

Single Integrated Metadata Structure (SIMS v2.0)

Country: Greece

Compiling agency: ELSTAT

Domain name: Turnover Index in Industry

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1.1 Contact organisation	Hellenic Statistical Authority (ELSTAT)
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3.1 Data description	
<p>Data are disseminated for all NACE Rev.2 activities at the 2-digit level listed within Sections B and C (Mining – Quarrying and Manufacturing) and for higher aggregates (Section level and for total industry excluding Sections D, E and F) and for all the main industrial groupings (capital goods, intermediate goods, durable consumer goods, non-durable consumer goods and energy excluding Sections D and E).</p> <p>Taking into account the separation of transactions according to the product’s destination (in the framework of requirements of the amending Regulation (EC) No 1158/05 of the European Parliament and Council), the index is broken down by domestic market and non-domestic market and the non-domestic market is further broken down by euro area countries and non-euro area countries.</p> <p>No geographical breakdown is made for the above data, as regards the reference area with the total of Greece being covered, without distinguishing among regions. Data on turnover index in industry are monthly and are presented in the form of indices and growth rates.</p> <p>The revised indices in industry, allowing for the separation of transactions according to the product’s destination (on the framework of requirements of the aforesaid amendment Regulation (EC) No 1158/05 of the European Parliament and Council), are the following:</p> <p><u>Turnover Indices in Industry</u></p> <p>Turnover Index in Industry (Total Market) Turnover Index in Industry for the Domestic Market Turnover Index in Industry for the Non-Domestic Market Turnover Index in Industry for the Eurozone Countries Turnover Index in Industry for the Non-Eurozone Countries</p> <p>Each month, unadjusted series and working day adjusted series are calculated. The indices are not seasonally adjusted.</p>	
3.2 Classification system	
<p>For the compilation of the revised indices the following classifications were used:</p> <ul style="list-style-type: none"> • Statistical classification of economic activities in the European Community, NACE Rev.2 (Council Regulation 1893/2006), at 4-digit level. • Eurostat Classification CPA 2008 at product level (Council Regulation 451/2008), at 6-digit level. 	
3.3 Sector coverage	
<p>The Industrial Turnover Index covers all activities listed in Sections B and C (Mining-Quarrying, Manufacturing) of NACE Rev. 2 classification.</p>	
3.4 Statistical concepts and definitions	
<p>The Industrial Turnover Index is an indicator of an enterprise’s business cycle showing the monthly evolution of the market of goods and services in industry. The aim of this index is to measure the activity of the industrial sector in terms of value. Turnover comprises the totals invoiced (without VAT) by the enterprise during the reference period, and which corresponds to the market sales of goods or services supplied to third parties. The index includes: sales of manufactured products, products manufactured by subcontractors (only for selected codes), goods purchased for resale in the same condition as received, sales of by-products, sales of waste and scrap materials, as well as invoiced</p>	

charges for packaging, transport, mounting, installations and repairs and invoiced instalments (stage payments). Values include all charges and taxes on products (excluding VAT charged to customers) and other deductible taxes, as well as other expenses (transport, packaging, etc) borne by the customers. Any subsidies and other expenses are not included.

The aim and the characteristics of the Turnover Index in Industry also apply to the corresponding turnover sub-indices compiled for the domestic and the non-domestic turnover, as well as for the Eurozone and non-Eurozone countries. Similarly, the same characteristics apply for the Turnover Indices compiled for the main industrial groupings (capital goods, intermediate goods, durable consumer goods, non-durable consumer goods and energy).

3.5 Statistical unit

The sampling unit used is the Kind of Activity Unit (KAU).

3.6 Statistical population

The statistical population comprises 3,595 units operating in Sections B and C (Mining-Quarrying, Manufacturing) of NACE Rev. 2 classification.

3.7 Reference area

The survey covers the whole national territory. Data collection takes place in Attiki and in 45 Prefectures (NUTS 3) of Greece.

In general, the Turnover Index in Industry refers to activities that are carried out in Greece. Nevertheless, there are cases where income from the sale of output produced outside the country can be reported in a company's financial accounts as income from sales of goods or goods purchased for resale or goods manufactured by subcontractors. The exact magnitude of outsourcing is not available, but there is close collaboration with such enterprises so as to accurately define location related to the production process and make all necessary adjustments of these cases.

3.8 Time coverage

The time series of the Turnover Index in Industry with base year 2010=100.0 is released on a monthly basis from January 2000 onwards.

3.9 Base period

From 19 November 2014 onwards, with the announcement of the Press Release for September 2014, the base year is the year 2010 (2010=100.0).

4. Unit of measure

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Index. Monthly and annual changes (percentage %).

5. Reference period

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The reference period is the month.

6. Institutional mandate

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6.1 Legal acts and other agreements

The legal framework concerning the organization and operation of ELSTAT is as follows:

- **Law 3832/2010** (Government Gazette No 38, Issue A): "*Hellenic Statistical System Establishment of the Hellenic Statistical Authority (ELSTAT) as an Independent Authority*", as amended and in force.
- **Regulation on the Operation and Administration of the Hellenic Statistical Authority (ELSTAT)**, 2012, (Government Gazette No 2390, Issue B, 28-8-2012) **Regulation (EC) No 223/2009 of the European Parliament and of the Council**, on the European statistics (Official Journal of the European Union L 87/164).
- **Article 14 of the Law 3470/2006** (Government Gazette No 132, Issue A): "*National Export Council, tax regulations and other provisions*".

- **Article 3, paragraph 1c, of the Law 3448/2006** (Government Gazette No 57, Issue A): *“For the further use of information coming from the public sector and the settlement of matters falling within the responsibility of the Ministry of Interior, Public Administration and Decentralization”.*
- **European Statistics Code of Practice**, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 on the independence, integrity and accountability of the national and Community statistical Authorities, after its revision, which was adopted on 28 September 2011 by the European Statistical System Committee.
- **Presidential Decree 226/2000** (Government Gazette No 195, Issue A): *“Organization of the General Secretariat of the National Statistical Service of Greece”.*
- **Articles 4, 12, 13, 14, 15 and 16 of the Law 2392/1996** (Government Gazette No 60, Issue A): *“Access of the General Secretariat of the National Statistical Service of Greece to administrative sources and administrative files, Statistical Confidentiality Committee, settlement of matters concerning the conduct of censuses and statistical works, as well as of matters of the General Secretariat of the National Statistical Service of Greece”.*

The Legal Framework is detailed in the following link:

<http://www.statistics.gr/en/legal-framework>

Eurostat legislation:

The legal basis for the STS indices and for Industrial Turnover Index, in particular, is Council Regulation No 1165/98 of 19 May 1998 concerning short-term statistics (STS-R) amended by the Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 concerning short-term statistics and by Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Rev.2.

The definitions of short-term statistics variables are laid down in Commission Regulation No 1503/2006 of September 2006 implementing and amending Council Regulation No 1165/98 of 19 May 1998 concerning short-term statistics.

The classification by the main industrial groupings (MIGs) is defined by Commission Regulation 656/2007.

6.2 Data sharing

None

7. Confidentiality

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7.1 Confidentiality - policy

The issues concerning the observance of statistical confidentiality by the Hellenic Statistical Authority (ELSTAT) are arranged by articles 7, 8 and 9 of the Law 3832/2010 as in force, by Articles 8, 10 and 11(2) of the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System and by Articles 10 and 15 of the Regulation on the Operation and Administration of ELSTAT.

More precisely:

ELSTAT disseminates the statistics in compliance with the statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical confidentiality.

<http://www.statistics.gr/en/statistical-confidentiality?inheritRedirect=true>

7.2 Confidentiality - data treatment

ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:

a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies

of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or

b) the statistical unit has given its consent, without any reservations, for the disclosure of data.

The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.

ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:

a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;

b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;

c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning the research, as the case may be, and by ELSTAT.

Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:

- the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;
- the anonymization criteria for the microdata provided to users;
- the granting to researchers access to confidential data for scientific purposes.

The staff of ELSTAT, under any employment status, as well as the temporary survey workers who are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose.

Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal.

ELSTAT, by its decision, may impose a penalty amounting from ten thousand (10,000) up to two hundred thousand (200,000) euros to anyone who violates the confidentiality of data and/or statistical confidentiality. The penalty is always imposed after the hearing of the defense of the person liable for the breach, depending on the gravity and the repercussions of the violation. Any relapse constitutes an aggravating factor for the assessment of the administrative sanction.

Confidentiality - if data are of truly confidential nature according to article 20 of Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 (data which allow statistical units to be identified, either directly or indirectly), they have to be flagged confidential, and they will not be published by Eurostat.

8. Release policy

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8.1 Release calendar

At the end of September of each year ELSTAT publishes a release calendar with the precise release dates of statistics for the following year.

8.2 Release calendar access

The calendar is distributed to the press and is available to all interested parties free of charge.

This calendar is also posted on the website of the ELSTAT (<http://www.statistics.gr/en/calendar>) under the title: "Release Calendar".

8.3 User access

In line with the Community legal framework and the European Statistics Code of Practice, ELSTAT disseminates national statistics on ELSTAT's website respecting professional independence and in an objective, professional and transparent manner in which all users are treated equitably.

In this content, data are released simultaneously to all interested parties and users through the Press Release on the Turnover Index in Industry, which is posted on the website of ELSTAT (<http://www.statistics.gr/en/home/>) according to the release calendar. This press release is also available by fax or e-mail to all interested parties. In addition, data are transmitted to Eurostat on a predefined date, concomitantly with their national publication.

Neither users nor the government have access to the data prior to their publication.

9. Frequency of dissemination

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The index is disseminated on a monthly basis.

10. Accessibility and clarity

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10.1 News release

Every month, 50 days after the end of the reference month, at 12.00, a Press Release is published which presents the newly calculated Turnover Indices in Industry in Greek and English. The press release is sent, free-of-charge, and mostly by email to the press and to other interested parties. The press release is also available on the website of ELSTAT (<http://www.statistics.gr/en/statistics/-/publication/DKT24/>).

In the Press Release the Turnover Index in Industry is published as following:

- working day adjusted index, with base year 2010=100.0,
- month-on-month growth rates,
- year-on-year growth rates.

10.2 Publications

The Turnover Indices in Industry are published in the publication "The Greek Economy" (<http://www.statistics.gr/en/the-greek-economy>) where monthly data and annual average indices are presented.

10.3 On-line database

There is no on-line database for the index.

10.3.1 Data tables - consultations

Users' consultation as regards the survey on Turnover Index in Industry amounts to 43,843 webpage's hits for 2016. There is no potentiality to distinct consultations between data tables and metadata.

10.4 Micro-data access

Micro-data are made available to users after submitting a request to the:

Statistical Information and Publications Division

46, Pireos & Eponiton Str, PO Box 80847

18510 Piraeus

Tel: +30 213 135 2022

Fax: +30 213 135 2312

e-mail: data.dissem@statistics.gr

For confidential reasons, access to micro-data is granted to users only under strict conditions and by always adhering to the relevant procedure.

10.5 Other

Users are able to have access to publications of ELSTAT of the previous years, regarding various statistical surveys, which are posted on the Digital Library of ELSTAT, through the link:

<http://dlib.statistics.gr/portal/page/portal/ESYE/>

Data are transmitted to Eurostat within 50 days and published in Eurostat's online database.

<http://ec.europa.eu/eurostat/web/short-term-business-statistics/data/database>.

The results of the Turnover Indices in Industry are posted at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT24/->.

Users can be given data or further analysis, usually by fax or e-mail after submitting a request, describing the requested data, at the following link:

<http://www.statistics.gr/en/statistical-data-request>.

Users can also contact the Economic and Short-term Indices Division / Production Indices Section or the Statistical Information Dissemination Section, at the following e-mail addresses:

a.diamantaki@statistics.gr, p.karathanos@statistics.gr, data.dissem@statistics.gr and data.supply@statistics.gr.

10.5.1 Metadata – consultations

See 10.3.1 above.

10.6 Documentation on methodology

The methodology for the compilation of the index is laid down by ELSTAT, taking into account international practices and in particular Eurostat's recommendations, guidelines and standards.

The Methodology of Short-term Business Statistics, Interpretation and guidelines, 2006, contains a comprehensive set of recommendations on the compilation of the STS statistics. It is available at the link:

<http://ec.europa.eu/eurostat/web/short-term-business-statistics/methodology>.

A special methodological paper on the compilation of the Turnover Index in Industry in Greece is available on the website of ELSTAT (<http://www.statistics.gr/en/home/>) containing detailed information on the sources and the methodology used through the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT24/->.

10.6.1 Metadata completeness – rate

Metadata on the compilation of the Turnover Index in Industry are available on the webpage of ELSTAT (<http://www.statistics.gr/en/home/>), therefore metadata completeness is 100%.

10.7 Quality documentation

A user oriented quality report is available at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT24/->.

11. Quality management

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11.1 Quality assurance

The Hellenic Statistical Authority (ELSTAT) aims to ensure and further improve the quality of statistics produced and maintain the confidence of users in them. This is achieved through the Quality Policy of ELSTAT which is posted on the website of ELSTAT and is available at the following link:

<http://www.statistics.gr/en/policies>.

Quality checks and validation of data are carried out during the whole process of the compilation of the index: from the data collection stage to the final compilation of the index.

First of all, well-trained and experienced staff is utilized for all the stages of the compilation of the indices, that is, for data collection including communication with the enterprises, initial checks, data entry and final checks, which are conducted after the calculation of the index. This way, the personnel have a comprehensive and longitudinal image of the enterprises under their responsibilities.

Data are validated either before or after data entry by means of logical checks. During data processing the data are checked in order to identify and correct any errors. When an error is identified, data are further investigated, in cooperation with the enterprises in order to confirm that it is an error or it is just an unusual price. At the same time, data are checked for completeness, accuracy and consistency of the correlating variables.

The indices are calculated by means of specialised software, through automatic computation procedures (“routines”), thus eliminating any errors to the final results. Nevertheless, even during this stage, consistency checks are carried out to the final results, mainly by means of comparing the percentage changes of the sub-indices and their impact on the overall index.

Finally, the application for the on-line collection of questionnaires of the IPI, which has been implemented during the last years, has resulted in the enhancement of the quality of the index by offering the possibility both to the surveyed enterprises and to the personnel to monitor longitudinally, for all the period for which the enterprises participate in the sample, the data that are reported every month and to conduct further logical checks through comparisons.

11.2 Quality assessment

The Turnover Index in Industry is considered to be a considerably reliable index. It is an index that is based on European regulations and its concepts and methodology have been developed according to international standards and guidelines. The index is considered to be sufficiently accurate for the purposes for its compilation.

12. Relevance

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12.1 User needs

The Turnover Index in Industry meets national needs and the needs of European users. Generally, the index provides statistical information necessary to improve the competitiveness and performance of the business community.

The main national users of the index are the government, other public agencies, the Central Bank of Greece, other Hellenic banks, the Hellenic Federation of Enterprises (SEV), the Foundation for Economic and Industrial Research (IOBE), the Centre for Planning and Economic Research, etc., while at the international level, it is used by Eurostat, the International Monetary Fund (IMF), the United Nations (UN) etc.

The compiled index covers the wide range of users’ needs: at national and international level, the index is used in order to offer information on the evolution of the sales of industrial products and services. This index is also suitable to indicate whether the sales take place in the domestic or in the non-domestic market. So, the index is a very useful tool in identifying which sectors are characterised by a more dynamic evolution and which sectors need to be supported for increasing exports and in facilitating decision-making for undertaking of initiatives by enterprises or other agencies towards these directions.

At European and international level, in particular, the index offers fully comparable statistics, in order to form a common monetary policy.

12.2 User satisfaction

The Production Indices Section monitors user needs on a regular basis, in order to satisfy them. Generally, there is a smooth cooperation, through prompt response to users' requests. Users' comments are positive.

Moreover, ELSTAT conducts a user satisfaction survey every six months. Comments on media are also positive. More information about the results of the survey is available at the following link:

<http://www.statistics.gr/en/user-satisfaction-survey>.

Furthermore, ELSTAT organises a Users Conference, on an annual basis, in which representatives of private and public sector, educational and research institutions participate. The conferences provide a significant opportunity for ELSTAT to collect comments and suggestions from users relative to the dissemination and the accessibility of the statistical data and the gaps in the production of statistics. The users conferences help significantly ELSTAT to draw useful conclusions on the areas where the statistical products and services can be improved in order to meet the increasing users needs. These conclusions are incorporated in the annual and medium term statistical programs of ELSTAT. The most recent Users Conference was held in 21 December 2016. More information on the conference is available at the link:

<http://www.statistics.gr/en/user-conference-2016>.

12.3 Data completeness

The compilation of Turnover Index in Industry and the data provided are in line with the relevant regulations and guidelines.

13. Accuracy and reliability

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13.1 Overall accuracy

The index is characterised by high accuracy. Nevertheless, sampling errors are not calculated because the sampling method used is not the random sampling but the purposive sampling. As regards non-sampling errors, these are mostly due to erroneous counting and to the non-response of some enterprises. The efforts are mostly focused in identifying and correcting as many errors as possible during the revision of data.

13.2 Sampling error

ELSTAT does not calculate sampling errors for the index due to the purposive sampling technique, which is applied.

13.3 Non-sampling error

Non-sampling errors involve coverage errors, measurements errors, non-response errors, processing errors and model errors.

a. Unit non – response

These errors exist when data are not collected for all population units designated for data collection. Regardless the fact that the survey is compulsory, some enterprises refuse to provide data. It should be noted that the missing values usually refer to smaller enterprises, for which the response burden is normally higher.

In order to increase the rate of response, there is direct communication with the surveyed enterprise by telephone or by sending a reminder by fax or email in an effort to convince them to give the necessary data, even in the form of estimations. The competent staff may even visit the enterprise in order to achieve cooperation.

Non-response of enterprises is treated by means of estimations on the basis of data of previous years, taking into consideration the evolution of the enterprise or the specific sector.

b. Item non - response

Item non-response is not relevant, as for the survey of the index only one variable (e.g. turnover) is collected.

13.3.1 Coverage error

No coverage errors are observed in the Business Register of ELSTAT, on the basis of which the survey on the compilation of the Turnover Index in Industry was designed.

13.3.1.1 Over-coverage – rate

No over coverage errors are observed (e.g., closed enterprises or enterprises out of the scope of the survey) in the Business Register of ELSTAT on the basis of which the survey on the compilation of the Turnover Index in Industry was designed.

13.3.1.2 Common units – proportion

The Index is compiled on the basis of a common sample of enterprises used for every month, which is updated when the Index is revised with a new base year, therefore the common enterprises of the sample in-between the months amount to 100%.

13.3.2 Measurement error

Any measurement errors during the process of data collection are detected by means of quality checks and are duly corrected.

13.3.3 Processing error

All tasks engaged to the processing procedure are performed by using a special software application, in order to minimize processing errors. Errors which may be observed, through exhaustive logical tests and by tracing changes, are easily detected and corrected.

13.3.4 Model assumption error

No model is used for the compilation of the Index, so this type of error is not relevant.

14. Timeliness and punctuality

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14.1 Timeliness

The index is published 50 days after the end of the reference month.

14.2 Punctuality

Turnover Index in Industry is published according to the pre-announced release calendar.

15. Coherence and comparability

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15.1 Comparability - geographical

The STS Regulations and the STS methodological guidelines are applied for the compilation of the index, thus ensuring a good comparability between the Greek Turnover Index in Industry and the other national and European indices, taking always into account any special conditions prevailing in each country, which may dictate minor methodological deviations.

15.1.1 Assymetry for mirror flows statistics – coefficient

There are no mirror flows statistics among EU Member States in the Turnover Index in Industry.

15.2 Comparability over time

The available full time series of the revised Turnover Index in Industry (2010=100.0) consists of the backcasted indices for the period 2000-2009 and of the re-calculated indices using the new weighting scheme from the year 2010 and onwards. Therefore, the time series of the Turnover Index in Industry (base year 2010=100.0) is available from January 2000. The time series from 2000 onwards is considered fully comparable over time.

15.3 Coherence cross-domain

Regular crosschecks are carried out on the basis of information from the other surveys.

The results of the Index are compared with results from the Annual Industrial Survey, once the annual results are

made available. In addition, crosschecks are carried out with other data such as data on production in industry or exports. Any differences are checked and duly justified.

15.3.1 Coherence – sub annual and annual statistics

Any small differences observed in the growth rates between the Turnover Index in Industry and the turnover of SBS are mostly due to the fact that for the compilation of the Index a common sample of enterprises is used for every month, which is updated when the Index is revised with a new base year, while in the SBS surveys the sample of enterprises is updated on a yearly basis, except for very big enterprise. The common sample of enterprises used in the Turnover Index in Industry ensures accurate presentation of the evolution of the Index over several time periods.

15.3.2 Coherence – National Accounts

The Index is used for the computation of GDP data. Therefore, the growth rate of the Index is coherent with the corresponding growth rate of GDP.

15.4 Coherence - internal

Turnover Index in Industry is internally coherent. The Total Index derives from individual sub-indices in accordance with well-defined procedures.

16. Cost and burden

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According to the results of the Cost and Burden survey which was carried out by ELSTAT in 2016, it can be concluded that a) regarding the staff of ELSTAT, the annual cost in hours worked amount to 11,710 and b) regarding the respondents, the annual average burden in hours worked is 3.3 hours per enterprise or totally 3,493 hours for all the enterprises.

In order to reduce, as much as possible, this burden on respondents, the following actions have been undertaken:

- Further promotion of the on-line system for data collection which has been developed and implemented. The on-line system offers the surveyed enterprises the possibility to provide the requested information in an easy and fast way.
- Initiation of the exploitation of data from administrative sources (VAT data), especially for small and medium size enterprises, instead of data collection.

17. Data revision

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17.1 Revision policy

The general revision policy adopted for ELSTAT, which is also applied to the Turnover Index in Industry is available at the link:

<http://www.statistics.gr/en/policies>.

In accordance with the Revision Policy of ELSTAT and the ESS guidelines, the revisions are classified as planned revisions, which refer to routine revisions and major revisions, and non-scheduled revisions.

Routine revisions

The Turnover Index in Industry is published 50 days after the end of each reference month. Data for the reference month are provisional when first released and are published together with the revised data of the previous month. The index is revised and considered to be final after the yearly correction, which is normally undertaken within the first semester of the year (usually in June) following the reference year. These monthly revisions are related to the regular data production process and they are caused by the delayed reporting of some enterprises (estimated values for missing responses are replaced by reported figures).

The routine revisions of the index are included in the list of scheduled revisions of ELSTAT, which is available at the link:

<http://www.statistics.gr/en/scheduledrevisions>.

Major revisions

In accordance with the requirements of the Council Regulation (EC) No 1165/98 concerning short-term statistics,

short-term indices are revised every five (5) years, particularly in calendar years ending in 0 or 5. In this framework, the index is fully revised every five years, with the change of the base year and the implementation of new weighting scheme. During these revisions, confrontation with the results of the Annual Industrial Survey and the PRODCOM survey and with the data from Industrial Production Index normally takes place. Major revisions are pre-announced to the public through a special methodological paper, named "Methodological note on the revision of Turnover Index in Industry", containing detailed information about the revision. This note is available at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT24/>.

In addition, a relevant text on the planned revision of the index is included in the Annual Statistical Work Programs of ELSTAT.

Moreover, major revisions are accompanied at the time of the publication with updated back data.

Non-scheduled revisions

Non-scheduled revisions may occur as a result of unforeseeable events such as errors. They are not announced in advance by definition. The users are promptly informed on significant errors identified in published statistics. The revised results are released without any delay in an open and transparent manner. The reasons for carrying out the non-scheduled revisions are also published. Non-scheduled revisions are accompanied by relevant documentation, as well as by updated back data if available.

Generally, the same revision policy is applied to data released nationally and to those transmitted to Eurostat, in order to assure coherence.

17.2 Revision practice

In accordance with the requirements of the Council Regulation (EC) No 1165/98 concerning short-term statistics, short-term indices are revised every five (5) years, particularly in calendar years ending in 0 or 5. In this framework, the index is fully revised every five years, with the change of the base year and the implementation of new weighting scheme. The latest revision of the index, with base year 2010=100.0, was completed in 2014 and the previous with 2005=100.0 in 2009. Moreover in 2009, simultaneously with the revision and the rebasing of the index, there was also the change in the classifications used for the compilation of the index (the Eurostat classification NACE Rev.2 was applied at the level of categories of economic activities (Council Regulation 1893/2006), along with the Eurostat classification CPA 2008 at product level (Council Regulation 451/2008)).

Major revisions are pre-announced to the public through a special methodological paper, named "Methodological note on the revision of Turnover Index in Industry", containing detailed information about the revision. This note is available at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT24/>.

In addition, a relevant text on the planned revision of the index is included in the Annual Statistical Work Programs of ELSTAT.

Moreover, major revisions are accompanied at the time of the publication with updated back data. During the last revision (2010=100.0), there was a recalculation of the indices using the new weighting scheme from the year 2010 and onwards, along with back-casting of the indices for the period 2000-2009, thus resulting in the time series of the index from January 2000 onwards, with base year 2010=100.0, being fully comparable over time.

Benchmarking is not carried out regularly. For some units, it may be possible to benchmark monthly data with yearly data, but only when there is a reason for closer examination of problematic data.

As far as routine revisions are concerned, the common practice for Turnover Index in Industry is that the data released for the reference month are provisional and are published together with the revised data of the previous month. The index is revised and considered to be final after the yearly correction, which is normally undertaken during the first semester of the year (usually in June) following the reference year. This monthly correction is on account of the delayed reporting of some enterprises.

18. Statistical processing

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18.1 Source data

ELSTAT uses a statistical survey in order to calculate the Turnover Index in Industry. The sampling frame is based on the results of the annual survey of the Production and Sales of Industrial Products (PRODCOM), the Annual Industrial

Survey, the Annual Mining-Quarrying Survey and the Annual External Trade Survey for the year 2010, all carried out by ELSTAT.

The sampling unit used is the enterprise - KAU, and the sample of enterprises surveyed for the revised Turnover Indices in Industry comprises 1,099 enterprises out of a total population of 3,595 enterprises according to the results of the Annual Survey of the Production and Sales of Industrial Products (PRODCOM), the Annual Industrial Survey, the Annual Mining-Quarrying Survey, the Annual External Trade Survey for the year 2010. For Manufacturing, only establishments employing ten or more persons were included, but there was no such a restriction in the other sectors covered by the Index.

Enterprises are selected on the basis of the purposive sampling, stratified by 4-digit NACE codes. The selected four-digit codes for the compilation of revised turnover indices amount to 141. The 4-digit Nace codes were selected so that the sum of their values is higher than 70% of the total value at 2-digit level of economic activity, on the basis of the results of the above surveys for 2010.

Overall, the coverage of the sample (units selected) in terms of turnover represents 96.1% of the total turnover in industry.

18.2 Frequency of data collection

Data are collected on a monthly basis.

18.3 Data collection

Data are collected through a specially designed questionnaire, which is appropriately adjusted for every enterprise. This questionnaire is designed with the objective to collect data for turnover for the reference month. In the questionnaire there is a distinction between domestic and non-domestic markets.

The questionnaire also includes information on the purpose of the survey, the definitions, and also guidelines for the completion of the required data.

The questionnaires are sent by post and they are collected by means of the following ways:

- via on-line system of collection of data (<http://web.statistics.gr/ontziros>) (available only in EL)
- via post
- via fax
- via e-mail.

In case of non-response, the surveyed enterprise is contacted by telephone, or is sent a reminder by fax or e-mail, or even the competent staff may pay a visit to the enterprise.

18.4 Data validation

At national level, data processing involves checking the data derived from respondents with the aim of identifying (and eventually correcting) errors. Not all errors can be identified and the aim is to detect the errors that have a significant impact on the results. Rules to assist in identifying errors may flag possible errors that require further investigation in order to determine whether it is actually an error or just an unusual value. Data processing also involves checks for completeness, checks to confirm that values are within given ranges and that values for related variables are coherent. Data processing may take place during or after data entry.

Responses can be compared with the responses of previous months. Inconsistencies or big deviations (outside of a pre-established range) indicate that further checks are required and may result in further processing. In the context of timeliness, the data processing may be designed to give top priority to those outliers that are most in need to be edited, thus ensuring reliability of aggregates. By solving the worst cases, large improvements can be achieved.

Eurostat also carries out validation checks on the national aggregated indices it receives. This may result in contacting the reporting country. In the context of timeliness, the validation process may be designed to give top priority to those outliers that are most in need of verification, thus ensuring reliability of European aggregates.

18.5 Data compilation

The revised Indices of Turnover in Industry (2010=100.0) refers to Greece total and are calculated using an equivalent form of the Laspeyres formula.

The method and the procedure of the calculation of the indices are described here. The Turnover Index in Industry, as regards Domestic Market, Eurozone Countries and Non-Eurozone Countries, is calculated initially at the four-digit level of economic activity and subsequently, with the implementation of appropriate weighting coefficients, the index is calculated at higher levels (three-level, two-level and one-level of economic activity) or at the level of Main Industrial Groupings (MIGs).

More specifically, in order to compile the index at the four-digit level k , for each of the above mentioned markets m ,

the value of turnover of all the surveyed enterprises, for the month t, in the market m, is computed and compared to the average monthly value of turnover of the base year (2010=100.0), as follows:

$$I_{k,m,t} = \frac{y_{k,m,t}}{y_{k,m,0}}$$

where:

- $I_{k,m,t}$: the index at the four-digit level k for market m, during the month t.
- $y_{k,m,t}$: the monthly turnover of all the surveyed enterprises at the four-digit level k during the month t, in the market m,
- $y_{k,m,0}$: the average monthly turnover value of all the surveyed enterprises at the four-digit level during the base year (2010), in the market m.

The aggregated Turnover Indices in Industry for the Non-Domestic Market (Eurozone and Non-Eurozone countries) and for the Total Market (Domestic and Non-domestic market), at the four-digit level k, are defined from the aggregation of the elementary indices (at the four-digit level k) of m markets, as follows:

$$I_{kt} = \sum_{m=1}^2 w_{k,m} I_{k,m,t}$$

where:

- I_{kt} : the index at the four-digit level k during the month t, for Non-Domestic Market and for Total Market.
- $w_{k,m}$: the weighting coefficient of m market at the four-digit level k (m=1,2).

The weighting coefficient of m market at the four-digit level k ($w_{k,m}$) is calculated as follows:

$$w_{k,m} = \frac{Y_{k,m,0}}{\sum_m Y_{k,m,0}} \text{ (weighting coefficient of the m market)}$$

where:

- m=1,2. Regarding Non-Domestic Market, value 1 is for Eurozone countries and value 2 is for Non-Eurozone countries. Regarding Total Market, value 1 is for Domestic Market and value 2 is for Non-Domestic Market respectively)
- $Y_{k,m,0}$: the annual turnover value of all the enterprises of the four-digit level k, in the market m, in the base year 2010=100.0, according to the results of the Annual Survey of the Production and Sales of Industrial Products (PRODCOM), the Annual Industrial Survey, the Annual Mining-Quarrying Survey and the Annual External Trade Survey

for the year 2010,

- $\sum_m Y_{k,m,0}$: the annual turnover value of the four-digit level k of the two markets m which compose the aforementioned total market (Non-Domestic Market and Total Market respectively) in the base year 2010, according to the results of the Annual Survey of the Production and Sales of Industrial Products (PRODCOM), the Annual Industrial Survey, the Annual Mining-Quarrying Survey and the Annual External Trade Survey for the year 2010.

The indices for each four-digit level are converted to typical month indices I'_{kt} , where typical month is the month adjusted, according to the number of working days. The adjustment is made by multiplying the indices of four-digit level I_{kt} with appropriate weighting coefficient (a_t) calculated as follows:

$$a_t = \frac{\bar{x}}{x_t}$$

where:

\bar{x} : the average monthly number of working days of current year,

x_t : the number of working days in month t.

These weighting coefficients are reviewed annually.

At higher levels (three-level, two-level, categories, etc), for all markets, the unadjusted (I_t) and adjusted (I'_t) for working days index for the month t are compiled as follows:

$$I_t = \sum_k w_k I_{kt}$$

$$I'_t = \sum_k w_k I'_{kt}$$

where:

$$w_k = \frac{Y_{k,0}}{\sum_k Y_{k,0}} \text{ (weighting coefficient of the four-digit level k)}$$

- $Y_{k,0}$: the annual turnover value of all the enterprises of the four-digit level, in the base year 2010=100.0, according to the results of the Annual Survey of the Production and Sales of Industrial Products (PRODCOM), the Annual Industrial Survey, the Annual Mining-Quarrying Survey, the Annual External Trade Survey for the year 2010,

- $\sum_k Y_{k,t}$: the annual turnover value of all the four-digit levels k which compose the level for which the index is being compiled (three-digit, two-digit, one-digit level) for the year 2010.

Backcasting of time series

The backcasted monthly and annual indices of sections for the period January 2000 - December 2009, are calculated on the basis of the average annual indices of sections in 2010, according to the formula:

$$R_{k(2010)}^{(t)} = R_{k(2005)}^{(t)} \cdot b_k$$

where:

$$b_k = \frac{100}{\bar{R}_{k(2005)}^{(2010)}}$$

$R_{k(2010)}^{(t)}$: the index of the section k during the current period (month, year) t with base year 2010,

$R_{k(2005)}^{(t)}$: the index of the section k during the current period (month, year) t with base year 2005 and

$\bar{R}_{k(2005)}^{(2010)}$: the average annual index of the section k in the year 2010 with the base year 2005

Indices from 2010 onwards have been calculated using the new weights and new turnover data.

More information about the methodology concerning the compilation and the calculation of the index is available on the website of ELSTAT, and more specifically, in the methodological note of the index,

<http://www.statistics.gr/en/statistics/-/publication/DKT24/>.

18.6 Adjustment

Calendar adjustment

The initial data refer to calendar months, which do not all have the same number of working days, and therefore the compiled indices are not comparable. In order to overcome this default, an adjustment of the indices takes place in order to make them of equal duration.

The adjustment is made by multiplying the indices of four-digit level with appropriate weighting coefficient a_t calculated as follows:

$$a_t = \frac{\bar{x}}{x_t}$$

where:

\bar{x} : the average monthly number of working days, of the current year,

x_t : the number of working days in month t.

These weighting coefficients are reviewed annually and are calculated using the proportional method.

18.6.1 Seasonal adjustment

The index is not seasonally adjusted.

19. Comment

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None