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**COUNTRY PRACTICES FOR THE COLLECTION  
AND CALCULATION OF THE INDEX OF INDUSTRIAL  
PRODUCTION**

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## Abbreviations

CPI	Consumer Price Index
EPI	Export Price Index
Eurostat	Statistical Office of the European Communities
GDP	Gross Domestic Product
IIP	Index of Industrial Production
ISIC	International Standard Industrial Classification of all Economic Activities
KAU	Kind of Activity Unit
NAICS	North American Industry Classification System
NSO	National Statistical Offices
PPI	Producer Price Index
PRODCOM	Product Classification of the European Communities
UNSD	United Nations Statistics Division

## Notes

Rounding	Any discrepancies between totals and sums of components in this publication are due to rounding.
n.a.	n.a. is used in the tables to indicate that the required data was not available for inclusion in this publication.

## Special note – IIP series published by the United Nations Statistics Division

The United Nations Statistics Division (UNSD) publishes industrial production indices in the *Monthly Bulletin of Statistics*<sup>1</sup> and in the *Statistical Yearbook*<sup>2</sup>. The indices are classified according to the International Standard Industrial Classification of All Economic Activities (ISIC). Currently data are published in respect of ISIC Revision 3.1.

The Monthly Bulletin contains indices by country, selected regions and the world.

Indices of industrial production by country are available in the Monthly Bulletin for the ISIC sections (1-digit ISIC level) *C – Mining and quarrying*, *D – Manufacturing*, and *E – Electricity, gas and water*. A category *General* is the combination of the available three components. The published country data includes:

- monthly and quarterly indices for the most recent 1½ years; and
- annual indices for the most recent 7 years.

The Monthly Bulletin also contains indices for selected regions and the world. The region and world indices are presented for selected industries (divisions and combinations of divisions which correspond to the 2-digit ISIC level) as well as for ISIC sections (1-digit ISIC level) *C – Mining and quarrying*, *D – Manufacturing*, and *E – Electricity, gas and water*. An index of total industrial production (aggregation of C, D and E) is also presented. The published regional and world indices include:

- quarterly indices for the most recent 2½ years; and
- annual indices for the most recent 9 years.

The UNSD Statistical Yearbook also publishes indices of industrial production. Annual indices by country, regions and the world are presented for selected industries and combinations of industries, ISIC sections *C – Mining and quarrying*, *D – Manufacturing*, and *E – Electricity, gas and water* as well as for total industry (an aggregation of C, D and E). The published data relates to the most recent 8 years.

All published country data are sourced from the respective country while the UNSD undertakes the necessary action to obtain region and world aggregates.

Historical index numbers of industrial production for countries, geographic regions and the world (i.e. data between approximately 1950 and 1995) compiled by the UNSD does exist, but is not fully available in electronic form. Work is underway to add the historical industrial production data to the UNSD website. It is expected that this work will be completed by the end of 2008.

Note – the UNSD currently collects and disseminates index numbers on a monthly, quarterly and annual basis for the defined scope of industrial activities. As part of the UNSD IIP survey, which is the source of information for this publication, country views were sought on expanding the scope of data collection to include Indices of Services Production. While a clear majority of countries supported the concept of expanding the scope of data collection, only a relatively small number of countries are currently in a position to supply these data to the UNSD on a regular basis. Therefore collection by the UNSD of indices of services production will not be pursued in the short term.

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<sup>1</sup> UN publication ST/ESA/STAT/SER.Q/

<sup>2</sup> UN publication ST/ESA/STAT/SER.S/

# Country practices for the collection and calculation of the index of industrial production

## Background

Many countries compile an Index of Industrial Production (IIP) as it is one of the infra-annual indicators of short term economic development and is used, in particular, to identify turning points in economic development at an early stage. The major advantage of the production index compared to other indicators is its combination of fast availability (relative to GDP for example) and its detailed activity breakdown.

The theoretical aim of the IIP is to reflect the volume developments in value added over time. However this aim is difficult to achieve in practice as it is generally not possible to calculate value added at high frequency in most countries. Therefore output or production is used. The IIP being a volume index means the index is free of price fluctuations.

This report reflects individual country approaches to compiling the IIP. There are, of course, various ways in which an IIP can be constructed though not one single correct method exists. While this is true, it is clear that some methods are preferred to others. The most suitable methods will depend on the branch of industrial production for which the measure is representing and the statistical environment of a particular country. The forth-coming United Nations publication on Index Numbers of Industrial Production (expected to be released in early 2009) will provide a list of key recommendations to assist countries to compile an accurate and methodologically sound IIP.

## Purpose of this report

This report aims to present in a simple manner the information collected as part of the UNSD Index of Industrial Production (IIP) survey which was conducted in September 2007. The questionnaire sought information concerning methods and practices of countries that compile an IIP. This included:

- i. scope and coverage;
- ii. data collection;
- iii. weighting practices; and
- iv. calculation methods.

Information presented in this report concerns only those countries that replied. Questionnaire responses were sought primarily from National Statistical Offices (NSOs) and, in some limited cases, a country's Central Bank. Supplementary information sourced from NSO websites and international organizations (in particular Eurostat) has also been used to compile this report.

This report's purpose is, firstly, to allow countries to compare their methods and approaches with those in other countries. This comparison is facilitated by the presentation of information in a structured, and as far as possible, consistent way. Secondly, to provide users of the data with an understanding of how this important short-term economic statistic is being produced. All available information for each country is presented in this report. Countries are listed alphabetically.

## Summary of findings

The information presented here provides a summary of country responses to the UNSD index of industrial production survey. Topics include scope of indices produced; data sources and observation unit; calculation methods and compilation frequency; and data items and weighting practices. A table showing the number of questionnaire responses by geographic region is also provided.

More detailed information relating to the methods and practical guidance to compile an index of industrial production can be found in the forth-coming United Nations publication on Index Numbers of Industrial Production (expected to be released in early 2009).

### *Scope of industrial production indices produced by countries*

Table 1 provides summary information on the scope of industrial production indices produced by countries. The table provides information on countries that produce indices for the complete scope of industrial activities (i.e. sections C, D, E of ISIC Rev 3.1) and on those countries that produce indices for only a subset of industrial activities. The information presented in table 1 shows a clear majority of responding countries produce indices for the complete scope of industrial activities.

**Table 1 – Scope of industrial production indices produced by countries**

Scope of indices – ISIC Revision 3.1	Number of countries (No.)	Percentage of countries (%)
Sections C Mining and quarrying, D Manufacturing and E Electricity, gas and water supply .....	53	76.8
Only Sections C Mining and quarrying, D Manufacturing.....	5	7.3
Only section D Manufacturing.....	9	13.0
Other.....	2	2.9
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *Source of data to compile the IIP*

To produce the required data outputs, a statistical office collects and transforms basic data about the institutional units – corporations, etc – in their role as producers. There are two basic mechanisms for collecting economic data: (a) access to data already being collected for administrative purposes, and (b) direct survey by the statistical office. Table 2 provides information, by data source, for the compilation of the index of industrial production. While most responding countries construct their IIP using only survey data, approximately 20% of countries use administrative data to compile all or part of the IIP.

**Table 2 – Data sources**

Data obtained from .....	Number of countries (No.)	Percentage of countries (%)
Surveys only .....	55	79.7
Administrative sources only .....	1	1.5
Both survey and administrative sources .....	13	18.8
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *Observation units on which data are collected to compile the IIP*

Observation units are entities on which information is received and statistics are compiled. Such units are legal/organizational or physical entities which are able, actually or potentially, to report data about their activities. Table 3 provides information, by type of observation unit, for the compilation of the index of industrial production. The ‘Kind of Activity Unit’ (KAU) is used by a majority of responding countries. This reflects the use of the KAU within the European Community and the relatively high proportion of survey responses from that region (almost 50% of all survey responses were received from Europe).

**Table 3 – IIP observation units**

Type of observation unit	Number of countries (No.)	Percentage of countries (%)
Enterprise .....	14	20.3
Establishment.....	23	33.3
Kind of Activity Unit (KAU) .....	27	39.1
Other .....	5	7.3
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *IIP compilation frequency*

Table 4 provides information concerning the frequency at which countries compile the IIP. A clear majority of responding countries compile their IIP monthly. This reflects the purpose of the IIP as one of the infra-annual indicators of short term economic development and is used, in particular, to identify turning points in economic development at an early stage.

**Table 4 – IIP compilation frequency**

Frequency	Number of countries (No.)	Percentage of countries (%)
Monthly.....	54	78.3
Quarterly.....	15	21.7
Annually.....	0	0.0
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *Index formula used to compile the IIP*

While numerous types of index formulas exist, there are three main types that are used internationally when aggregating quantities over time. These types of indices are referred to as the Laspeyres, Paasche and Fisher indices. The indices are, in general, differentiated by the use of weights. For the Laspeyres index, the weights of some earlier base period are used. For the Paasche index, the weights of the current period are used. Finally, the Fisher index is defined as the geometric mean of the Laspeyres and Paasche indices. Table 5 provides information on index formulas used by countries to compile the IIP and shows that the Laspeyres approach is used by the overwhelming majority of responding countries.

**Table 5 – Index formulas, by type, used by countries to compile the IIP**

Index formula	Number of countries (No.)	Percentage of countries (%)
Laspeyres.....	64	92.8
Paasche.....	4	5.8
Fisher.....	1	1.4
Other.....	0	0.0
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *Methods used to compile the IIP*

The industrial production indices can either be calculated directly using volume extrapolation methods, or derived through deflation of value indices with appropriate price indices or price relatives (deflators). Different types of direct volume or deflation methods for calculating elementary volume indices are in use, depending upon the type of data variables collected. Table 6 provides information on methods used by countries to compile an index of industrial production. A majority of responding countries use a combination of both deflation and volume extrapolation methods to compile the IIP.

**Table 6 – Methods used to compile the IIP**

Methods	Number of countries (No.)	Percentage of countries (%)
Deflation methods only.....	8	11.8
Volume extrapolation methods only.....	17	25.0
Combination of both deflation and volume extrapolation methods.....	43	63.2
Required information unavailable.....	1	1.0
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

### *Frequency of weight updates*

Weights are a key element in the construction of any index. They reflect the relative importance of a product or industry within the overall scope of industrial production. It is therefore important that these weights are updated regularly. Table 7 provides information on how often countries update their IIP weights. Approximately 50% of responding countries update their IIP weights every five years. This is followed by about 20% of responding countries that update their IIP weights annually and approximately 19% of countries who update their IIP weights ‘less frequent than every five years’.

**Table 7 – Frequency of weight updates**

Frequency of weight updates	Number of countries (No.)	Percentage of countries (%)
More frequent than annually .....	5	7.3
Annually .....	14	20.3
Five yearly .....	37	53.6
Less frequent than every 5 years .....	13	18.8
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

**Table 9 – Country responses by region**

Region <sup>3</sup>	Number of countries (No.)	Percentage of countries (%)
Africa .....	11	15.9
Americas .....	8	11.6
Asia .....	15	21.7
Europe .....	33	47.8
Oceania .....	2	3.0
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

***Fixed base/weight or chain approach***

Table 7 above contains data on the frequency at which countries update their IIP weights while table 8 provides information on the methods employed to incorporate these weights into the structure of the IIP. The term *chain indices* refer to the process of updating weights and linking two index series together to produce a time series. This is distinct from the *fixed base or fixed weight* type that has its weight structure fixed at a particular point in time and is the approach used by the majority of responding countries.

**Table 8 – Fixed base or chain approach**

Approach	Number of countries (No.)	Percentage of countries (%)
Fixed base/weight approach .....	42	60.9
Chain approach .....	27	39.1
<b>TOTAL</b>	<b>69</b>	<b>100.0</b>

***Responding countries by region***

Table 9 shows the number of country responses to the IIP questionnaire by geographic region. Almost 50% of responding countries are from Europe, approximately 20% from Asia and the remaining 30% of responding countries are from Africa, Americas and Oceania.

<sup>3</sup> A list of all countries by geographic region can be found on the UNSD website at <http://unstats.un.org/unsd/methods/m49/m49regin.htm>

## **COUNTRY RESPONSES**

## Armenia

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. Administrative data are also used to compile the IIP. Data are collected at the ‘Enterprise’ level.

### *Method of calculation*

Armenia calculates the industrial production indices using the chain Paasche approach. Data are collected monthly with imputation based on (i) historical data; and (ii) similar products/industry to estimate for cases of non-response. The IIP is compiled using both deflation and volume extrapolation methods.

### *Weighting system*

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are value added.

The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	100.0
10 Coal .....	0.0
11 Crude petroleum and natural gas	0.0
12-13 Metal ores .....	96.3
14 Other mining .....	3.7
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries	48.8
17 Textiles .....	0.7
18-19 Wearing apparel, leather and footwear.....	0.7
20 Wood and wood products.....	0.3
21-22 Paper, printing, publishing and recorded media.....	2.7
23-25 Chemicals, petroleum, plastic and rubber products.....	4.4
26 Non-metallic mineral products ...	7.5
<i>D. Manufacturing (continued)</i>	
27 Basic metals .....	26.1
28-29 Fabricated metal products and machinery n.e.c .....	4.2

30-33 Office, computing, radio, tv and other electrical equipment.....	2.2
34-35 Transport equipment.....	0.1
36-37 Furniture, manufacturing n.e.c. and recycling.....	2.3
<i>E. Electricity, gas and water supply</i> .....	100.0
40 Electricity, gas, steam and hot water supply .....	92.3
41 Collection, purification and distribution of water .....	7.7

## Australia

### *Scope and Coverage*

The Australian Bureau of Statistics (ABS) does not compile an index of industrial production *per se*. They do, however, compile chain volume estimates of value added for all industry groups as part of the quarterly national accounts compilation process and hence have an aggregation of all industries, including government and other non-market services. The ABS does convert these volume measures to index numbers for the purposes of international reporting of industrial production activities. Note – while methods and practices are available for all industries, the information below relates to the compilation practices of the ABS in regard to industrial activities representing *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1.

The chain volume estimates of gross value added are calculated quarterly utilizing a variety of statistical surveys. The observation units are at the ‘Kind of Activity Unit’ (KAU) level.

### *Method of calculation*

The ABS calculates the volume estimates using the chain Laspeyres approach. Data are collected quarterly and, in general, imputation is based on historical data to estimate for cases of non-response. The ABS largely use output measures (either through direct volume measures of output or through deflated sales) to provide an estimate of the change in the volume of value added. Note – direct volume measures are used for ISIC sections C and E while deflated sales are used for ISIC section D. In

cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### ***Weighting system***

The weights used to combine the elementary series of relatives into indices for higher levels of the industry classification are gross value added at basic prices according to the most recently available data. These weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2004-05.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>C. Mining &amp; Quarrying</i> .....	100.0
10 Coal .....	25.0
11 Crude petroleum and natural gas .....	36.0
12-13 Metal ores .....	29.0
14 Other mining .....	10.0
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries .....	21.0
17-19 Textiles, wearing apparel, leather and footwear .....	3.0
20-22 Wood, paper, printing, publishing and recorded media .....	18.0
23-25 Chemicals, petroleum, plastic and rubber products .....	13.0
26 Non-metallic mineral products ... ..	5.0
27-29 Basic metals, fabricated metal products and machinery n.e.c. ....	18.0
30-37 Office, electrical, transport, furniture, manufacturing n.e.c. and recycling .....	22.0
<i>E. Electricity, gas and water supply</i> ....	100.0
40 Electricity, gas, steam and hot water supply .....	69.0
41 Collection, purification and distribution of water .....	31.0

### ***Other aspects***

The quarterly volume estimates are benchmarked annually to volume measures derived through supply and use tables in which the volumes are obtained using a double deflation approach.

## **Austria**

### ***Scope and Coverage***

The industrial production indices cover economic activities for *Mining and quarrying*,

*Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. [Note – Austria also produces indices for section F – *Construction* though information below only relates to sections C, D and E]. The industrial production indices are calculated monthly by undertaking a statistical survey of relevant units. The observation unit is at the ‘Establishment’ level. Survey data is obtained from units with at least 20 employees. In particular industries, however, an additional turnover threshold of 1 million EUR (excl. VAT) per year is used to cover at least 90% of the production of each economic activity.

### ***Method of calculation***

Statistics Austria calculates the production index as a fixed base year Laspeyres (volume) index (current base 2005=100) whose weights and basket of goods are revised every five years. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Deflated production values are used to obtain industrial production volumes. The industrial output price indices, wholesale price indices, consumer price indices and the index of agreed minimum wages and salaries are all used as deflators in the compilation of the IIP. The deflated values are compiled by applying the Laspeyres formula (production of reference month ‘t’ is set in relation to production in base period ‘0’). Seasonal and working day adjustments (carried out by using X-12 RegARIMA software) are applied to the data and form the basis of the published results.

### ***Weighting system***

The weight used is gross value added at factor costs. The value added weights are sourced from structural business statistics surveys and are then applied to deflated value relatives to produce the IIP. The weights are updated every 5 years.

The following table presents the latest weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	2.0	12
10 Coal .....	0.0	1
11 Crude petroleum and natural gas .....	1.0	1
12-13 Metal ores .....	0.0	1
14 Other mining .....	0.9	9
<i>D. Manufacturing</i> .....	88.6	283
15-16 Food, beverage, tobacco industries.....	8.3	36
17 Textiles .....	1.4	21
18-19 Wearing apparel, leather and footwear.....	1.1	12
20 Wood and wood products....	3.9	10
21-22 Paper, printing, publishing and recorded media .....	7.3	23
23-25 Chemicals, petroleum, plastic and rubber products .....	10.7	32
26 Non-metallic mineral products .....	5.4	26
27 Basic metals .....	6.9	16
28-29 Fabricated metal products and machinery n.e.c .....	19.9	55
30-33 Office, computing, radio, tv and other electrical equipment.....	10.8	22
34-35 Transport equipment .....	7.8	9
36-37 Furniture, manufacturing n.e.c. and recycling.....	5.0	21
<i>E. Electricity, gas and water supply</i> .....	9.4	6
40 Electricity, gas, steam and hot water supply .....	8.7	5
41 Collection, purification and distribution of water .....	0.7	1
<b>TOTAL</b>	<b>100.0</b>	<b>301</b>

## Azerbaijan

### Scope and Coverage

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. [Note that production indices are also available for sections A, B and F to J]. The industrial production indices are calculated monthly by undertaking a statistical survey of relevant units. The 'Enterprise' is the observation unit from which the IIP is compiled.

### Method of calculation

The State Statistical Committee of the Azerbaijan Republic calculates the production indices using

the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Physical quantities are primarily used to obtain industrial production volumes. In some cases the deflated production values are used with Producer price indices (PPIs) used as the deflators. In total, 216 indices are produced for sections C, D and E. Seasonal adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated annually. The weights used to combine these indices into higher level indices of the industry classification are gross value added at factor cost according to the most recently available data. In circumstances where the required weighting data are missing/not available then various methods of imputation are used.

The following table presents the latest weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	76.0
10 Coal .....	0.0
11 Crude petroleum and natural gas .....	75.8
12-13 Metal ores .....	0.0
14 Other mining .....	0.2
<i>D. Manufacturing</i> .....	20.7
15-16 Food, beverage, tobacco industries .....	8.9
17 Textiles.....	0.4
<i>D. Manufacturing (continued)</i>	
18-19 Wearing apparel, leather and footwear .....	0.1
20 Wood and wood products .....	0.0
21-22 Paper, printing, publishing and recorded media.....	0.1
23-25 Chemicals, petroleum, plastic and rubber products .....	6.7
26 Non-metallic mineral products ...	1.0
27 Basic metals .....	2.2
28-29 Fabricated metal products and machinery n.e.c .....	1.0
30-33 Office, computing, radio, tv and other electrical equipment.....	0.2
34-35 Transport equipment.....	0.0
36-37 Furniture, manufacturing n.e.c. and recycling.....	0.1
<i>E. Electricity, gas and water supply</i> .....	3.3
40 Electricity, gas, steam and hot water supply .....	3.0
41 Collection, purification and distribution of water .....	0.3
<b>TOTAL</b>	<b>100.0</b>

## Belarus

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The 'Establishment' is the observation unit from which the IIP is compiled.

### *Method of calculation*

The Belarus Ministry of Statistics and Analysis calculates the production indices using the chain Laspeyres approach. Weights are updated annually. Data are collected monthly. Physical quantities or deflated production values are primarily used to obtain industrial production volumes. In cases where deflation methods are used, Producer price indices (PPIs) are primarily used as the deflators. In total, about 600 indices are produced for sections C, D and E. No adjustments (for example, seasonal or working day) are applied to the data.

### *Weighting system*

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated annually. The weights used to combine these indices into higher level indices of the industry classification are gross value added. These weights are also updated annually.

Note – weights by industry were not available for inclusion in this report.

## Belgium

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are

calculated monthly by undertaking a statistical survey of relevant units as well as utilizing external sources. The 'Kind of Activity Unit' (KAU) is the observation unit from which the IIP is compiled. Survey data is obtained from units with 10 persons employed or with a turnover of EURO 2.5 million or more in the previous reference year.

### *Method of calculation*

Statistics Belgium calculates the production indices using the chain Laspeyres approach. Data are collected monthly with several imputation techniques used in cases of non-response. Seasonal and working day adjustments are undertaken using the software TRAMO SEATS. Various data items and methods are used to obtain industrial production volumes. These methods include deflated value of production, deflated value of sold production, productivity-corrected hours worked or inputs in quantities. The choice of the type of basic information depends on appropriateness to the activity and on availability. It should be noted that the deflated value of production method is used most often. In cases where deflation methods are used, deflation is carried out at the 8-digit Prodcod product level for each responding unit. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

The weights are based on value added at factor costs of the last available year (usually the reference year minus two) for two, three and four digit industry levels. The weights are updated annually. In circumstances where the required weighting data are missing/not available then various approaches are used to estimate the missing weights.

The following table presents the latest weights by industry and is in respect of 2002.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
C. Mining & Quarrying.....	0.7	14
10 Coal.....	0.0	2
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores.....	0.0	2
14 Other mining.....	0.7	10

<i>D. Manufacturing</i> .....	86.9	299
15-16 Food, beverage, tobacco industries.....	12.1	41
17 Textiles .....	4.0	14
18-19 Wearing apparel, leather and footwear.....	1.3	11
20 Wood and wood products....	1.5	8
21-22 Paper, printing, publishing and recorded media .....	4.3	26
23-25 Chemicals, petroleum, plastic and rubber products .....	23.1	35
26 Non-metallic mineral products .....	4.8	30
27 Basic metals .....	5.4	23
28-29 Fabricated metal products and machinery n.e.c .....	12.8	51
30-33 Office, computing, radio, tv and other electrical equipment.....	7.0	22
34-35 Transport equipment .....	8.1	14
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.6	24
<i>E. Electricity, gas and water supply</i> .....	12.4	2
40 Electricity, gas, steam and hot water supply .....	11.1	1
41 Collection, purification and distribution of water .....	1.3	1
<b>TOTAL</b>	<b>100.0</b>	<b>315</b>

### ***Other aspects***

Data confrontation occurs between the IIP and other data sources when results seem contrary to expectations. Business opinion surveys, forecasts, and other relevant variables form the basis of this short-term data confrontation.

## **Brazil**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying* and *Manufacturing*. These categories are classified according to sections C and D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation unit is the 'location'.

### ***Method of calculation***

The Brazilian Institute of Geography and Statistics (IGBE) calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response, though this is rarely needed due to

the high response rate. Two primary methods are used to obtain industrial production volumes. The first method, which is used in the majority of cases, is the direct volume of output measure which measures the physical quantity of output produced. The second method, the direct volume of input measure, utilizes the variable 'number of hours worked' and is used in a limited number of industries. Seasonal and working day adjustments are applied to the data using X-12 ARIMA software.

### ***Weighting system***

The weighting system is fixed and it follows the structure of the Industrial Value Added averaged over the period 1998 to 2000 (reference period for weighting). That is, the weight used to combine the elementary series of relatives into indices for individual industries is the Industrial Value added. These weights are aggregated up to form the higher levels of the industry classification. The weights are updated every five years. It is also at the time of weight update that new products are introduced to the index. At time of writing, work was underway to update the weights to the average of the period 2003 to 2005.

The following table presents the latest weights by industry and is in respect of the average for the period 1998 to 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	5.0	12
10 Coal .....	0.0	0
11 Crude petroleum and natural gas .....	0.0	0
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.0	0
<i>D. Manufacturing</i> .....	95.0	745
15-16 Food, beverage, tobacco industries .....	17.0	78
17 Textiles.....	3.0	34
18-19 Wearing apparel, leather and footwear .....	3.8	39
20 Wood and wood products ...	1.3	14
21-22 Paper, printing, publishing and recorded media.....	8.5	28
23-25 Chemicals, petroleum, plastic and rubber products.....	24.4	207
26 Non-metallic mineral products .....	3.9	28
27 Basic metals .....	5.9	40
28-29 Fabricated metal products and machinery n.e.c .....	9.4	142

30-33 Office, computing, radio, tv and other electrical equipment.....	7.2	59
34-35 Transport equipment.....	8.4	30
36-37 Furniture, manufacturing n.e.c. and recycling.....	2.2	46
<b>TOTAL</b>	<b>100.0</b>	<b>757</b>

### ***Other aspects***

Regional industrial production indices are also produced for fourteen areas in Brazil: the northeast region and the states of Amazonas, Pará, Ceará, Pernambuco, Bahia, Minas Gerais, Espírito Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul and Goiás. In addition, the Brazilian Institute of Geography and Statistics (IBGE) utilizes the IIP data to produce 'Special indicators'. These include aggregation of products according to the consumption level of electric energy and classification of industrial activities by high and low export intensity. IBGE's data are available free of charge on the internet.

## **Bulgaria**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a stratified sample survey of relevant units. The observation units are at the 'Enterprise' level. Survey data is obtained from in-scope units with 10 or more persons employed in the previous reference year. The sample is updated annually.

### ***Method of calculation***

The National Statistical Institute of Bulgaria calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly. Imputation is undertaken using a variety of techniques (estimates based on responses from the same enterprise in previous months, estimates based on responses from similar enterprises, estimates based on ratios within the corresponding industry activity and size) in the case of non-responding enterprises

from completely enumerated strata. Non-responses in sampling strata are accounted for by adjusting the extrapolation coefficients.

The IIP is constructed using deflated sales (corrected for change in inventories). The calculation of the industrial production index involves a two stage calculation process. In the first stage the index calculation is done on the basis of a direct comparison of the data from the current month at constant prices and average monthly production data in the base (2000) year. The production value is deflated at the 3-digit industry level using producer price indices. The second stage is the calculation of the industrial production index at higher levels of aggregation. Industrial production indices at higher levels of aggregation (Division, Subsection, Section, Main industrial groupings and total Industry level) are calculated as base weighted (Laspeyres) indices, in other words they are weighted according to the value added at factor costs in the base year, currently 2000. Working day adjustment and seasonal adjustments are not currently applied.

### ***Weighting system***

The basic indices are weighted by value added at factor cost taken from the structural business statistics survey for the base year (2000). The source for activity weights is the mandatory Annual Structural Business Statistics (SBS) survey. These weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>C. Mining &amp; Quarrying</i> .....	7.9
10 Coal.....	4.2
11 Crude petroleum and natural gas.....	0.4
12-13 Metal ores.....	2.3
14 Other mining.....	1.1
<i>D. Manufacturing</i> .....	67.3
15-16 Food, beverage, tobacco industries.....	13.1
17 Textiles.....	2.3
18-19 Wearing apparel, leather and footwear.....	7.0
20 Wood and wood products.....	0.9
21-22 Paper, printing, publishing and recorded media.....	2.9

23-25 Chemicals, petroleum, plastic and rubber products.....	15.7
26 Non-metallic mineral products ...	3.0
27 Basic metals .....	7.1
28-29 Fabricated metal products and machinery n.e.c .....	8.9
30-33 Office, computing, radio, tv and other electrical equipment.....	3.5
34-35 Transport equipment .....	1.6
36-37 Furniture, manufacturing n.e.c. and recycling.....	1.4
E. Electricity, gas and water supply .....	24.8
40 Electricity, gas, steam and hot water supply .....	21.8
41 Collection, purification and distribution of water.....	3.0
<b>TOTAL</b>	<b>100.0</b>

### ***Other aspects***

Comparison of IIP results are made with monthly product (PRODCOM) data and structural business statistics data. Differences are analysed and reconciliation of the IIP occurs as necessary.

## **Canada**

### ***Scope and Coverage***

Statistics Canada produces monthly output based Gross Domestic Product (GDP) data for the whole economy. Industrial production is a sub-group, covering mining, manufacturing and utilities. The industrial classification framework follows closely the North American Industry Classification System (NAICS). The basic building block of an industry is the establishment. Statistics Canada does not present GDP in index form with separate industry weights. Measures of production are presented in annually chained dollars, available to the public both in seasonally adjusted and unadjusted form (note - both series are trading day adjusted). There is not one major survey on industrial statistics in Canada. Rather, there are a number of surveys which are run by several divisions within Statistics Canada that feed into the System of National Accounts. In regard to industrial production, Statistics Canada collects data for manufacturing, electricity and gas, while Natural Resources Canada provides the majority of the data for the mining sector. In case of some industries, other government

agencies and business associations also serve as valuable data providers.

### ***Method of calculation***

Statistics Canada calculates the monthly measures of output based GDP using the Laspeyres formula, chained annually and benchmarked to the Input Output based annual levels (note – the annual measures are calculated using the Fisher formula).

The choice of approach to produce production volumes depends largely on the availability and suitability of data. Approximately 70 per cent of total GDP (and nearly all of IIP) is calculated using output as indicator. Approximately 28 per cent is calculated using labor input and about 2 per cent of GDP is calculated using other methods (for example, interpolations between annual values when sub annual data are totally lacking). For the majority of manufacturing industries the preferred method is to deflate sales, adjusted by the change in inventories. Deflators are weighted aggregations of the Industrial Product Price Indexes (IPPI). Product weights are production values, taken from the Input Output tables. In order to ensure that shifts in product mix are appropriately reflected, the product weights are updated annually. For periods without Input Output tables, i.e. the most current 32 to 43 months, the product weights remain based on the latest available Input Output table. Most mining industries are calculated by valuing quantities of products using their prices in the base year. Seasonal and trading day adjustments are applied to the data (presently using X11ARIMA, but switching to X12ARIMA by the end of 2009), while benchmarking is done using a quadratic minimization technique.

### ***Weighting system***

The industry weights used to combine lower levels of the industry classification to produce higher levels are gross value added at basic prices according to the most recently available data. These values, derived within the framework of the Input Output accounts, are updated annually. Input Output tables are available for all but the most recent two years. In the post Input Output years the industry weights

remain based on the latest available Input Output table. In order to ensure that base year weights are representative, Canada sometimes uses weights that are based on several years instead of one year.

The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	20.2	13
10 Coal .....	0.3	1
11 Crude petroleum and natural gas .....	17.0	2
12-13 Metal ores .....	1.4	4
14 Other mining .....	1.5	6
<i>D. Manufacturing</i> .....	68.0	134
15-16 Food, beverage, tobacco industries.....	8.3	21
17 Textiles .....	0.8	6
18-19 Wearing apparel, leather and footwear.....	0.8	4
20 Wood and wood products....	4.3	6
21-22 Paper, printing, publishing and recorded media .....	7.9	11
23-25 Chemicals, petroleum, plastic and rubber products .....	9.9	17
26 Non-metallic mineral products .....	2.3	8
27 Basic metals .....	4.3	9
28-29 Fabricated metal products and machinery n.e.c .....	9.6	18
30-33 Office, computing, radio, tv and other electrical equipment.....	4.6	14
34-35 Transport equipment .....	12.2	14
36-37 Furniture, manufacturing n.e.c. and recycling.....	3.1	6
<i>E. Electricity, gas and water supply</i> .....	11.8	4
40 Electricity, gas, steam and hot water supply .....	10.0	2
41 Collection, purification and distribution of water .....	1.8	2
<b>TOTAL</b>	<b>100.0</b>	<b>151</b>

### Other aspects

Note – in 2001 the Canadian System of National Accounts replaced the 1980 Standard Industrial Classification (ISIC) with the North American Industry Classification System (NAICS). Therefore the current industrial classification framework for the output based GDP follows fairly closely the NAICS system. The conversion to ISIC for international reporting requires the regrouping and, occasionally, the splitting of NAICS based elementary series.

## Chile

### Scope and Coverage

The indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the ‘Establishment’ level.

### Method of calculation

The National Statistics Institute of Chile calculates the production indices using the fixed base Laspeyres approach with weights updates every five years. The approach is employed due to the stable structure of the manufacturing industry. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The direct volume of output approached is used for all branches of the manufacturing industry. Seasonal adjustments are applied to the data.

### Weighting system

The weight used to combine the elementary series of relatives into indices for individual industries is production value and this is updated every five years. There are 295 indices produced at this level. The weights used to combine these indices into higher level indices of the industry classification are gross value added at factor cost. These weights are also updated every five years and are currently in respect of 2002. Imputation, using various methods, is used in circumstances where the required weighting data are missing/not available. The introduction of new products also occurs at the time of re-weighting the indices.

The following table presents the latest weights by industry and is in respect of 2002.

ISIC Rev. 3.1 Industries	Weights (%)
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries	36.2
17 Textiles .....	1.4
18-19 Wearing apparel, leather and footwear .....	2.5
20 Wood and wood products .....	5.6

21-22 Paper, printing, publishing and recorded media .....	12.2
23-25 Chemicals, petroleum, plastic and rubber products.....	23.5
26 Non-metallic mineral products ...	6.1
27 Basic metals .....	4.8
28-29 Fabricated metal products and machinery n.e.c .....	5.0
30-33 Office, computing, radio, tv and other electrical equipment.....	0.8
34-35 Transport equipment .....	0.6
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.5
<b>TOTAL</b>	<b>100.0</b>

### ***Other aspects***

The current Chilean IIP is a quantum index of physical volume of production. At the time of writing, improvements to the index were under consideration. This included, in part, assessing the feasibility of utilizing deflation methods to construct the IIP.

## **China, Hong Kong Special Administrative Region of China**

### ***Scope and Coverage***

The indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant in-scope units. The observation units are at the 'Establishment' level.

### ***Method of calculation***

The Census and Statistics Department of Hong Kong calculates the production indices using the chain Laspeyres approach. Data are collected quarterly with imputation based on similar products/industries to estimate for cases of non-response. For most industrial products, deflated sales are used for compiling the IIP. However, for a minor proportion of industrial products, production is measured in physical terms. In cases where deflation methods are employed, Producer price indices (PPIs) are used as the deflators. Seasonal adjustments are applied to the data and form the basis of the published results.

### ***Weighting system***

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated annually. The weights used to combine these indices into higher level indices of the industry classification are gross value added at factor cost. These weights are also updated annually. The latest available weights are in respect of 2005 which are sourced from the Annual Survey of Industrial Production. In circumstances where the required weighting data are missing/not available then (generally) data from the previous year is adjusted and used.

The following table presents the latest weights by industry and is in respect of 2005.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>D. Manufacturing</i> .....	<i>100.0</i>	<i>442</i>
15-16 Food, beverage, tobacco industries .....	14.7	53
17 Textiles .....	11.1	55
18 Wearing apparel, dressing and dyeing of fur.....	9.3	40
19-20 & 34-36 Wood and wood products & motor vehicles, transport equipment and furniture .....	10.5	64
21-22 Paper, printing, publishing and recorded media.....	24.2	23
23-26 Chemicals, petroleum, plastic, rubber and non-metallic products.....	7.8	78
27-28 Basic metals & fabricated metal products.....	5.4	43
29-33 Office, computing, radio, tv and other electrical equipment.....	17.1	86
<b>TOTAL</b>	<b>100.0</b>	<b>442</b>

### ***Other aspects***

Data confrontation occurs between the IIP and domestic exports. This is because most of the local manufacturing output is exported to economies outside Hong Kong. The production process should lead export process. Year-on-year changes in the Index of Industrial Production should be broadly in line with the corresponding changes in domestic exports of Hong Kong subject to a certain time lag.

## China, Macao Special Administrative Region of China

### *Scope and Coverage*

The indices cover economic activities for *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections D and E of ISIC Revision 3.1. The indices are calculated quarterly by primarily utilizing administrative data sources. The indices of industrial production are representative of the national total and 48 domains or manufacturing activities.

### *Method of calculation*

The Statistics and Census Service calculates the production indices using the chain Laspeyres approach. Data are collected quarterly. The index is compiled for electricity and water supply using the quantity extrapolation approach (the quantity of electricity produced, and water purified, are employed). For the manufacture of other non-metallic mineral products, the sales volume of concrete and the production volume of cement are used. The quantity of domestic exports is employed to represent other manufacturing activities as the majority of domestically produced manufacturing products are for export.

New products are incorporated into the index as they become available.

### *Weighting system*

Census value added is used to weight the IIP. The weighting data are obtained from the industrial survey of 2003. These weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2003.

ISIC Rev. 3.1 Industries	Weights (%)
<i>D. Manufacturing</i> .....	100.0
17 Textiles .....	16.1
18 Wearing apparel, dressing and dyeing of fur .....	69.8
Remainder of section D .....	14.1
<i>E. Electricity, gas and water supply</i> .....	100.0
40 Electricity, gas, steam and hot water supply .....	88.2
41 Collection, purification and distribution of water.....	11.8

## Colombia

### *Scope and Coverage*

The industrial production indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. A stratified sample methodology is used to select businesses to provide data for the survey<sup>4</sup>. The observation units are at the 'Establishment' level. Survey data are obtained from in-scope units with 10 or more persons employed in the previous reference year or industrial production over a specified cut-off. The indices of industrial production are calculated for the national total as well as 48 domains of study or manufacturing activities.

### *Method of calculation*

The National Administrative Department of Statistics (DANE) calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The method used to obtain industrial production volumes is deflated production values. Producer price indices (PPIs) are primarily used as the deflators.

### *Weighting system*

The following table presents the latest weights by industry. Data to compile the weights was obtained from the Annual Survey of Manufacturing 2003 – 2005.

ISIC Rev. 3.1 Industries	Weights (%)
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries	30.6
17 Textiles.....	4.0
18-19 Wearing apparel, leather and footwear .....	5.0
20 Wood and wood products .....	0.4

<sup>4</sup> In Colombia the Hidiroglou method (1986) is used to optimize size stratification. The population is stratified into two size strata (large and small) with the firms in the large size stratum selected with certainty while the firms in the smaller size strata are sampled using simple random sampling without replacement.

21-22 Paper, printing, publishing and recorded media.....	7.4
23-25 Chemicals, petroleum, plastic and rubber products.....	30.0
26 Non-metallic mineral products ...	5.2
27 Basic metals .....	5.5
28-29 Fabricated metal products and machinery n.e.c .....	3.9
30-33 Office, computing, radio, tv and other electrical equipment.....	1.9
34-35 Transport equipment .....	4.6
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.5
<b>TOTAL</b>	<b>100.0</b>

### ***Other aspects***

The index of industrial production is benchmarked to the annual structural survey results. In addition, monthly indicators of labour productivity and hours worked by staff that are directly linked to the production processes in each of the 48 manufacturing activities is also observed.

## **Croatia**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. The monthly survey covers all in-scope enterprises with 20 or more persons employed. The employment threshold is lower for some industry groups to ensure the surveyed coverage reaches 90% of value added.

### ***Method of calculation***

The Central Bureau of Statistics of the Republic of Croatia calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Two methods are used to obtain industrial production volumes. The first is the direct volume of output measure. In cases where this method is not feasible, deflation methods are employed. Seasonal and working day

adjustments are applied to the data and form the basis of the published results.

### ***Weighting system***

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into higher level indices of the industry classification are gross value added at factor cost. The value added weights are updated annually.

Note – weights by industry were not available for inclusion in this report.

### ***Other aspects***

Industrial production data are collected by a postal questionnaire through regional statistical offices. At the beginning of the year 12 monthly forms are sent to respondents, with one being returned each month. Replies are due by the 8th of the month following the reference period. Three to five days after the deadline the county statistical offices call non-responding units or call concerning item non-response. Collection of data is finished around the 16th of the month.

## **Cyprus**

### ***Scope and Coverage***

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly showing the changes in the volume of production. Data are sourced from a statistical survey of relevant units as well as obtaining administrative data for section E. The survey is a sampled survey with data obtained from all size units in-scope of the survey. The observation units are at the 'Enterprise' level.

### ***Method of calculation***

The Statistical Office of Cyprus calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to

estimate for cases of non-response. Two methods are used to obtain industrial production volumes. The first is the direct volume of output measure. In cases where this method is not feasible, deflation methods are used with Producer price indices (PPIs) used as the deflators. The IIP is compiled gross with working day adjustments made after the calculation of the index.

### **Weighting system**

The weighting practices differ by industry. For section C (Mining and quarrying), the results for all enterprises are aggregated for 8 products. The quantity relative between the reference period and the base period for each of these products is weighted by their share of the base period value of production in order to produce the index for the industry. For section D (Manufacturing), quantity relatives are calculated for each product or for deflated production value (using the output price index at the 4-digit level) depending on the type of data collected. When data has been collected by product, the various quantity relatives are combined using weights based on their production value. Once an index has been compiled for all enterprises, regardless of the origin of the data, these are combined by weighting the index for each enterprise within a single activity size stratum according to its production value. These indices at the stratum level are combined into indices for each Group and higher levels of the industry classification using value added at factor cost as weights. For Electricity, a component of section E, a simple index is compiled from the quantity of output for the single enterprise. Finally, water volume indices are produced by aggregating quantity data for each of the three types of water enterprises (desalination, purification and distribution). These three indices are then aggregated using value added as weights.

The IIP weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	2.3	1
10 Coal.....	0.0	0
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores.....	0.0	0
14 Other mining.....	2.3	1
<i>D. Manufacturing</i> .....	79.9	697
15-16 Food, beverage, tobacco industries.....	25.1	157
17 Textiles.....	1.3	33
18-19 Wearing apparel, leather and footwear.....	4.9	84
20 Wood and wood products.....	5.5	31
21-22 Paper, printing, publishing and recorded media....	7.2	49
23-25 Chemicals, petroleum, plastic and rubber products.....	9.2	62
26 Non-metallic mineral products.....	9.1	91
27 Basic metals.....	1.3	4
28-29 Fabricated metal products and machinery n.e.c.....	7.9	83
30-33 Office, computing, radio, tv and other electrical equipment.....	1.6	23
34-35 Transport equipment.....	0.8	15
36-37 Furniture, manufacturing n.e.c. and recycling.....	6.0	65
<i>E. Electricity, gas and water supply</i> .....	17.8	4
40 Electricity, gas, steam and hot water supply.....	14.9	1
41 Collection, purification and distribution of water.....	2.9	3
<b>TOTAL</b>	<b>100.0</b>	<b>702</b>

## **Czech Republic**

### **Scope and Coverage**

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. [Note – indices are also calculated for section F ‘*Construction*’ but these are excluded from this report]. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the ‘Enterprise’ level. The survey covers units with 20 or more employees.

### Method of calculation

The Czech Statistical Office calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on a historical data as well as similar products/industries to estimate for cases of non-response. Two types of methods are used to obtain industrial production volumes. These are (i) physical volume of output; and (ii) deflated sales. In cases where deflation methods are used, Producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data.

### Weighting system

The weights used to combine the indices to produce higher levels of the industry classification are gross value added at factor cost from the base year. These weights are updated every five years. The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	3.3	36
10 Coal .....	2.3	6
11 Crude petroleum and natural gas.....	0.1	4
12-13 Metal ores .....	0.3	3
14 Other mining .....	0.6	23
<i>D. Manufacturing</i> .....	87.9	44
15-16 Food, beverage, tobacco industries .....	12.7	3
17 Textiles .....	3.6	2
18-19 Wearing apparel, leather and footwear.....	1.1	2
20 Wood and wood products.....	1.6	1
21-22 Paper, printing, publishing and recorded media....	2.5	2
23-25 Chemicals, petroleum, plastic and rubber products .....	14.2	14
26 Non-metallic mineral products .....	4.9	1
27 Basic metals .....	9.9	1
28-29 Fabricated metal products and machinery n.e.c.....	11.0	4
30-33 Office, computing, radio, tv and other electrical equipment.....	8.4	8
34-35 Transport equipment.....	14.3	3
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.7	3
<i>E. Electricity, gas and water supply</i> .....	8.8	6
40 Electricity, gas, steam and hot water supply.....	8.1	4
41 Collection, purification and distribution of water.....	0.7	2
<b>TOTAL</b>	<b>100.0</b>	<b>86</b>

### Other aspects

Data confrontation between the industrial production index and national accounts data is carried out. The annual survey on production also serves as an important source of data confrontation.

## Egypt

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying* and *Manufacturing*. These categories are classified according to sections C and D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### Method of calculation

The Central Agency for Public Mobilization and Statistics of Egypt calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on similar products/industries to estimate for cases of non-response. The indices are compiled using both volume extrapolation methods and deflation methods. In cases where deflation methods are used, wholesale price indices are used as the deflators.

### Weighting system

The weight used to combine the indices is gross value added at factor cost. The weights are updated every five years. The source of the weighting data is the annual production statistics.

The following table presents the latest weights by industry and is in respect of 2002.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	0.2
10 Coal.....	0.0
11 Crude petroleum and natural gas	0.0
12-13 Metal ores .....	0.0
14 Other mining .....	0.2
<i>D. Manufacturing</i> .....	99.8
15-16 Food, beverage, tobacco industries	27.7
17 Textiles.....	6.3
18-19 Wearing apparel, leather and footwear .....	2.9

20 Wood and wood products.....	0.1
21-22 Paper, printing, publishing and recorded media.....	10.9
23-25 Chemicals, petroleum, plastic and rubber products.....	20.8
26 Non-metallic mineral products ...	9.6
27 Basic metals .....	2.1
28-29 Fabricated metal products and machinery n.e.c .....	6.2
30-33 Office, computing, radio, tv and other electrical equipment.....	7.3
34-35 Transport equipment.....	5.5
36-37 Furniture, manufacturing n.e.c. and recycling .....	0.5
<b>TOTAL</b>	<b>100.0</b>

## Estonia

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Enterprises are surveyed if they have:

- i. 50 or more employees; or
- ii. less than 50 employees but sales exceeded 15 million Estonian Kroon.

### Method of calculation

Statistics Estonia calculates the production indices using the chain Paasche approach. Data are collected monthly with imputation based on data from the previous period to estimate for cases of non-response. Two methods are used to obtain the industrial production volumes. For Section D (manufacturing) the production index is compiled from deflated turnover, adjusted for changes in inventories. For Sections C and E the index is compiled from production measured in physical quantities. In cases where deflation methods are used, Producer price indices (PPIs) act as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weight used to produce indices for sections C, D and E is gross value added at factor cost of the last available year (usually the reference year

minus two years). The weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	100.0	4
10 Coal .....	16.2	1
11 Crude petroleum and natural gas .....	62.0	1
12-13 Metal ores .....	0.0	0
14 Other mining .....	21.8	2
<i>D. Manufacturing</i> .....	100.0	78
15-16 Food, beverage, tobacco industries .....	12.6	9
17 Textiles.....	4.9	5
<i>D. Manufacturing (continued)</i>		
18-19 Wearing apparel, leather and footwear .....	4.9	5
20 Wood and wood products .....	13.9	5
21-22 Paper, printing, publishing and recorded media.....	7.5	4
23-25 Chemicals, petroleum, plastic and rubber products.....	9.8	8
26 Non-metallic mineral products.....	8.1	7
27 Basic metals .....	0.2	1
28-29 Fabricated metal products and machinery n.e.c .....	13.4	12
30-33 Office, computing, radio, tv and other electrical equipment.....	12.5	12
34-35 Transport equipment.....	4.5	4
36-37 Furniture, manufacturing n.e.c. and recycling .....	7.7	6
<i>E. Electricity, gas and water supply</i> .....	100.0	2
40 Electricity, gas, steam and hot water supply.....	100.0	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>		<b>84</b>

### Other aspects

The industrial turnover used in the calculation of the industrial production index for section D (Manufacturing) is defined as the cost of production and industrial services, which were produced by enterprises and which had been realised (sold) and delivered to purchasers in the accounting period regardless of the time when payment for the production was received. Also note that seasonally adjusted indices and trend figures are calculated using TRAMO/SEATS method. The regression method (DEMETRA) is used for working day adjustment.

## Fiji

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant in-scope units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### Method of calculation

Fiji Islands Bureau of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The primary method to calculate the industrial production index is the direct volume of output measure.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated periodically. The last update was in respect of 1995. The weights used to combine these indices into higher level indices of the industry classification are gross value added at basic prices according to the most recently available data. These weights are also updated periodically. Current weights are in respect of 1995 with action underway to update these to 2002.

The following table presents the latest weights by industry and is in respect of 1995.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	7.4	2
10 Coal .....	0.0	
11 Crude petroleum and natural gas.....	0.0	
12-13 Metal ores .....	7.1	
14 Other mining .....	0.3	
<i>D. Manufacturing</i> .....	67.4	37
15-16 Food, beverage, tobacco industries .....	33.2	
17 Textiles .....	0.0	
18-19 Wearing apparel, leather and footwear.....	12.5	
20 Wood and wood products.....	10.3	

21-22 Paper, printing, publishing and recorded media....	4.8
23-25 Chemicals, petroleum, plastic and rubber products.....	4.9
26 Non-metallic mineral products.....	0.0
27 Basic metals .....	0.0
28-29 Fabricated metal products and machinery n.e.c .....	1.7

#### D. Manufacturing (continued)

30-33 Office, computing, radio, tv and other electrical equipment.....	0.0
34-35 Transport equipment.....	0.0
36-37 Furniture, manufacturing n.e.c. and recycling .....	0.0

#### E. Electricity, gas and water supply.....

40 Electricity, gas, steam and hot water supply.....	25.2	2
41 Collection, purification and distribution of water.....	23.7	
<b>TOTAL</b>	<b>100.0</b>	<b>41</b>

### Other aspects

The Fiji Islands Bureau of Statistics aims to re-base the industrial production index every 5 years. In addition, a future aim is to assess the option of implementing a chain approach rather than the current fixed base approach.

## Finland

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Local Kind of Activity Unit' (LKAU) level. Survey data is obtained from statistical units with more than 20 employees.

### Method of calculation

Statistics Finland calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on (i) historical data; and/or (ii) similar products/industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes.

The production index is mainly based on the quantity of production of representative goods. Deflated sales are also used. Hours worked, energy consumed and raw materials used are utilised in a small number of cases. In cases where deflation methods are used, Producer PIndices (PPIs) act as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results. This is achieved using the TRAMO/SEATS method.

### **Weighting system**

The data is aggregated to the activity class level by using the value added weights of the LKAUs from the Structural Business Statistics (SBS). Further aggregation is achieved by using the value added weights of the activity classes from SBS. These weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2005.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	1.0	7
10 Coal .....	0.3	1
11 Crude petroleum and natural gas .....	0.0	0
12-13 Metal ores .....	0.2	1
14 Other mining .....	0.5	5
<i>D. Manufacturing</i> .....	90.5	176
15-16 Food, beverage, tobacco industries .....	6.4	27
17 Textiles .....	0.8	12
18-19 Wearing apparel, leather and footwear.....	0.7	8
20 Wood and wood products.....	3.9	5
21-22 Paper, printing, publishing and recorded media .....	14.4	10
<i>D. Manufacturing (continued)</i>		
23-25 Chemicals, petroleum, plastic and rubber products .....	10.9	24
26 Non-metallic mineral products .....	3.5	18
27 Basic metals .....	4.9	10
28-29 Fabricated metal products and machinery n.e.c.....	18.1	32
30-33 Office, computing, radio, tv and other electrical equipment.....	21.6	13
34-35 Transport equipment.....	3.1	8
36-37 Furniture,manufacturing n.e.c. and recycling .....	2.1	9
<i>E. Electricity, gas and water supply</i> .....	8.5	2
40 Electricity, gas, steam and hot water supply .....	7.7	1
41 Collection, purification and distribution of water.....	0.8	1
<b>TOTAL</b>	<b>100.0</b>	<b>185</b>

## **France**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Survey data is obtained from units which together account for approximately 80% of all industrial production.

### **Method of calculation**

France's National Institute for Statistics and Economic Studies (INSEE) calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover/sales, measurement of physical output and hours worked (adjusted to account for changes in productivity). In cases where deflation methods are used, Producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

France uses value added to weight indices together. At the lowest aggregation levels the share of value added is estimated as actual data are not available. Value added at factor cost is used to weight together indices to form higher levels of the industry classification. These weights are updated every five years with the latest data in respect of 2000. Estimation techniques are used in circumstances where the weighting data are missing/not available.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	0.9	19
10 Coal .....	0.0	1
11 Crude petroleum and natural gas.....	0.2	2
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.7	16
<i>D. Manufacturing</i> .....	87.7	594
15-16 Food, beverage, tobacco industries .....	8.8	81
17 Textiles .....	2.0	28
18-19 Wearing apparel, leather and footwear.....	2.2	46
20 Wood and wood products.....	1.1	14
21-22 Paper, printing, publishing and recorded media....	6.5	27
23-25 Chemicals, petroleum, plastic and rubber products .....	18.1	149
26 Non-metallic mineral products .....	3.1	41
27 Basic metals .....	3.6	45
28-29 Fabricated metal products and machinery n.e.c.....	15.6	91
30-33 Office, computing, radio, tv and other electrical equipment.....	12.2	35
34-35 Transport equipment.....	12.9	21
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.6	16
<i>E. Electricity, gas and water supply</i> .....	11.4	4
40 Electricity, gas, steam and hot water supply.....	9.6	3
41 Collection, purification and distribution of water.....	1.8	1
<b>TOTAL</b>	<b>100.0</b>	<b>617</b>

### Other aspects

New product groups are introduced into the index at the time of re-basing which is every five years. Though, new lines of products within existing product groups are regularly introduced during the on-going compilation of the index – for example, new models of cars.

## Germany

### Scope and Coverage

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. [Note – indices are also produced for section F – *Construction* though information below only relates to sections C, D and E]. The industrial production indices are calculated monthly by undertaking a statistical survey of

relevant units. The observation units are at the ‘Kind of Activity Unit’ (KAU) level. The coverage is made up of two parts:

- local units classified in Sections C to E with 20 or more persons employed who belong to enterprises classified in Sections C to E; and
- local units classified in Sections C to E with 20 or more persons employed who belong to enterprises not classified in Sections C to E.

### Method of calculation

The Federal Statistical Office of Germany calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly. Various data items and methods are used to obtain industrial production volumes. These include deflated production value of output, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated every five years. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost. These weights are also updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	1.8	30
10 Coal .....	1.1	4
11 Crude petroleum and natural gas .....	0.3	4
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.5	22
<i>D. Manufacturing</i> .....	91.1	1364
15-16 Food, beverage, tobacco industries.....	7.9	130
17 Textiles.....	1.2	84
18-19 Wearing apparel, leather and footwear .....	0.9	61
20 Wood and wood products .....	1.5	33
21-22 Paper, printing, publishing and recorded media....	6.8	50
23-25 Chemicals, petroleum, plastic and rubber products.....	14.6	258

26 Non-metallic mineral products .....	3.5	60
27 Basic metals .....	3.7	72
28-29 Fabricated metal products and machinery n.e.c.....	21.6	319
30-33 Office, computing, radio, tv and other electrical equipment.....	14.0	192
34-35 Transport equipment .....	12.9	38
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.6	67
<i>E. Electricity, gas and water supply</i> .....	7.0	2
40 Electricity, gas, steam and hot water supply.....	7.0	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>1396</b>

### Other aspects

Working day adjusted figures are compiled using the X-12 ARIMA method. Special working day effects which have an impact on production such as leap year and December effect as well as regional specific holidays are taken into account. The Berliner Verfahren method is used for compiling Trend data.

## Greece

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### Method of calculation

The National Statistical Service of Greece calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include measurement of physical output (78% of the basic series are calculated using this approach), deflated turnover (20%), and hours worked (2%). In cases where deflation methods are used, consumer price indices (CPIs) are primarily used

as the deflators. Working day adjustments are also applied to the data.

### Weighting system

The weight used to combine the elementary series of relatives into indices for individual industries is turnover data from the PRODCOM survey. These weights are updated every five years. The weights used to combine these indices into indices for higher levels of the industry classification are net value added at factor cost. These weights are also updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	5.9	15
10 Coal .....	48.3	1
11 Crude petroleum and natural gas .....	5.2	1
12-13 Metal ores .....	11.5	3
14 Other mining .....	35.1	10
<i>D. Manufacturing</i> .....	77.5	346
15-16 Food, beverage, tobacco industries .....	21.3	62
17 Textiles.....	5.6	22
18-19 Wearing apparel, leather and footwear .....	5.2	31
20 Wood and wood products ....	1.1	8
21-22 Paper, printing, publishing and recorded media.....	6.5	20
23-25 Chemicals, petroleum, plastic and rubber products.....	22.5	55
<i>D. Manufacturing (continued)</i>		
26 Non-metallic mineral products.....	8.5	12
27 Basic metals .....	8.0	20
28-29 Fabricated metal products and machinery n.e.c. ...	7.5	53
30-33 Office, computing, radio, tv and other electrical equipment.....	6.6	34
34-35 Transport equipment.....	5.3	13
36-37 Furniture, manufacturing n.e.c. and recycling.....	2.5	16
<i>E. Electricity, gas and water supply</i> .....	16.6	3
40 Electricity, gas, steam and hot water supply.....	86.2	2
41 Collection, purification and distribution of water .....	13.8	1
<b>TOTAL</b>	<b>100.0</b>	<b>364</b>

### ***Other aspects***

The results of the IIP are compared with other data sources. Comparison of the index with production value data (Annual Industrial Survey) occurs. In addition, cross-checks with other data such as turnover and new orders received by industry are conducted on regular basis.

## **Hungary**

### ***Scope and Coverage***

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Enterprises having 50 and more persons employed are observed by an exhaustive survey. Enterprises with 5-49 persons employed are observed by a sample survey. Data for enterprises with less than 5 persons employed are estimated from administrative records for the total of Sections C to E.

### ***Method of calculation***

The Hungarian Central Statistical Office (HCSO) calculates the production indices using the chain Paasche approach. Data are collected monthly. The primary method used to obtain industrial production volumes is deflated turnover/sales (adjusted for change in inventories). Producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data (using TRAMO/SEATS with DEMETRA software) and form the basis of the published results.

### ***Weighting system***

For the aggregation of industrial production indices, gross output weights are used. The source of the weights is the Monthly Integrated Survey of Economic Statistics. The weights are changed every month of the reference year.

The following table presents the latest weights by industry.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	0.9	13
10 Coal .....	0.2	3
11 Crude petroleum and natural gas .....	0.2	2
12-13 Metal ores .....	0.1	3
14 Other mining .....	0.5	5
<i>D. Manufacturing</i> .....	86.2	252
15-16 Food, beverage, tobacco industries .....	12.3	34
17 Textiles .....	1.9	21
18-19 Wearing apparel, leather and footwear .....	3.9	9
20 Wood and wood products .....	1.7	6
21-22 Paper, printing, publishing and recorded media....	4.5	20
23-25 Chemicals, petroleum, plastic and rubber products .....	16.6	30
26 Non-metallic mineral products .....	4.0	25
27 Basic metals .....	2.5	16
28-29 Fabricated metal products and machinery n.e.c .....	10.9	38
30-33 Office, computing, radio, tv and other electrical equipment .....	15.9	17
34-35 Transport equipment .....	10.1	21
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.9	15
<i>E. Electricity, gas and water supply</i> .....	12.9	7
40 Electricity, gas, steam and hot water supply .....	11.1	6
41 Collection, purification and distribution of water .....	1.8	1
<b>TOTAL</b>	<b>100.0</b>	<b>272</b>

### ***Other aspects***

The production index is confrontation with other data sets. Data are confronted with the Annual Integrated Survey of Economic Statistics (SBS) and PRODCOM survey, as well as with value added derived from tax files.

## **India**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1.

### ***Method of calculation***

The Central Statistical Organisation of India calculates the IIP using the fixed base Laspeyres approach. The indices are calculated monthly.

The production data are obtained by survey of relevant units as well as from administrative records. The observation units are 'Establishments'. The cases of non-response are dealt by appropriate estimation methods. Two main methods are used to obtain industrial production volumes. These include deflated turnover/sales and measurement of physical output. In cases where deflation methods are used, Wholesale Price Indices (WPI) are used as the deflators. Seasonal adjustments are applied to the data.

### **Weighting system**

The weights used to combine the indices to form industry aggregates are gross value added at factor cost. However, at sufficiently disaggregated levels where the data on gross value added are not available, gross values of outputs are used as weights. At present there is no fixed periodicity for updating these weights. From the country's perspective, the significant amount of resources needed to collect data to recalculate weights is a factor that limits the frequent updating of weights.

The following table presents the latest weights by industry and is in respect of IIP with base year 1993-94.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	10.5	1
10 Coal .....	10.5	1
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.0	0
<i>D. Manufacturing</i> .....	79.4	297
15-16 Food, beverage, tobacco industries .....	11.5	27
17 Textiles .....	10.9	12
18-19 Wearing apparel, leather and footwear.....	1.1	7
20 Wood and wood products.....	2.7	2
21-22 Paper, printing, publishing and recorded media ....	2.7	5
23-25 Chemicals, petroleum, plastic and rubber products .....	19.7	98
26 Non-metallic mineral products .....	4.4	9
27 Basic metals .....	7.5	32
28-29 Fabricated metal products and machinery n.e.c.....	7.5	48
30-33 Office, computing, radio, tv and other electrical equipment.....	6.9	41
34-35 Transport equipment .....	4.0	14

36-37 Furniture, manufacturing n.e.c. and recycling .....	0.5	2
<i>E. Electricity, gas and water supply</i> .....	10.2	1
40 Electricity, gas, steam and hot water supply.....	10.2	1
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>299</b>

### **Other aspects**

The country sees the exclusion of obsolete items; the inclusion of new items and the development of methodologies for the treatment of missing items/units as areas for examination in the future.

## **Ireland**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Local Unit' level. Survey data is obtained from units with 20 or more persons employed. For a few activities the threshold of 20 employees is lowered to improve coverage.

### **Method of calculation**

The Central Statistics Office calculates the production indices using the chain Laspeyres approach. Data are collected monthly with several imputation methods utilized to estimate for cases of non-response. These include (i) imputation based on historical data; (ii) imputation based on similar products/industries; and (iii) imputation based on other data sources. Various data items and methods are used to obtain the industrial production volumes. These include deflated turnover/sales and measurement of physical output. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine elementary indices into indices for higher levels of the industry classification are gross value added at factor cost. These weights are every five years.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	1.1	8
10 Coal .....	0.3	2
11 Crude petroleum and natural gas.....	0.2	1
12-13 Metal ores .....	0.1	1
14 Other mining .....	0.4	4
<i>D. Manufacturing</i> .....	93.9	193
15-16 Food, beverage, tobacco industries .....	14.3	28
17 Textiles .....	0.6	14
18-19 Wearing apparel, leather and footwear.....	0.6	7
20 Wood and wood products.....	0.7	5
<i>D. Manufacturing (continued)</i>		
21-22 Paper, printing, publishing and recorded media ....	8.5	16
23-25 Chemicals, petroleum, plastic and rubber products .....	32.0	26
26 Non-metallic mineral products .....	2.1	19
27 Basic metals .....	0.6	8
28-29 Fabricated metal products and machinery n.e.c.....	4.4	31
30-33 Office, computing, radio, tv and other electrical equipment.....	26.0	17
34-35 Transport equipment .....	1.6	9
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.5	13
<i>E. Electricity, gas and water supply</i> .....	5.1	3
40 Electricity, gas, steam and hot water supply .....	3.9	2
41 Collection, purification and distribution of water.....	1.2	1
<b>TOTAL</b>	<b>100.0</b>	<b>204</b>

### Other aspects

Extensive monthly *micro* and *macro* edits on returned data and ad hoc comparisons with other data sources occurs (e.g. Structural Business Survey (SBS) data, external trade, balance of payments).

## Israel

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying* and *Manufacturing*. These categories are classified according to sections C and D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units and utilizing available administrative data. The observation units are at the 'Establishment' level.

### Method of calculation

The Israel Central Bureau of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data or similar products/industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. The method used is determined by data availability and suitable methods for particular industries. These various methods include deflated turnover/sales, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are primarily used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine indices to produce industry aggregates are gross value added at factor cost. These weights are updated periodically. In circumstances where the required weighting data are missing/not available then (generally) revenue data are used.

The following table presents the latest weights by industry and is in respect of 2004.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	3.2	13
10 Coal .....	0.0	0
11 Crude petroleum and natural gas .....	0.6	1
12-13 Metal ores .....	0.0	0
14 Other mining .....	2.6	12
<i>D. Manufacturing</i> .....	96.8	223
15-16 Food, beverage, tobacco industries.....	13.6	39

17 Textiles .....	2.8	15
18-19 Wearing apparel, leather and footwear.....	1.0	10
20 Wood and wood products.....	0.5	3
21-22 Paper, printing, publishing and recorded media ....	7.1	12
23-25 Chemicals, petroleum, plastic and rubber products .....	20.9	42
26 Non-metallic mineral products .....	2.8	11
27 Basic metals .....	1.6	8
28-29 Fabricated metal products and machinery n.e.c.....	12.5	22
30-33 Office, computing, radio, tv and other electrical equipment.....	24.3	26
34-35 Transport equipment.....	5.8	12
36-37 Furniture, manufacturing n.e.c. and recycling .....	3.9	23
<b>TOTAL</b>	<b>100.0</b>	<b>236</b>

### Other aspects

Benchmarking occurs between the Industrial Production Index (monthly) and the Manufacturing Survey (yearly).

## Italy

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1 (excluding divisions 10, 12 and 41). The indices are calculated monthly by undertaking a statistical survey of relevant units. In addition, administrative data are obtained from government agencies for parts of the energy and mining sectors as well as trade associations for elements of the manufacturing sector. The observation units are at the 'Unit of homogenous production' or 'Local unit of homogenous production'. Survey data is obtained from units with 20 or more employees. In some activities lower thresholds apply to improve the level of coverage.

### Method of calculation

The Italian National Institute of Statistics (ISTAT) calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with techniques to estimate

for non-response determined by the significance of the unit/business. Imputation for significant units is based on historical data while estimation based on similar products/businesses is used for all other units. Various data items and methods are used to obtain industrial production volumes. This includes output in physical quantities, value data (adjusted for change in inventories) deflated by output prices and hours worked (adjusted for changes in productivity). In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The elementary products are aggregated up to the industry class level using product output values (from the PRODCOM survey) as weights. The aggregation from the industry classes up to the total is based on value added at factor costs weights obtained from Structural Business Survey data. These weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	2.1	9
10 Coal .....	0.0	0
11 Crude petroleum and natural gas .....	1.5	2
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.6	7
<i>D. Manufacturing</i> .....	89.4	536
15-16 Food, beverage, tobacco industries .....	7.6	69
17 Textiles .....	4.9	32
18-19 Wearing apparel, leather and footwear .....	6.3	31
20 Wood and wood products .....	2.1	8
21-22 Paper, printing, publishing and recorded media....	5.5	19
23-25 Chemicals, petroleum, plastic and rubber products.....	13.2	105
26 Non-metallic mineral products .....	4.9	40
27 Basic metals .....	3.5	22
28-29 Fabricated metal products and machinery n.e.c .....	23.0	135
30-33 Office, computing, radio, tv and other electrical equipment.....	9.1	30
34-35 Transport equipment.....	5.4	27
36-37 Furniture, manufacturing n.e.c. and recycling .....	4.2	18

<i>E. Electricity, gas and water supply</i> .....	8.5	3
40 Electricity, gas, steam and hot water supply.....	8.5	3
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>548</b>

### **Other aspects**

The next change of base year will take place in 2009 together with a change in the activity classification.

## **Japan**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying* and *Manufacturing*. These categories are classified according to sections C and D of ISIC Revision 3.1. The industrial production indices are calculated monthly by undertaking a statistical survey of relevant units. The observation unit is the 'Establishment'.

### **Method of calculation**

Japan calculates the industrial production indices using the fixed base Laspeyres approach. Weights are updated every five years. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Two primary approaches are implemented to calculate the IIP. The direct volume of output measure approach utilizes physical quantity output to calculate the IIP. This approach is used extensively in the manufacturing sector. The second primary approach used is where turnover or sales data are deflated to construct the IIP. Where deflation methods are employed, Japan uses the Corporate Goods Price Index (CGPI) as the deflator (which is similar in concept to the producer price indices). Seasonal and working day adjustments are applied to the data.

### **Weighting system**

The data item used by Japan to weight the indices is net value added. Indices at the various levels of the industry classification are produced directly from the product group data by using weights. The index is currently compiled in respect of base year = 2005. The data source for

weighting purposes is the *Census of manufacturing* which is undertaken annually. Data are obtained at the establishment level.

The following table presents the latest weights by industry and is in respect of year 2005.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	0.2	4
10 Coal.....	0.0	1
11 Crude petroleum and natural gas.....	0.1	2
12-13 Metal ores.....	0.1	1
14 Other mining.....	0.0	0
<i>D. Manufacturing</i> .....	99.8	492
15-16 Food, beverage, tobacco industries.....	7.2	41
17 Textiles.....	0.7	13
18-19 Wearing apparel, leather and footwear.....	1.1	9
20 Wood and wood products.....	0.6	4
21-22 Paper, printing, publishing and recorded media....	4.2	13
23-25 Chemicals, petroleum, plastic and rubber products.....	18.5	92
26 Non-metallic mineral products.....	2.9	29
27 Basic metals.....	7.7	39
28-29 Fabricated metal products and machinery n.e.c.....	20.0	107
30-33 Office, computing, radio, tv and other electrical equipment.....	18.7	108
34-35 Transport equipment.....	16.9	20
36-37 Furniture, manufacturing n.e.c. and recycling.....	1.3	17
<b>TOTAL</b>	<b>100.0</b>	<b>496</b>

### **Other aspects**

The industrial production index is reviewed every five years. The main aspects of the revision work include (i) re-calculation of the weights; (ii) a review of the selected products to calculate the index; (iii) review of historical series of the data; and (iv) a re-examination of the methods used for seasonal adjustments.

## **Kenya**

### **Scope and Coverage**

The indices of industrial production cover economic activities for *Mining and quarrying* and *Manufacturing*. These categories are classified according to sections C and D of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of

relevant units. The observation units are at the 'Establishment' level.

### **Method of calculation**

The Kenyan National Bureau of Statistics calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Two primary methods are used to obtain industrial production volumes. These include the measurement of physical output and employment indicators.

### **Weighting system**

The elementary products are aggregated up to the industry class level using the share of the value of production as weights. These weights are based on data obtained in the 1976 Census of Industrial Production and are brought forward each year using data from the annual Labour Enumeration Survey. The aggregation from the industry classes up to the total is based on value added at factor cost. These weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2005.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>C. Mining &amp; Quarrying</i> .....	4.3
10 Coal .....	n.a.
11 Crude petroleum and natural gas .....	n.a.
12-13 Metal ores .....	n.a.
14 Other mining .....	n.a.
<i>D. Manufacturing</i> .....	95.7
15-16 Food, beverage, tobacco industries .....	31.4
17 Textiles .....	4.1
18-19 Wearing apparel, leather and footwear.....	4.7
20 Wood and wood products.....	3.5
21-22 Paper, printing, publishing and recorded media .....	6.8
23-25 Chemicals, petroleum, plastic and rubber products.....	20.2
26 Non-metallic mineral products ...	9.8
27 Basic metals .....	1.8
28-29 Fabricated metal products and machinery n.e.c .....	7.4
30-33 Office, computing, radio, tv and other electrical equipment.....	2.1
34-35 Transport equipment .....	2.1
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.9
<b>TOTAL</b>	<b>100.0</b>

### **Other aspects**

The Kenyan National Bureau of Statistics has identified areas of the index which require attention. Work is on-going to update the current structure of the index as well as introducing new products and removing outdated products.

## **Kyrgyzstan**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### **Method of calculation**

The National Statistical Committee of Kyrgyzstan calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data or similar products/industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes, in particular direct volume of input and output measures. Seasonal adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine indices at the lower levels of the industry classification into indices for higher levels are gross value added at factor cost according to the most recently available data.

The following table presents the latest weights by industry.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>C. Mining &amp; Quarrying</i> .....	3.0
10-11 Coal, crude petroleum and natural gas .....	1.5
12-14 Metal ores and other mining .	1.5

<i>D. Manufacturing</i> .....	75.0
15-16 Food, beverage, tobacco industries	18.0
17-19 Textiles, wearing apparel, leather and footwear.....	3.8
20 Wood and wood products.....	0.2
21-22 Paper, printing, publishing and recorded media.....	1.5
23-25 Chemicals, petroleum, plastic and rubber products.....	2.9
26 Non-metallic mineral products ...	7.3
27-29 Basic metals, fabricated metal products and machinery n.e.c.....	38.6
30-33 Office, computing, radio, tv and other electrical equipment.....	2.3
34-35 Transport equipment.....	0.3
36-37 Furniture, manufacturing n.e.c. and recycling.....	0.2
<i>E. Electricity, gas and water supply</i> .....	22.0
40-41 Electricity, gas, steam and hot water supply and Collection, purification and distribution of water.....	22.0
<b>TOTAL</b>	<b>100.0</b>

## Latvia

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. The survey covers enterprises where 20 or more persons are employed in industrial production or where industrial turnover in the previous year was 300,000 Latvian Lats (LVL) or more.

### *Method of calculation*

The Central Statistical Bureau of Latvia calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The production index is based on deflated production value. Producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

Indices for the lowest level of the index structure are obtained by first deflating the current value output data for each of the industry classes using

the corresponding producer price index. These detailed activity level indices are weighted together using value added at factor costs to form higher aggregations of the industry classification. The value added weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	1.3	4
10 Coal.....	0.8	1
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores.....	0.0	0
14 Other mining.....	0.5	3
<i>D. Manufacturing</i> .....	73.2	190
15-16 Food, beverage, tobacco industries.....	20.4	30
17 Textiles.....	4.3	15
18-19 Wearing apparel, leather and footwear.....	4.1	9
20 Wood and wood products.....	14.9	6
21-22 Paper, printing, publishing and recorded media....	4.9	17
23-25 Chemicals, petroleum, plastic and rubber products.....	3.6	22
26 Non-metallic mineral products.....	2.4	15
27 Basic metals.....	3.8	5
28-29 Fabricated metal products and machinery n.e.c.....	5.7	33
30-33 Office, computing, radio, tv and other electrical equipment.....	2.6	16
34-35 Transport equipment.....	2.5	8
36-37 Furniture, manufacturing n.e.c. and recycling.....	4.0	14
<i>E. Electricity, gas and water supply</i> .....	25.5	4
40 Electricity, gas, steam and hot water supply.....	24.1	3
41 Collection, purification and distribution of water.....	1.4	1
<b>TOTAL</b>	<b>100.0</b>	<b>198</b>

### *Other aspects*

*Treatment of confidential data* - Confidential data are treated by suppression. Data at the 4-digit level of the activity classification are kept confidential. Data are also suppressed at higher levels of the classification if there are 3 or less enterprises; or one enterprise accounts for more than 80% of the estimate; or two enterprises account for more than 90% of the estimate. Also the data of individual enterprises or establishment are confidential.

## Lesotho

### *Scope and Coverage*

The industrial production indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units. The observation units are at the 'Establishment' level.

### *Method of calculation*

Lesotho Bureau of Statistics calculates the production indices using the chain Laspeyres approach. Data are collected quarterly with imputation based on similar products/industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover/sales (in some cases adjusted for change in inventories), measurement of physical output and measurement of raw material consumption (inputs). In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators.

### *Weighting system*

Weights are used to combine indices to form industry classes and higher levels of the industry classification. These weights are updated annually. In circumstances where the required weighting data are missing/not available then (generally) data from the previous year is adjusted and used.

Note – weights by industry were not available for inclusion in this report.

### *Other aspects*

The Lesotho Bureau of Statistics will commence work in 2008 to include *Mining and quarrying* and *Electricity, gas and water supply* into their index of industrial production.

## Lithuania

### *Scope and Coverage*

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water*

*supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from units of all employment sizes. The businesses in the sample cover about 90 percent of total industrial production.

### *Method of calculation*

Statistics Lithuania calculates the production indices using the chain Paasche approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Administrative data are also used for some cases of non-response. The industrial production index is calculated by collecting monthly production values (sales/turnover excluding value added tax and excises) sold by enterprises during the reporting month. These current period values are deflated by applying the producer price index. The volume of production sold during the reference month is then divided by the volume of production sold during preceding month at constant prices (without Value Added Tax and excises). This is done at the 4-digit level of the industry classification. These deflated data are aggregated to form higher levels of the industry classification. Seasonal and working day adjustments are applied to the data (using DEMETRA – TREMO/SEATS software) and form the basis of the published results.

### *Weighting system*

Details associated with the weighting practices were not available for inclusion in this report. The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	2.9	5
10 Coal .....	n.a.	1
11 Crude petroleum and natural gas .....	n.a.	1
12-13 Metal ores .....	n.a.	0
14 Other mining .....	n.a.	3
<i>D. Manufacturing</i> .....	81.4	99
15-16 Food, beverage, tobacco industries .....	18.7	10
17 Textiles.....	14.8	7

18-19 Wearing apparel, leather and footwear.....	1.2	6
20 Wood and wood products.....	5.4	5
21-22 Paper, printing, publishing and recorded media....	5.6	5
23-25 Chemicals, petroleum, plastic and rubber products.....	14.8	9
26 Non-metallic mineral products.....	3.0	8
27-29 Basic metals, fabricated metal products and machinery n.e.c.....	8.2	19
30-33 Office, computing, radio, tv and other electrical equipment.....	6.1	14
34-35 Transport equipment.....	2.2	8
36-37 Furniture, manufacturing n.e.c. and recycling.....	4.3	8
<i>E. Electricity, gas and water supply.....</i>	<i>15.8</i>	<i>4</i>
40 Electricity, gas, steam and hot water supply.....	n.a.	3
41 Collection, purification and distribution of water.....	n.a.	1
<b>TOTAL</b>	<b>100.0</b>	<b>108</b>

### Other aspects

The IIP survey is compulsory. Preliminary data are released 22 days after the end of the reference month. The final data are published 28 days after the end of the reference month.

## Luxembourg

### Scope and Coverage

The industrial production indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. Note that some divisions/groups of the classification are excluded as no industry for these areas exist in Luxembourg. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Units employing 20 persons or more are included in the population. However, smaller units are taken into account whenever they are of importance for the branch they belong to or when employment is not a good indicator of production.

### Method of calculation

The Statistical Office of Luxembourg calculates the production indices using the fixed base

Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. A number of methods and data items are used to obtain industrial production volumes. These include deflated turnover, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are primarily used as the deflators. Working (trading) day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine indices for industry classes and higher levels of the industry classification are gross value added at factor cost. These weights are updated every five years and the current base year is 2000.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying.....</i>	<i>1.1</i>	<i>2</i>
10 Coal.....	0.0	0
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores.....	0.0	0
14 Other mining.....	1.1	2
<i>D. Manufacturing.....</i>	<i>87.8</i>	<i>70</i>
15-16 Food, beverage, tobacco industries.....	6.8	10
17 Textiles.....	6.3	4
18-19 Wearing apparel, leather and footwear.....	0.0	0
20 Wood and wood products.....	1.4	3
21-22 Paper, printing, publishing and recorded media....	6.5	5
23-25 Chemicals, petroleum, plastic and rubber products.....	17.2	13
26 Non-metallic mineral products.....	9.4	8
27 Basic metals.....	18.7	5
28-29 Fabricated metal products and machinery n.e.c.....	17.1	16
30-33 Office, computing, radio, tv and other electrical equipment.....	3.4	4
34-35 Transport equipment.....	0.5	1
36-37 Furniture, manufacturing n.e.c. and recycling.....	0.4	1
<i>E. Electricity, gas and water supply.....</i>	<i>11.2</i>	<i>2</i>
40 Electricity, gas, steam and hot water supply.....	11.2	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>74</b>

## Malaysia

### Scope and Coverage

The indices of industrial production cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly, utilizing both survey and administrative data. Data on the manufacturing sector are obtained through a monthly survey while for the oil and gas industry as well as electricity, gas and steam supply, administrative data are used. Where survey data are collected, the observation unit is at the 'Establishment' level.

### Method of calculation

The Malaysian Department of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The primary method to obtain industrial production volumes is the direct volume of output measure.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production and this is updated every five years. The weights used to combine these indices into indices for industry higher levels of the industry classification are gross value added at factor cost. These weights are also updated every five years.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	23.4	2
10 Coal .....	0.0	0
11 Crude petroleum and natural gas.....	23.3	1
12-13 Metal ores .....	0.0	1
14 Other mining .....	0.0	0
<i>D. Manufacturing</i> .....	70.7	86
15-16 Food, beverage, tobacco industries .....	5.3	17
17 Textiles .....	1.6	4
18-19 Wearing apparel, leather and footwear.....	1.1	2

20 Wood and wood products .....	2.6	3
21-22 Paper, printing, publishing and recorded media....	1.4	2
23-25 Chemicals, petroleum, plastic and rubber products.....	19.4	21
26 Non-metallic mineral products.....	3.3	6
27 Basic metals .....	1.8	3
28-29 Fabricated metal products and machinery n.e.c .....	3.9	9
30-33 Office, computing, radio, tv and other electrical equipment.....	28.0	16
34-35 Transport equipment.....	2.3	3
36-37 Furniture, manufacturing n.e.c. and recycling .....	0.0	0

<i>E. Electricity, gas and water supply</i> .....	6.0	1
40 Electricity, gas, steam and hot water supply.....	6.0	1
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>89</b>

### Other aspects

Work is currently underway to update the base year to 2005.

## Maldives

### Scope and Coverage

The industrial production indices cover economic activities for *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections D and E of ISIC Revision 3.1. [Note indices are also produced for section B – *Fishing* though they do not form part of this report]. The industrial production indices are calculated quarterly by undertaking a statistical survey of in-scope units. The observation units are at the 'Establishment' level.

### Method of calculation

The Ministry of Planning and National Development calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover, measurement of physical output and hours worked.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost. These weights are updated periodically. In circumstances where the required weighting data are missing/not available then (generally) data from the alternate sources are used.

The following table presents the latest weights by industry and is in respect of 1997.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>D. Manufacturing</i> .....	73.3	20
15-16 Food, beverage, tobacco industries .....	35.9	2
17 Textiles .....	0.0	0
18-19 Wearing apparel, leather and footwear .....	14.7	2
20 Wood and wood products .....	2.2	2
21-22 Paper, printing, publishing and recorded media ....	2.3	2
23-25 Chemicals, petroleum, plastic and rubber products .....	0.3	2
26 Non-metallic mineral products .....	1.4	2
27 Basic metals .....	0.0	0
28-29 Fabricated metal products and machinery n.e.c.....	4.4	4
30-33 Office, computing, radio, tv and other electrical equipment .....	0.0	0
34-35 Transport equipment .....	6.6	2
36-37 Furniture, manufacturing n.e.c. and recycling .....	5.7	2
<i>E. Electricity, gas and water supply</i> .....	26.7	4
40 Electricity, gas, steam and hot water supply .....	24.5	2
41 Collection, purification and distribution of water .....	2.2	2
<b>TOTAL</b>	<b>100.0</b>	<b>24</b>

### Other aspects

An economic survey is planned for 2007 with collected data to be used to update the weights of the index of industry production. This survey will then be undertaken at five yearly intervals (and weights updated accordingly).

## Mauritania

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Survey data are used to compile the index.

### Method of calculation

The Office National de la Statistique (ONS) calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover (in some cases adjusted for change in inventories) and measurement of physical output. Seasonal adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights of the index are updated at five yearly intervals. It is at this time that significant new products are introduced into the index. The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	85.5
10 Coal .....	0.0
11 Crude petroleum and natural gas .....	49.7
12-13 Metal ores .....	35.7
14 Other mining .....	0.0
<i>D. Manufacturing</i> .....	9.4
15-16 Food, beverage, tobacco industries .....	4.7
17 Textiles .....	0.0
18-19 Wearing apparel, leather and footwear .....	0.0
20 Wood and wood products .....	0.0
21-22 Paper, printing, publishing and recorded media .....	0.3
23-25 Chemicals, petroleum, plastic and rubber products .....	0.4
26 Non-metallic mineral products ...	3.3
27 Basic metals .....	0.4
28-29 Fabricated metal products and machinery n.e.c .....	0.2

30-33 Office, computing, radio, tv and other electrical equipment.....	0.0
34-35 Transport equipment.....	0.0
36-37 Furniture, manufacturing n.e.c. and recycling.....	0.0

<i>E. Electricity, gas and water supply.....</i>	<i>5.1</i>
40 Electricity, gas, steam and hot water supply.....	3.7
41 Collection, purification and distribution of water.....	1.4
<b>TOTAL</b>	<b>100.0</b>

### **Other aspects**

The production index is published at the two digit level of the NAEMA classification (Nomenclature des Activites des Etats Membres d'AFRISTAT).

## **Mauritius**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units and by utilizing administrative data. The observation units are at the 'Establishment' level.

### **Method of calculation**

The Central Statistics Office of Mauritius calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data and similar industries to estimate for cases of non-response. The primary method to calculate the index of industrial production is deflated turnover. Both the producer price index (PPI) and the export price index (EPI) are used as the deflators. The export price index is used as a deflator for export processing zone enterprises.

### **Weighting system**

The weights used to combine indices to produce higher levels of the industry classification are gross value added at basic prices according to the most recently available data. These weights are updated at five yearly intervals. New

products are introduced during the five yearly update of weights.

The following table presents the latest weights by industry and is in respect of 2002.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying.....</i>	<i>0.3</i>	<i>1</i>
10 Coal.....	0.0	0
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores.....	0.0	0
14 Other mining.....	0.3	1
<i>D. Manufacturing.....</i>	<i>89.0</i>	<i>87</i>
15-16 Food, beverage, tobacco industries.....	21.7	19
17 Textiles.....	5.5	12
18-19 Wearing apparel, leather and footwear.....	38.9	9
20 Wood and wood products.....	0.5	2
21-22 Paper, printing, publishing and recorded media....	4.6	7
23-25 Chemicals, petroleum, plastic and rubber products.....	5.9	10
26 Non-metallic mineral products.....	3.3	6
27 Basic metals.....	1.3	1
28-29 Fabricated metal products and machinery n.e.c.....	2.7	3
30-33 Office, computing, radio, tv and other electrical equipment.....	1.2	8
34-35 Transport equipment.....	0.3	3
36-37 Furniture, manufacturing n.e.c. and recycling.....	2.7	7
<i>E. Electricity, gas and water supply.....</i>	<i>10.8</i>	<i>1</i>
40 Electricity, gas, steam and hot water supply.....	n.a.	n.a.
41 Collection, purification and distribution of water.....	n.a.	n.a.
<b>TOTAL</b>	<b>100.0</b>	<b>89</b>

### **Other aspects**

Data are collected at a detailed industry level. This is the 5 digit level of the national classification, which is an extension of the International Standard Industrial Classification of all Economic Activities (ISIC).

## **Mexico**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are

calculated monthly by undertaking a statistical survey of relevant units as well as utilizing available administrative data. The observation units are at the 'Establishment' level.

### **Method of calculation**

The National Institute of Statistics Mexico calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data as well as similar products/industries to estimate for cases of non-response. Two primary methods are used to obtain industrial production volumes. These are the measurement of physical output and hours worked. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added. These weights are updated periodically. The two most recent weight updates occurred in respect of 1980 and 1993.

The following table presents the latest weights by industry and is in respect of 1993.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	100.0	13
10 Coal .....	4.4	1
11 Crude petroleum and natural gas.....	57.4	1
12-13 Metal ores .....	14.9	4
14 Other mining .....	23.3	7
<i>D. Manufacturing</i> .....	100.0	184
15-16 Food, beverage, tobacco industries .....	26.0	38
17 Textiles .....	3.7	16
18-19 Wearing apparel, leather and footwear.....	5.1	12
20 Wood and wood products.....	3.2	6
<i>D. Manufacturing (continued)</i>		
21-22 Paper, printing, publishing and recorded media ....	5.2	8
23-25 Chemicals, petroleum, plastic and rubber products .....	15.9	32
26 Non-metallic mineral products .....	8.0	12
27 Basic metals .....	4.4	7
28-29 Fabricated metal products and machinery n.e.c.....	8.3	24

30-33 Office, computing, radio, tv and other electrical equipment.....	4.4	8
34-35 Transport equipment.....	11.5	12
36-37 & 33 Furniture, manufacturing n.e.c.; recycling and medical, precision etc.....	3.3	9
<i>E. Electricity, gas and water supply</i> .....	100.0	3
40-41 Electricity, gas, steam and hot water supply; and Collection, purification and distribution of water.....	100.0	3
<b>TOTAL</b>		<b>200</b>

### **Other aspects**

The production index is adjusted annually (benchmarked) to the development of the gross value added at basic prices of the National Accounts. Work is also underway to update the base year to 2003.

## **Mongolia**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level.

### **Method of calculation**

The National Statistical Office of Mongolia calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly. The measurement of physical output is the primary method used to compute the index of industrial production.

### **Weighting system**

Data are collected at the industry level with the starting level of aggregation at the 2 digit ISIC level. No additional weighting information was available.

Note – weights by industry were not available for inclusion in this report.

### ***Other aspects***

The current base year of the industrial production indices is 2005. Before 2005, Mongolia estimated industrial production with a base year of 1995.

## **Morocco**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units as well as utilizing administrative data. Administrative data are used for mining and oil refining while survey data are used for the remaining industries. The observation units are at the 'Enterprise' level.

### ***Method of calculation***

The Statistics Directorate of Morocco calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly. Various data items and methods are used to obtain industrial production volumes. The primary method is the measurement of physical output. In some limited cases 'hours worked' and 'raw material consumption' are also used.

### ***Weighting system***

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added. These weights are updated periodically.

The following table presents the latest weights by industry and is in respect of 1998.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	100.0	15
10 Coal .....	0.0	0
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores .....	10.1	4
14 Other mining .....	89.9	11

<i>D. Manufacturing</i> .....	100.0	319
15-16 Food, beverage, tobacco industries.....	23.0	54
17 Textiles.....	6.5	26
18-19 Wearing apparel, leather and footwear .....	14.4	28
20 Wood and wood products .....	0.9	13
21-22 Paper, printing, publishing and recorded media....	4.8	21
23-25 Chemicals, petroleum, plastic and rubber products.....	21.6	56
26 Non-metallic mineral products.....	9.0	19
27 Basic metals .....	5.3	11
28-29 Fabricated metal products and machinery n.e.c .....	6.4	43
30-33 Office, computing, radio, tv and other electrical equipment.....	3.8	24
34-35 Transport equipment.....	3.3	13
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.1	11
<i>E. Electricity, gas and water supply</i> .....	100.0	1
<b>TOTAL</b>		<b>335</b>

## **Nepal**

### ***Scope and Coverage***

The indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units. The observation units are at the 'Establishment' level.

### ***Method of calculation***

The Central Bureau of Statistics of Nepal calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. The measurement of physical output is the method used to obtain industrial production volumes.

### ***Weighting system***

The weights currently used by the index are those obtained from the 'Census of manufacturing establishments' conducted in 2001. The weights are used to combine indices of product groups to produce indices for the various levels of the industry classification. These weights are updated at five yearly intervals.

The following table presents the latest weights by industry and is in respect of 2001.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>D. Manufacturing</i> .....	100.0	34
15-16 Food, beverage, tobacco industries .....	47.8	15
17 Textiles .....	13.0	6
18-19 Wearing apparel, leather and footwear.....	8.1	2
20 Wood and wood products.....	1.0	1
21-22 Paper, printing, publishing and recorded media....	3.0	2
23-25 Chemicals, petroleum, plastic and rubber products.....	15.1	3
26 Non-metallic mineral products.....	5.3	2
27 Basic metals .....	5.2	2
28-29 Fabricated metal products and machinery n.e.c.....	0.0	0
30-33 Office, computing, radio, tv and other electrical equipment.....	1.7	1
34-35 Transport equipment.....	0.0	0
36-37 Furniture, manufacturing n.e.c. and recycling .....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>34</b>

## Netherlands

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from units with more than 19 employees.

### Method of calculation

Statistics Netherlands calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are primarily used as the deflators. Seasonal and working day adjustments

are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine indices to produce higher levels of the industry classification are gross value added at basic prices according to the most recently available data. These weights are updated annually. In circumstances where the required weighting data are missing/not available then (generally) data from the previous year is adjusted and used.

The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	19.3	3
10 Coal.....	0.0	0
11 Crude petroleum and natural gas .....	18.8	2
12-13 Metal ores .....	0.0	0
14 Other mining .....	0.5	1
<i>D. Manufacturing</i> .....	71.7	107
15-16 Food, beverage, tobacco industries .....	12.6	31
17 Textiles.....	0.9	2
18-19 Wearing apparel, leather and footwear .....	0.3	2
20 Wood and wood products .....	1.2	1
21-22 Paper, printing, publishing and recorded media....	8.3	5
23-25 Chemicals, petroleum, plastic and rubber products.....	16.8	18
<i>D. Manufacturing (continued)</i>		
26 Non-metallic mineral products.....	2.4	8
27 Basic metals .....	3.1	5
28-29 Fabricated metal products and machinery n.e.c .....	12.8	14
30-33 Office, computing, radio, tv and other electrical equipment.....	4.0	5
34-35 Transport equipment.....	3.8	8
36-37 Furniture, manufacturing n.e.c. and recycling .....	5.4	8
<i>E. Electricity, gas and water supply</i> .....	9.0	3
40 Electricity, gas, steam and hot water supply.....	8.0	2
41 Collection, purification and distribution of water.....	1.1	1
<b>TOTAL</b>	<b>100.0</b>	<b>113</b>

### Other aspects

The production index is adjusted annually (benchmarked) to the development of the gross value added at basic prices of the three most recent years of National Accounts. Figures to the year (t-3) are considered

permanent because all the available information has been incorporated. Figures referring to years (t-2) and (t-1) are provisional, since not all the information is available in detail.

## Norway

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units as well as obtaining administrative data. Administrative data are used in oil and gas extraction and electricity, gas and steam supply. The observation units are at the 'Establishment' level.

### *Method of calculation*

Statistics Norway calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data and similar industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes, though the majority of industry indices are calculated using measurement of physical output and hours worked. Of note is that where hours worked is used, these data are adjusted for changes in productivity. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	62.5	10
10 Coal .....	0.1	2
11 Crude petroleum and natural gas .....	61.9	2
12-13 Metal ores .....	0.1	2
14 Other mining .....	0.4	4
<i>D. Manufacturing</i> .....	28.5	108
15-16 Food, beverage, tobacco industries .....	5.1	14
17 Textiles.....	0.3	7
18-19 Wearing apparel, leather and footwear .....	0.1	6
20 Wood and wood products .....	1.2	5
21-22 Paper, printing, publishing and recorded media....	3.8	7
23-25 Chemicals, petroleum, plastic and rubber products.....	3.9	11
26 Non-metallic mineral products.....	1.0	7
27 Basic metals .....	2.4	6
28-29 Fabricated metal products and machinery n.e.c .....	4.0	13
30-33 Office, computing, radio, tv and other electrical equipment.....	2.1	14
34-35 Transport equipment.....	3.5	10
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.1	8
<i>E. Electricity, gas and water supply</i> .....	9.1	2
40 Electricity, gas, steam and hot water supply.....	9.1	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>120</b>

### *Other aspects*

The productivity factors that are applied to 'hours worked' data to construct index results for selected industries are updated periodically. Statistics Norway is currently examining options to update these productivity factors more often. A change to the seasonal adjustment methodology to allow the effect of Easter and Pentecost to differ by industry is also under consideration.

## Occupied Palestinian Territory

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical

survey of relevant units. The observation units are at the 'Establishment' level.

### **Method of calculation**

The Palestinian Central Bureau of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. The measurement of physical output is the method employed to construct the index of industrial production. Seasonal adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost. These weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	3.6	6
10 Coal .....	0.0	0
11 Crude petroleum and natural gas.....	0.0	0
12-13 Metal ores .....	0.0	0
14 Other mining .....	3.6	6
<i>D. Manufacturing</i> .....	80.2	200
15-16 Food, beverage, tobacco industries .....	31.8	50
17 Textiles .....	1.9	6
18-19 Wearing apparel, leather and footwear.....	8.5	14
20 Wood and wood products.....	1.6	5
21-22 Paper, printing, publishing and recorded media ....	4.4	12
23-25 Chemicals, petroleum, plastic and rubber products .....	10.3	21
26 Non-metallic mineral products .....	13.3	24
27 Basic metals .....	0.1	3
28-29 Fabricated metal products and machinery n.e.c.....	3.5	33
30-33 Office, computing, radio, tv and other electrical equipment.....	0.5	11
34-35 Transport equipment.....	0.1	3
36-37 Furniture, manufacturing n.e.c. and recycling .....	4.2	18

<i>E. Electricity, gas and water supply</i> .....	16.7	6
40 Electricity, gas, steam and hot water supply.....	16.2	2
41 Collection, purification and distribution of water.....	0.5	4
<b>TOTAL</b>	<b>100.0</b>	<b>212</b>

## **Poland**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Survey data are obtained from all units with 50 or more employees and a sample of units with 10-49 employees.

### **Method of calculation**

The Central Statistical Office of Poland calculates the production indices using the chain Laspeyres approach. Data are collected monthly at the 3 digit industry level with imputation based on historical data and similar industries to estimate for cases of non-response. Industrial production volumes are obtained by deflating turnover/sales with an appropriate producer price index (PPIs). Of note is that the PPIs are compiled using the Paasche formula. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

Details associated with the weighting practices were not available for inclusion in this report. The current base reference year is 2000.

### **Other aspects**

Traditionally, monthly questionnaires were sent to reporting units via mail. However, since April 2005, questionnaires can be obtained (from the CSO's Internet web site) and submitted electronically. This improves the survey processing time.

## Portugal

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from sampled units based on their industry activity and number of employees. The minimum number of employees for inclusion in the survey is 5, 9 or 19 depending on type of industry.

### *Method of calculation*

The National Institute of Statistics of Portugal calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly at the product level. Imputation is based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated production values, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

Value of production is generally used as the weight at the elementary level of the index. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated every five years. Work is currently underway to update the base period to 2005.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	1.9
10 Coal .....	0.0
11 Crude petroleum and natural gas .....	0.0
12-13 Metal ores .....	0.9
14 Other mining .....	0.9
<i>D. Manufacturing</i> .....	86.3
15-16 Food, beverage, tobacco industries .....	10.9
17 Textiles .....	6.6
18-19 Wearing apparel, leather and footwear .....	9.1
20 Wood and wood products .....	3.6
21-22 Paper, printing, publishing and recorded media.....	9.1
23-25 Chemicals, petroleum, plastic and rubber products .....	10.0
26 Non-metallic mineral products ...	8.9
27 Basic metals .....	1.9
28-29 Fabricated metal products and machinery n.e.c .....	10.7
30-33 Office, computing, radio, tv and other electrical equipment.....	6.5
34-35 Transport equipment.....	5.4
36-37 Furniture, manufacturing n.e.c. and recycling.....	3.8
<i>E. Electricity, gas and water supply</i> .....	11.8
40 Electricity, gas, steam and hot water supply .....	11.8
41 Collection, purification and distribution of water .....	0.0
<b>TOTAL</b>	<b>100.0</b>

### *Other aspects*

The most representative products in each 2 digit heading are selected. On average, the products in the basket account for 90% of total output in the Division.

For those enterprises that produce the selected products, a sample is drawn to cover 80% of the sale value of these products.

## Republic of Montenegro

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1 [though only electricity production is available for section E]. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### **Method of calculation**

The Statistical Office of the Republic of Montenegro calculates the production indices using the chain Laspeyres approach. Data are collected monthly at the product group level.

### **Weighting system**

Share of production value is used as the weight at the elementary level of the index. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated every five years.

Note – weights by industry were not available for inclusion in this report.

## **Republic of Serbia**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from units with more than 20 employees. These units represent 80% of total production.

### **Method of calculation**

The Republic of Serbia Statistical Office calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. The measurement of physical output is the primary method used to obtain industrial production volumes. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

Share of production value is used as the weight at the elementary level of the index. The weights used to combine these indices into

indices for higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated annually.

The following table presents the latest weights by industry and is in respect of 2006.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	6.3	16
10 Coal .....	3.1	4
11 Crude petroleum and natural gas .....	2.3	4
12-13 Metal ores .....	0.1	4
14 Other mining .....	0.9	4
<i>D. Manufacturing</i> .....	75.4	92
15-16 Food, beverage, tobacco industries .....	24.7	8
17 Textiles.....	1.5	4
<i>D. Manufacturing (continued)</i>		
18-19 Wearing apparel, leather and footwear .....	2.3	8
20 Wood and wood products .....	0.7	4
21-22 Paper, printing, publishing and recorded media....	4.2	8
23-25 Chemicals, petroleum, plastic and rubber products.....	16.5	12
26 Non-metallic mineral products.....	4.1	4
27 Basic metals .....	8.2	4
28-29 Fabricated metal products and machinery n.e.c .....	5.0	8
30-33 Office, computing, radio, tv and other electrical equipment.....	3.2	16
34-35 Transport equipment.....	2.5	8
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.6	8
<i>E. Electricity, gas and water supply</i> .....	18.3	8
40 Electricity, gas, steam and hot water supply.....	16.7	4
41 Collection, purification and distribution of water.....	1.6	4
<b>TOTAL</b>	<b>100.0</b>	<b>116</b>

### **Other aspects**

The industrial production index is reviewed every five years.

## **Romania**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are

calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from all units with more than 50 employees. A sample of units is selected from units with 4 to 49 employees. Units with less than 4 employees are excluded from the survey.

### **Method of calculation**

The Romanian National Institute of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly at the product group level. Various data items and methods are used to obtain industrial production volumes. These include measurement of physical output. In cases where products are observed as values unit (national currency), producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The elementary indices (i.e. at the level of the products) are aggregated using the value of production (based on quantity and average price of the base year), while for higher aggregations gross value added at factor cost for the base year is used (from the Structural Business Survey). Weights at all levels are updated at five yearly intervals. The reference of the latest update is year 2000.

The following table presents the latest weights by industry and is in respect of 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	11.5	58
10 Coal .....	3.1	8
11 Crude petroleum and natural gas.....	6.6	10
12-13 Metal ores .....	0.7	6
14 Other mining .....	1.0	34
<i>D. Manufacturing</i> .....	80.3	1442
15-16 Food, beverage, tobacco industries .....	16.9	177
17 Textiles .....	3.1	76
18-19 Wearing apparel, leather and footwear.....	7.4	86
20 Wood and wood products.....	2.8	26
21-22 Paper, printing, publishing and recorded media ....	3.8	48
23-25 Chemicals, petroleum, plastic and rubber products .....	11.8	243

26 Non-metallic mineral products .....	4.5	83
27 Basic metals .....	6.6	149
28-29 Fabricated metal products and machinery n.e.c .....	9.8	337
30-33 Office, computing, radio, tv and other electrical equipment.....	4.3	117
34-35 Transport equipment.....	5.8	49
36-37 Furniture, manufacturing n.e.c. and recycling .....	3.6	51

<i>E. Electricity, gas and water supply</i> .....	8.2	11
40 Electricity, gas, steam and hot water supply.....	5.6	5
41 Collection, purification and distribution of water.....	2.6	6
<b>TOTAL</b>	<b>100.0</b>	<b>1511</b>

### **Other aspects**

The sample of businesses from which data is requested to compile the index of industrial production totals about 9,000 units. This sample is updated annually.

## **Russian Federation**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity' (KAU) level.

### **Method of calculation**

Statistics Russia calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly. The measurement of physical output is the method employed to obtain industrial production volumes.

### **Weighting system**

The weight used to combine indices to produce higher levels of the industry classification is the share of gross value added according to the most recently available data. These weights are updated periodically.

The following table presents the latest weights by industry and is in respect of 2002.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	100.0	54
10 Coal .....	5.4	12
11 Crude petroleum and natural gas.....	81.0	9
12-13 Metal ores .....	7.2	16
14 Other mining .....	6.4	17
<i>D. Manufacturing</i> .....	100.0	468
15-16 Food, beverage, tobacco industries .....	17.6	53
17 Textiles .....	1.1	23
18-19 Wearing apparel, leather and footwear.....	1.4	22
20 Wood and wood products.....	2.1	15
21-22 Paper, printing, publishing and recorded media ....	4.6	22
23-25 Chemicals, petroleum, plastic and rubber products .....	15.8	47
26 Non-metallic mineral products .....	5.3	43
27 Basic metals .....	15.5	31
28-29 Fabricated metal products and machinery n.e.c.....	14.1	94
30-33 Office, computing, radio, tv and other electrical equipment.....	6.8	51
34-35 Transport equipment.....	13.5	34
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.2	33
<i>E. Electricity, gas and water supply</i> .....	100.0	24
40 Electricity, gas, steam and hot water supply .....	93.7	22
41 Collection, purification and distribution of water.....	6.3	2
<b>TOTAL</b>	<b>100.0</b>	<b>546</b>

## Senegal

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level.

### *Method of calculation*

The National Agency for Statistics and Demography of Senegal calculates the production indices using the fixed base Laspeyres approach. Data are collected

quarterly with imputation based on historical data as well as similar products /industries to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover (in some cases adjusted for change in inventories), measurement of physical output and hours worked. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

The elementary indices (i.e. at the level of the products) are aggregated using production values, while for higher aggregations gross value added at factor cost is used. Weights at all levels are updated at five yearly intervals. The reference period of the latest weight update is 1999.

Note – weights by industry were not available for inclusion in this report.

### *Other aspects*

The National Agency for Statistics and Demography of Senegal is currently reviewing and updating their index. A major change is the update of the base weight period from 1999 to 2006. This change is expected to take effect from 2008.

## Singapore

### *Scope and Coverage*

The indices cover economic activities for *Manufacturing*. This category is classified in section C of the Singapore Standard Industrial Classification (2005) and corresponds to section D of ISIC revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant operating units. The observation units are at the 'Establishment' level.

### *Method of calculation*

The Research & Statistics Unit of the Singapore Economic Development Board calculates the production indices using the Laspeyres approach. Data are collected monthly, by product, with imputation based on historical data to estimate

for cases of non-response. The production is measured by the physical volume or value. When value is used to measure production, it is deflated by appropriate product price index selected from the Singapore Manufactured Products Price Indices compiled by the Department of Statistics.

### **Weighting system**

The elementary indices (i.e. at the level of the products) are aggregated using production values, while for higher aggregations value added is used. These weights are updated at four yearly intervals. The reference period of the latest weight update is 2007. The weighting pattern of the index is derived from data taken from the 2006 Census of Manufacturing Activities.

The following table presents the latest weights by industry and is in respect of 2006.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries	2.3
17 Textiles .....	0.1
18-19 Wearing apparel, leather and footwear .....	0.5
20 Wood and wood products .....	0.1
21-22 Paper, printing, publishing and recorded media .....	2.9
23-25 Chemicals, petroleum, plastic and rubber products .....	35.2
26 Non-metallic mineral products ...	0.7
27 Basic metals .....	0.6
28-29 Fabricated metal products and machinery n.e.c. ....	11.8
30-33 Office, computing, radio, tv and other electrical equipment .....	37.0
34-35 Transport equipment .....	8.3
36-37 Furniture, manufacturing n.e.c. and recycling .....	0.5

## **Slovakia**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical

survey of relevant units. The observation units are at the 'Enterprise' level. Survey data are obtained from all units with more than 20 employees. In addition, enterprises with less than 20 employees are included if they:

- are statistically important (as determined by industry experts);
- or have turnover in excess of a threshold.

### **Method of calculation**

The Statistical Office of the Slovak Republic calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly, by product group, with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated production values, measurement of physical output, and measurement of raw material consumption and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The elementary indices (i.e. at the level of the products) are aggregated using production values, while for higher aggregations at the industry level value added at factor cost is used. The weights at all levels are updated every five years. The current weight reference period is 2000 while the next update for the year 2005 is expected in 2009.

The following table presents the latest weights by industry and is in respect of 2000.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	3.5	16
10 Coal .....	1.1	2
11 Crude petroleum and natural gas .....	1.4	3
12-13 Metal ores .....	0.3	2
14 Other mining .....	0.6	9
<i>D. Manufacturing</i> .....	77.2	521
15-16 Food, beverage, tobacco industries .....	9.1	62
17 Textiles .....	1.7	22
18-19 Wearing apparel, leather and footwear .....	3.5	30
20 Wood and wood products .....	1.2	14
21-22 Paper, printing, .....	5.4	37

publishing and recorded media ....		
23-25 Chemicals, petroleum, plastic and rubber products .....	14.7	70
26 Non-metallic mineral products .....	5.5	35
27 Basic metals .....	8.8	27
28-29 Fabricated metal products and machinery n.e.c.....	10.4	124
30-33 Office, computing, radio, tv and other electrical equipment .....	7.1	51
34-35 Transport equipment .....	8.2	27
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.3	22
<i>E. Electricity, gas and water supply</i> .....	19.3	5
40 Electricity, gas, steam and hot water supply .....	17.3	3
41 Collection, purification and distribution of water .....	2.0	2
<b>TOTAL</b>	<b>100.0</b>	<b>542</b>

### Other aspects

Of interest is that the production index is compiled for some selected industries using the measurement of raw material consumption. These industries are Publishing; and Printing and service activities related to printing.

## Slovenia

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### Method of calculation

The Statistical Office of the Republic of Slovenia calculates the production indices using the chain Laspeyres approach. Data are collected monthly (generally at the 3 digit industry level) with imputation based on historical data to estimate for cases of non-response. A single data item and related method is used to obtain industrial production volumes. The data item and method is deflated turnover. The calculation also takes into account changes in inventories (stock data are obtained from the reporting units). There are two categories of

inventories involved, inventories of finished goods and inventories of work in progress. Producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

Weights used are shares of value added. They are used when aggregating the IIP for the higher levels of classification. Shares are based on value added data from the year 2000 and are price updated every year.

The following table presents the latest weights by industry and is in respect of 2006.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	3.1	3
10 Coal .....	1.7	1
11 Crude petroleum and natural gas .....	0.1	1
12-13 Metal ores .....	0.0	0
14 Other mining .....	1.4	1
<i>D. Manufacturing</i> .....	90.4	33
15-16 Food, beverage, tobacco industries .....	7.8	2
17 Textiles .....	1.7	2
18-19 Wearing apparel, leather and footwear .....	3.0	2
20 Wood and wood products .....	3.5	1
21-22 Paper, printing, publishing and recorded media....	7.7	2
23-25 Chemicals, petroleum, plastic and rubber products.....	17.2	4
26 Non-metallic mineral products .....	4.0	1
27 Basic metals .....	5.7	1
28-29 Fabricated metal products and machinery n.e.c .....	18.4	4
30-33 Office, computing, radio, tv and other electrical equipment .....	13.1	8
34-35 Transport equipment .....	3.9	3
36-37 Furniture, manufacturing n.e.c. and recycling .....	4.5	3
<i>E. Electricity, gas and water supply</i> .....	6.5	1
40 Electricity, gas, steam and hot water supply .....	6.5	1
41 Collection, purification and distribution of water .....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>37</b>

### Other aspects

The data received for the compilation of the production index (i.e. data on turnover and value of inventories) are compared with the results of

the annual product (PRODCOM) survey in an attempt to identify any industries requiring additional analysis.

## South Africa

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units as well as obtaining administrative data for the mining sector. The observation units are at the ‘Establishment’ level.

### *Method of calculation*

Statistics South Africa calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Two main data items and methods are used to obtain industrial production volumes. These are deflated turnover (adjusted for change in inventories) and measurement of physical output. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators.

### *Weighting system*

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated at five yearly intervals.

The following table presents the latest weights by industry and is in respect of 2001.

Note – only weights for the manufacturing sector are available.

ISIC Rev. 3.1 Industries	Weights (%)
<i>D. Manufacturing</i> .....	100.0
15-16 Food, beverage, tobacco industries	19.2
17 Textiles .....	2.4
18-19 Wearing apparel, leather and footwear.....	3.1
20 Wood and wood products.....	1.7

21-22 Paper, printing, publishing and recorded media.....	9.4
23-25 Chemicals, petroleum, plastic and rubber products .....	22.5
26 Non-metallic mineral products ...	3.9
27 Basic metals .....	10.2
28-29 Fabricated metal products and machinery n.e.c .....	11.0
30-33 Office, computing, radio, tv and other electrical equipment.....	5.1
34-35 Transport equipment.....	8.6
36-37 Furniture, manufacturing n.e.c. and recycling.....	3.0
<b>TOTAL</b>	<b>100.0</b>

## Spain

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the ‘Establishment’ level. Survey data are obtained from all units with more than 20 employees.

### *Method of calculation*

The National Statistics Institute of Spain calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly, by product, with imputation based on historical data to estimate for cases of non-response. Industrial production volumes are obtained from data collected on the measurement of physical output (kg, metre, litre, etc), monetary value of production and hours worked. In cases where value of production is used, producer price indices (PPIs) are used as the deflators to obtain the necessary industrial production volumes. Trading day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost according to the most recently available data. The weights at all levels are updated at five yearly intervals.

The following table presents the latest weights by industry and is in respect of 2000.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	1.6	28
10 Coal .....	0.6	4
11 Crude petroleum and natural gas.....	0.1	1
12-13 Metal ores .....	0.1	4
14 Other mining .....	0.8	19
<i>D. Manufacturing</i> .....	88.7	1035
15-16 Food, beverage, tobacco industries .....	12.6	168
17 Textiles .....	2.6	76
18-19 Wearing apparel, leather and footwear.....	3.3	61
20 Wood and wood products.....	2.1	27
21-22 Paper, printing, publishing and recorded media....	7.9	53
23-25 Chemicals, petroleum, plastic and rubber products .....	15.2	285
26 Non-metallic mineral products .....	7.2	57
27 Basic metals .....	4.3	44
28-29 Fabricated metal products and machinery n.e.c.....	14.7	137
30-33 Office, computing, radio, tv and other electrical equipment.....	6.2	48
34-35 Transport equipment.....	9.1	25
36-37 Furniture, manufacturing n.e.c. and recycling .....	3.6	54
<i>E. Electricity, gas and water supply</i> .....	9.7	2
40 Electricity, gas, steam and hot water supply.....	9.7	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>1065</b>

### Other aspects

The monthly production index aims to represent the evolution of gross value added at constant prices. Volumes of quantities produced are used to construct elementary indices which represent 78% of industrial value added. Deflated values are used to represent a further 21% of value added, while the remaining 1% of value added is represented by elementary indices based on the number of hours worked.

## Suriname

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C,

D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units as well as utilizing administrative data. The observation units are at the 'Establishment' level.

### Method of calculation

The General Bureau of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data and similar products/industries to estimate for cases of non-response. The two main data items and methods used to obtain industrial production volumes are deflated turnover and measurement of physical output. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### Weighting system

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated at approximately ten yearly intervals.

The following table presents the latest weights by industry and is in respect of 1990.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	57.8
<i>D. Manufacturing</i> .....	32.0
<i>E. Electricity, gas and water supply</i> .....	10.2
<b>TOTAL</b>	<b>100.0</b>

## Swaziland

### Scope and Coverage

The indices cover economic activities for *Manufacturing* with the classification used loosely corresponding to ISIC Revision 2. The indices are calculated quarterly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Survey data are obtained from significant units (measured by production or employment) in the manufacturing sector. These units, while small in total number, account for the majority of domestic manufacturing production.

### **Method of calculation**

Central Statistical Office of Swaziland calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. Industrial production volumes are obtained by measurement of physical output.

### **Weighting system**

The weights are determined by the aggregate quantities for each branch and are based on production output. These branch indices are then aggregated into the total index using value added weights from the national accounts.

The weights for the major categories of the Swaziland IIP are in respect of 1993. They are:

- Sugar refining 4.7%;
- Other agro-processing 3.7%;
- Drink processing 69.3%
- Wood pulp & Timber 2.9%; and
- Other manufacturing 19.4%

### **Other aspects**

The IIP questionnaires are sent out by mail at the end of the reference period and collected by staff of the customs and excise department together with their data on exports during the following month. The survey collects quarterly data on both quantities produced and sales for all major commodities produced by the enterprise.

## **Sweden**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from selected units with 10 to 499 employees. All units with 500 employees or more are included in the survey.

### **Method of calculation**

Statistics Sweden calculates the production indices using the chain Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response. Various data items and methods are used to obtain industrial production volumes. These include deflated turnover, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine indices to produce higher levels of the industry classification are census value added according to the most recently available data. These weights are updated annually.

The following table<sup>5</sup> presents the latest weights by industry and is in respect of 2003.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	1.6	20
10 Coal .....	0.3	4
11 Crude petroleum and natural gas .....	0.3	4
12-13 Metal ores .....	0.6	8
14 Other mining .....	0.3	4
<i>D. Manufacturing</i> .....	98.4	92
15-16 Food, beverage, tobacco industries .....	7.8	8
17 Textiles .....	0.4	4
18-19 Wearing apparel, leather and footwear .....	0.9	8
20 Wood and wood products .....	4.0	4
21-22 Paper, printing, publishing and recorded media....	18.5	8
23-25 Chemicals, petroleum, plastic and rubber products .....	11.6	12
26 Non-metallic mineral products .....	2.2	4
27 Basic metals .....	7.0	4
28-29 Fabricated metal products and machinery n.e.c .....	19.9	8
30-33 Office, computing, radio, tv and other electrical equipment.....	11.7	16
34-35 Transport equipment.....	12.1	8
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.3	8

<sup>5</sup> Data (i.e. weights and series counts) have been estimated for some industries (by the country, Sweden) and are not available for section E.

<i>E. Electricity, gas and water supply</i> .....	<i>n.a.</i>	<i>n.a.</i>
40 Electricity, gas, steam and hot water supply.....	<i>n.a.</i>	<i>n.a.</i>
41 Collection, purification and distribution of water.....	<i>n.a.</i>	<i>n.a.</i>
<b>TOTAL</b>	<b>100.0</b>	<b>112</b>

### **Other aspects**

Indices are available approximately 40 days after the end of the reference month. Data are preliminary when first released. Data for the most recent months are revised when new data are published.

## **Switzerland**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated quarterly by undertaking a statistical survey of relevant units as well as obtaining administrative data from business associations. The observation units are at the 'Establishment' (KAU) level.

### **Method of calculation**

The Swiss Federal Statistical Office calculates the production indices using the fixed base Laspeyres approach. Data are collected quarterly with imputation based on historical data to estimate for cases of non-response. Deflated turnover (adjusted for change in inventories) is employed to compile industrial production volumes with producer price indices (PPIs) used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated periodically.

The following table presents the latest weights by industry and is in respect of 1995.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	0.7	<i>n.a.</i>
10 Coal.....	0.0	
11 Crude petroleum and natural gas.....	0.0	
12-13 Metal ores.....	0.0	
14 Other mining.....	0.7	
<i>D. Manufacturing</i> .....	90.7	63
15-16 Food, beverage, tobacco industries.....	9.7	
<i>D. Manufacturing (continued)</i>		
17 Textiles.....	2.1	
18-19 Wearing apparel, leather and footwear.....	1.1	
20 Wood and wood products.....	2.3	
21-22 Paper, printing, publishing and recorded media....	9.7	
23-25 Chemicals, petroleum, plastic and rubber products.....	16.2	
26 Non-metallic mineral products.....	3.7	
27 Basic metals.....	2.0	
28-29 Fabricated metal products and machinery n.e.c.....	22.3	
30-33 Office, computing, radio, tv and other electrical equipment.....	16.8	
34-35 Transport equipment.....	1.3	
36-37 Furniture, manufacturing n.e.c. and recycling.....	3.6	
<i>E. Electricity, gas and water supply</i> .....	8.7	3
40 Electricity, gas, steam and hot water supply.....	7.9	
41 Collection, purification and distribution of water.....	0.8	
<b>TOTAL</b>	<b>100.0</b>	<b>66</b>

### **Other aspects**

A revision of the Swiss IIP is planned for 2009. The revision will consider increasing the frequency of the IIP from quarterly to monthly. In addition, the creation of a quarterly services production index will be considered.

## **The former Yugoslav Republic of Macedonia**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories correspond to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### Method of calculation

The State Statistical Office calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on historical data to estimate for cases of non-response.

### Weighting system

The weights used to combine the elementary series of relatives into indices for individual industries are the share of the value of production. The weights used to combine these indices into indices for higher levels of the industry classification are gross value added at factor cost according to the most recently available data. The weights at all levels are updated at five yearly intervals.

The following table presents the latest weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)
<i>C. Mining &amp; Quarrying</i> .....	3.9
10 Coal .....	1.6
11 Crude petroleum and natural gas .....	0.0
12-13 Metal ores .....	0.7
14 Other mining .....	1.5
<i>D. Manufacturing</i> .....	83.9
15-16 Food, beverage, tobacco industries .....	21.8
17 Textiles .....	1.7
18-19 Wearing apparel, leather and footwear.....	12.6
20 Wood and wood products.....	1.2
21-22 Paper, printing, publishing and recorded media .....	4.2
23-25 Chemicals, petroleum, plastic and rubber products.....	11.0
26 Non-metallic mineral products ...	7.3
27 Basic metals .....	11.2
28-29 Fabricated metal products and machinery n.e.c .....	4.6
30-33 Office, computing, radio, tv and other electrical equipment.....	3.5
34-35 Transport equipment.....	2.2
36-37 Furniture, manufacturing n.e.c. and recycling .....	2.6
<i>E. Electricity, gas and water supply</i> .....	12.2
40 Electricity, gas, steam and hot water supply .....	12.2
41 Collection, purification and distribution of water.....	0.0
<b>TOTAL</b>	<b>100.0</b>

## Turkey

### Scope and Coverage

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3. The indices are calculated monthly by undertaking a statistical survey of relevant mining and manufacturing units while for electricity, data are collected from the regulator which covers all units, regardless of size. The observation units are at the 'Kind of Activity Unit' (KAU) level. Survey data are obtained from selected units which represents 80% of total industrial production value.

### Method of calculation

The Turkish Statistical Institute calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on similar products/industries to estimate for cases of non-response. The measurement of physical output is the primary method used to obtain industrial production volumes. There are some selected industries where deflated production value is used. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators.

### Weighting system

The weights used to combine indices to produce higher levels of the industry classification are value added according to the most recently available data. These weights are updated at five yearly intervals.

The following table presents the latest weights by industry and is in respect of 1997.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	4.9	14
10 Coal .....	2.0	4
11 Crude petroleum and natural gas .....	0.9	2
12-13 Metal ores .....	0.7	4
14 Other mining .....	1.3	4
<i>D. Manufacturing</i> .....	86.9	163
15-16 Food, beverage, tobacco industries.....	10.4	24

17 Textiles .....	9.5	10
18-19 Wearing apparel, leather and footwear.....	5.6	7
20 Wood and wood products.....	0.5	7
21-22 Paper, printing, publishing and recorded media....	2.9	11
<i>D. Manufacturing (continued)</i>		
23-25 Chemicals, petroleum, plastic and rubber products .....	24.5	19
26 Non-metallic mineral products .....	6.0	10
27 Basic metals .....	7.7	7
28-29 Fabricated metal products and machinery n.e.c.....	8.0	26
30-33 Office, computing, radio, tv and other electrical equipment.....	4.4	25
34-35 Transport equipment.....	6.4	11
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.1	6
<i>E. Electricity, gas and water supply</i>		
40 Electricity, gas, steam and hot water supply.....	8.2	2
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>179</b>

### ***Other aspects***

Rebasing of the IIP to 2005 reference year is planned for 2008. This work will be accompanied by the implementation of the updated domestic industry classification. Work has also started on the use of TRAMO SEATS to carry out working day adjustments and seasonal adjustments.

## **Uganda**

### ***Scope and Coverage***

The indices cover economic activities for *Manufacturing*. This category is classified according to sections D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Establishment' level. For Coffee and Tea, two important products in Uganda, data are collected from the national authorities (Ugandan Coffee Development Authority). Procurement data are collected and used as a proxy for production.

### ***Method of calculation***

The Ugandan Bureau of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected

monthly with imputation based on historical data and similar products/industries to estimate for cases of non-response. Two main methods are used to obtain industrial production volumes. These include deflated turnover/sales and measurement of physical output. In cases where deflation methods are used, producer price indices (PPIs) are primarily used as the deflators.

### ***Weighting system***

The share of production quantities or values are used to aggregate the elementary indices (i.e. at the level of the products), while for higher aggregations at the industry level value added at factor cost is used. The weights at all levels are updated periodically with the most recent weight update in respect of 1997-98.

The following table presents the latest weights by industry and is in respect of 1997-98.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>
<i>D. Manufacturing</i> .....	<i>100.0</i>
15-16 Food, beverage, tobacco industries	57.9
17-19 Textile, Wearing apparel, leather and footwear .....	4.6
20-22 Wood & wood products Paper, printing, publishing and recorded media	6.2
23-25 Chemicals, petroleum, plastic and rubber products .....	11.4
26 Non-metallic mineral products ...	5.6
27-29 basic metals, Fabricated metal products and machinery n.e.c .....	10.5
30-33 Office, computing, radio, tv and other electrical equipment.....	3.8
34-35 Transport equipment.....	0.0
36-37 Furniture, manufacturing n.e.c. and recycling.....	0.0
<b>TOTAL</b>	<b>100.0</b>

## **Ukraine**

### ***Scope and Coverage***

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and *Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Local unit' level.

### **Method of calculation**

The State Statistics Committee of Ukraine calculates the production indices using the chain Laspeyres approach. Data are collected monthly. Various data items and methods are used to obtain industrial production volumes. These include deflated production values, measurement of physical output and hours worked. In cases where deflation methods are used, producer price indices (PPIs) are used as the deflators.

### **Weighting system**

The IIP at the elementary level is weighted using production values. The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated periodically.

Note – weights by industry were not available for inclusion in this report.

## **United Kingdom of Great Britain and Northern Ireland**

### **Scope and Coverage**

The indices cover economic activities for *Mining and quarrying, Manufacturing and Electricity, gas and water supply*. These categories are classified according to sections C, D and E of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Enterprise' level. Note that some of the largest enterprises are split into industry specific reporting units and many enterprises are akin to the Kind of Activity Unit (KAU).

### **Method of calculation**

The Office for National Statistics calculates the production indices using the chain Laspeyres approach. Data are collected monthly at the industry class level with imputation based on historical data to estimate for cases of non-response. Industrial production volumes are obtained by obtaining deflated turnover/sales (in some cases adjusted for change in inventories) and measurement of physical output. In cases where deflation methods are used, producer

price indices (PPIs) are used as the deflators. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### **Weighting system**

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated annually using data from the Annual Business Inquiry.

The following table presents the latest weights by industry and is in respect of 2003.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>C. Mining &amp; Quarrying</i> .....	11.8	3
10 Coal.....	0.3	1
11 Crude petroleum and natural gas.....	10.7	1
12-13 Metal ores.....	0.0	0
14 Other mining.....	0.8	1
<i>D. Manufacturing</i> .....	79.2	73
15-16 Food, beverage, tobacco industries.....	11.8	13
17 Textiles.....	1.5	2
18-19 Wearing apparel, leather and footwear.....	1.1	2
20 Wood and wood products.....	1.5	1
21-22 Paper, printing, publishing and recorded media....	10.8	7
23-25 Chemicals, petroleum, plastic and rubber products.....	14.2	10
26 Non-metallic mineral products.....	3.0	4
27 Basic metals.....	1.6	1
28-29 Fabricated metal products and machinery n.e.c.....	13.2	12
30-33 Office, computing, radio, tv and other electrical equipment.....	8.5	10
34-35 Transport equipment.....	8.6	6
36-37 Furniture, manufacturing n.e.c. and recycling.....	3.5	5
<i>E. Electricity, gas and water supply</i> .....	9.0	3
40 Electricity, gas, steam and hot water supply.....	7.3	2
41 Collection, purification and distribution of water.....	1.7	1
<b>TOTAL</b>	<b>100.0</b>	<b>79</b>

### **Other aspects**

The IIP survey is based on a random rotating sample stratified by employment. There are around 121,828 enterprises in the reference population. Approximately 8,200 units are sampled each month. These sampled units

account for about 73% of manufacturing output and 64% of industrial output (Sections C to E). The sampling fractions are generally as follows:

- Less than 10 employees: 1%;
- 10 to 49 employees: 6%;
- 50 to 149 employees: 16%; and
- 150 or more employees: 100%

## United States of America

### *Scope and Coverage*

The indices cover economic activities for *Mining and quarrying*, *Manufacturing* and the electric and gas utilities categories of *Electricity, gas and water supply*. These categories are classified according to sections C and D and parts of section E of ISIC Revision 3.1. The indices are calculated monthly by the Federal Reserve from government and trade association surveys of either production or inputs to production; the indices are benchmarked annually to measures of real output from more comprehensive surveys. The observation units for the comprehensive annual survey are at the 'Establishment' level.

### *Method of calculation*

The Federal Reserve calculates the production indices using the chain Fisher approach. The source data are mostly monthly in frequency, although, in some cases they are quarterly. Although the Federal Reserve itself does not receive data from individual production units, it does review the industry-level or product-level data for outliers and also makes estimates for those indices whose source data are not available for the initial publication of the production indexes. Indices at the lowest level of the index structure are either for an industry class or industry group or for product groups that are more specific than an industry class. Various data items and methods are used to obtain industrial production volumes. These include measurement of physical volumes of output, deflated turnover (adjusted for change in inventories), and hours worked. In cases where deflation methods are used, the deflators are either producer price indices or price indices derived from detailed data on turnover and

prices. For physical output measures, adjustments are made for data coverage and, in many instances, for quality change. Adjustments for changes in productivity are made where 'hours worked' is used. Seasonal and working day adjustments are applied to the data and form the basis of the published results.

### *Weighting system*

The weights used to combine indices to produce higher levels of the industry classification are "Census" value added (gross output less the cost of materials) at factor cost. In circumstances where the required weighting data are missing/not available then (generally) estimates of unit value added are extrapolated using producer price indices.

The following table presents weights by industry and is in respect of 2005.

ISIC Rev. 3.1 Industries	Weights (%)	Number of series
<i>C. Mining &amp; Quarrying</i> .....	10.1	20
10 Coal .....	0.7	1
11 Crude petroleum and natural gas .....	8.4	9
12-13 Metal ores .....	0.4	6
14 Other mining .....	0.6	4
<i>D. Manufacturing</i> .....	80.0	268
15-16 Food, beverage, tobacco industries .....	10.8	34
17 Textiles.....	1.1	10
<i>D. Manufacturing (continued)</i>		
18-19 Wearing apparel, leather and footwear .....	0.7	10
20 Wood and wood products .....	1.5	9
21-22 Paper, printing, publishing and recorded media....	8.8	16
23-25 Chemicals, petroleum, plastic and rubber products.....	19.1	37
26 Non-metallic mineral products.....	2.3	15
27 Basic metals .....	2.8	21
28-29 Fabricated metal products and machinery n.e.c .....	10.3	34
30-33 Office, computing, radio, tv and other electrical equipment.....	8.5	35
34-35 Transport equipment.....	9.2	39
36-37 Furniture, manufacturing n.e.c. and recycling .....	4.8	8
<i>E. Electricity, gas and water supply</i> .....	9.9	10
40 Electricity, gas, steam and hot water supply.....	9.9	10
41 Collection, purification and distribution of water.....	0.0	0
<b>TOTAL</b>	<b>100.0</b>	<b>298</b>

### ***Other aspects***

When the data for the most recent month are published, revised estimates for the previous five months are published. The data are also revised annually. The production indices for the manufacturing categories are benchmarked to data from the Census Bureau's Annual Survey of Manufactures and the quinquennial Census of Manufactures, while the production indexes for the mining categories are benchmarked to the Census Bureau's quinquennial Census of Mineral Industries.

18-19 Wearing apparel, leather and footwear .....	7.5	8
20 Wood and wood products .....	1.4	4
21-22 Paper, printing, publishing and recorded media....	5.8	8
23-25 Chemicals, petroleum, plastic and rubber products.....	28.1	12
26 Non-metallic mineral products.....	2.7	4
27 Basic metals .....	4.0	4
28-29 Fabricated metal products and machinery n.e.c .....	5.0	8
30-33 Office, computing, radio, tv and other electrical equipment.....	1.7	16
34-35 Transport equipment.....	1.7	8
36-37 Furniture, manufacturing n.e.c. and recycling .....	1.1	4
<b>TOTAL</b>	<b>100.0</b>	<b>88</b>

## **Uruguay**

### ***Scope and Coverage***

The indices cover economic activities for *Manufacturing*. This category is classified according to section D of ISIC Revision 3.1. The indices are calculated monthly by undertaking a statistical survey of relevant units. The observation units are at the 'Kind of Activity Unit' (KAU) level.

### ***Method of calculation***

The National Institute of Statistics calculates the production indices using the fixed base Laspeyres approach. Data are collected monthly with imputation based on similar products/industries to estimate for cases of non-response. Industrial production volumes are obtained for all industries in scope of the IIP by deflating the value of production. Producer price indices (PPIs) are used as the deflators.

### ***Weighting system***

The weights used to combine indices to produce higher levels of the industry classification are gross value added at factor cost according to the most recently available data. These weights are updated every five years.

The following table presents the latest weights by industry and is in respect of 2006.

<b>ISIC Rev. 3.1 Industries</b>	<b>Weights (%)</b>	<b>Number of series</b>
<i>D. Manufacturing</i> .....	<i>100.0</i>	<i>88</i>
15-16 Food, beverage, tobacco industries .....	38.1	8
17 Textiles .....	2.9	4