branches in Saudi Arabia.
- Official letters.
- Statistical telephone: (199009).

8. Frequency of dissemination

Monthly.

9. Accessibility and clarity

9.1. News releases

The announcements for each publication are available on the statistical calendar as mentioned in 7.2. The press releases can be viewed on the website of GASTAT on the link:

<https://stats.gov.sa/news>

9.2. Publications

GASTAT issues industrial production survey publications and reports regularly within a pre-prepared dissemination plan and is published on GASTAT's website. GASTAT is keen to publish its publications in a way that serves all users of different types, including publications in different formats that contain (publication tables, data graphs, indicators, Methodology and Quality Report and questionnaires) in both English and Arabic.

The results of the industrial production survey are available at:

<https://www.stats.gov.sa/statistics>

9.3. On-line database

The data is published on the statistical database.

<https://database.stats.gov.sa/home/indicator/377>

9.4. Microdata accessibility

Not available.

9.5. Other

Not available.

9.6. Documentation on methodology

Concepts, definitions, issues, and classifications are based on the United Nations Statistical Commission Manual for the Industrial Production Index 2010.

<https://unstats.un.org/unsd/statcom/doc10/bg-industrialstats.pdf>

9.7. Quality documentation

Quality documentation covers the documentation of methods and standards for evaluating, measuring, and controlling the quality of statistical processes and outputs, which are based on quality principles and standards **such as:** Relevance, accuracy, reliability, timeliness, punctuality, accessibility, clarity, comparability, and consistency.

10. Quality Management

10.1. Quality assurance

GASTAT takes the following principles into consideration: Impartiality, user-oriented, quality of processes and outputs, effectiveness of statistical processes, and reducing the workload of respondents.

The validity of data is verified through procedures and quality controls that are implemented during the process at different stages **such as:** (data entry, data collection, and other final controls).

10.2. Quality assessment

GASTAT performs all statistical activities according to a national model (Generic Statistical Business Process Model - GSBPM). According to the GSBPM, the final phase of statistical activities is overall evaluation using information gathered in each phase or sub-process. This information is used to prepare the evaluation report which outlines all the quality issues related to the specific statistical activity and serves as input for improvement actions.

11. Relevance

11.1. User needs

Internal users in the GASTAT for the industrial production survey data:

National accounts.

External users and major beneficiaries for the (industrial production survey) data, include:

- Government entities
- Regional and international organizations
- Research institutions.
- Media.
- Individuals.

The disseminated key variables that mostly used by key users:

- General index of industrial production.
- Industrial production index by the national classification for the economic activities (ISIC4).
- Industrial production index by main economic activities.
- The annual and monthly rate of change in the general index of industrial production.
- The annual and monthly rate of change in industrial production index by the national classification for the economic activities (ISIC4).
- The annual and monthly rate of change in industrial production index by main economic activities.

11.2. User satisfaction

Not available.

11.3. Completeness

The data of the index of industrial production is based on the field and telephone survey of the index of industrial production, which is a survey conducted by the General Authority for Statistics on a monthly basis and falls under the classification (economic statistics) and is implemented on a sample of industrial establishments that are engaged in the targeted economic activities represented by mining and quarrying activity, and manufacturing activity. electricity and gas supply activity, water supply activity, sanitation activities, waste management and remediation are in complete condition.

12. Accuracy and reliability

12.1. Overall accuracy

The data collected is improved through the researchers, which have been selected according to a set of practical and objective criteria and training program related to the field of work.

Alert and validation rules are applied during the data collection process on the electronic questionnaire for the (industrial production survey) to enhance data quality.

Data is checked with previous years to identify any significant changes in the data. The internal consistency of the data is checked before it is finalized. The links between variables are checked and coherence between different data series is confirmed.

13. Timeliness and punctuality

13.1. Timeliness

GASTAT uses the Special Data Dissemination Standard (SDDS) issued by the International Monetary Fund. According to this Standard, all statistics agencies are required to publish data on a monthly basis, and with a delay of not more than (40 days) after the end of the reference period. If the data are from different source, they may be published in a different frequency.

13.2. Punctuality

The publication is done according to the publication dates in the statistical calendar published for the industrial production survey on the website page of the General Authority for Statistics. The data are available at the expected time, as scheduled in the statistical release calendar, If the publication is delayed, reasons shall be provided.

14. Coherence and comparability

14.1. Comparability - geographical

The indicator results can be compared at the international level, whereas at the local level it is considered a standardized indicator and cannot be compared across administrative regions.

14.2. Comparability - over time

The survey started in 2016 as a quarterly survey, and the major changes that have occurred in recent years are:

- 2016-2018: The survey was performed as a quarterly survey.
- 2019: The survey was performed as a monthly survey.
- July 2020: The transition to computer-aided telephone interviews (CATI) and computer-aided online interviews (CAWI) was made due to the coronavirus pandemic (COVID-19).
- 2024: The transition was made to computer-assisted in-person interviews (CAPI) in addition to computer-assisted telephone interviews (CATI) and computer-assisted online interviews (CAWI).

14.3. Coherence- cross domain

Not applicable.

14.3.1. Coherence- sub-annual and annual statistics

Not applicable.

14.3.2. Coherence- National Accounts

Published industrial production survey data are applicable to industrial production in national accounts.

14.4. Coherence- internal

Industrial production survey estimates for the reference period have complete internal consistency, as they are all based on the same corpus of microdata, and they are calculated using the same estimation methods.

15. Used Resources

Description	Total
Total employees (GASTAT employees and researchers).	20
Number of survey units.	1004
Total number of days during which data is collected (end date- start date).	21
Average number of interviews conducted daily (throughout data collection phase).	201

16. Data revision

16.1. Data revision - policy

Collected data for the general index of industrial production is reviewed and its integrity is verified as well. Further, other processes are done, including conducting calculations, extracting preliminary results, uploading outputs to be stored on the database, and reviewing results for publication.

16.2. data revision- practice

Industrial production data can be reviewed for the previous three months if more accurate data is available, if missing data is estimated and updated historical data is received after the publication of the results, the index results are reviewed based on updated data (maximum review is three months).

17. Statistical processing

17.1. Source data

The Industrial Production Index relies on two main sources:

First source: collecting data through the Industrial Production survey, which is conducted monthly by the General Authority for Statistics.

The main published indicators of the survey data are:

- General index of industrial production.
- Industrial production index by the national classification for the economic activities (ISIC4).
- Industrial production index by main economic activities
- The annual and monthly rate of change in the general index of industrial production.
- The annual and monthly rate of change in industrial production index by the national classification for the economic activities (ISIC4).
- The annual and monthly rate of change in industrial production index by main economic activities.

Second source: Administrative Data:

- Ministry of Energy.
- Ministry of Environment, Water and Agriculture.

17.2. Frequency and data collection

Monthly.

17.3. Data collection

Data collection from survey:

Industrial production survey data are collected through:

- Computer-assisted telephone Interviews (CATI).
- Online computer-assisted Interviews (CAWI).
- Computer-assisted Personal Interviews (CAPI).

17.4. Data Validation

Data are reviewed and matched to ensure their accuracy in a way that suits their nature with the aim of giving the presented statistics quality and accuracy.

The data of the current year publication are compared with the data of the previous year to ensure their integrity and consistency in preparation for processing data and extracting and reviewing results.

In addition to the data processing and tabulation to check their accuracy, all the outputs are stored and uploaded to the database after being calculated by GASTAT to be reviewed and processed by specialists in the (business, investment, and international trade statistics department) through modern technologies and software designed for this purpose.

17.5. Data compilation

Data Coding:

Interviewers in industrial production survey collect from respondents, a detailed description of each field. This information is then coded in-house by an automated process, which is reviewed by a small-dedicated team of coding experts using a series of consistency checks.

Data editing:

Specialists of business, investment, and international trade statistics department have processed and analyzed data in this stage, and this step was based on the following measures:

- Sorting and arranging data in groups or different categories in a serial order.
- Summarizing detailed data into key points or data.
- Combining many data segments and ensuring their interconnection.
- Processing incomplete or missing data.
- Processing illogical data.
- Converting data into statistically significant data.
- Arranging, presenting, and interpreting data.

Compensation (for non-response cases or incomplete datasets):

The lost data is compensated by international practices included in the United Nations Statistical Commission's Manual for the Industrial Production Index 2010.

Extrapolation and weighting:

After processing the data collected from responding establishments, survey weights are generated to produce indicator tables by following two main steps in creating survey weights:

- Adjustment of non-response.
- Calibration weight

Applied statistical estimation:

GASTAT has relied on the formulas approved by the international standards in calculating the key indicators for the industrial production survey as follows:

- Laspeyres equation.

17.6. Adjustment

Not applicable, only final results will be published.

18. Comment