

Single Integrated Metadata Structure (SIMS v2.0)

Country: Greece

Compiling agency: ELSTAT

Domain name: Producer Price Index in Industry (PPI)

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1. Contact		Top
1.1	Contact organisation	Hellenic Statistical Authority (ELSTAT)
1.2	Contact organisation unit	Business Statistics Division (B3) Manufacture – Construction Indices and Industrial Products Section (B33)
1.3	Contact name	Diamantaki Aikaterini
1.4	Contact person function	Head of Manufacture – Construction Indices and Industrial Products Section
1.5	Contact mail address	46 Pireos & Eponiton str. 18510 Piraeus Greece
1.6	Contact email address	a.diamantaki@statistics.gr
1.7	Contact phone number	+30 213 135 2056
1.8	Contact fax number	+30 213 135 2506, +30 213 135 2443

2. Metadata update		Top
2.1 Metadata last certified	03/09/2021	
2.2 Metadata last posted²⁴	03/09/2021	
2.3 Metadata last update	03/09/2021	

3. Statistical presentation		Top
3.1 Data description		
<p>Data are disseminated for the activities of Sections B - Mining and quarrying, C - Manufacturing, D - Electricity, gas, steam and air conditioning supply, and E - Water supply, sewerage, waste management and remediation activities of the statistical classification of economic activities NACE Rev.2 of EU at the 2-digit (divisions) and for the main industrial groupings (capital goods, intermediate goods, durable consumer goods, non-durable consumer goods and energy). No geographical breakdown is made for the above data. Data are monthly and are presented in the form of indices and monthly and annual rates of change. Each month, unadjusted series are calculated.</p> <p>According to the markets distinction, the following indices are compiled:</p> <ul style="list-style-type: none"> - PPI overall (both domestic and foreign market) - PPI of Domestic Market - PPI of Non-Domestic Market - PPI of Non-Domestic Market – Eurozone Countries - PPI of Non-Domestic Market – Non-Eurozone Countries. 		
3.2 Classification system		
<p>For the compilation of the indices the following classifications were used:</p> <ul style="list-style-type: none"> - Statistical classification of economic activities NACE Rev.2 of EU (pursuant to Regulation (EC) 1893/2006 of the European Parliament and of the Council), at 4-digit level. - Classification of products, CPA 2008 of EU (pursuant to Regulation (EC) 451/2008 of the European Parliament and of the Council), at 6-digit level. - At the level of main industrial groupings, the allocation of 2-digit and 3-digit NACE Rev. 2 headings to categories of aggregate classification is effected in compliance with Council Regulation (EC) 656/2007. 		
3.3 Sector coverage		
<p>The Producer Price Index in Industry covers the divisions of economic activities listed in Sections B: Mining and quarrying, C: Manufacturing, D: Electricity, gas, steam and air conditioning supply and E: Water supply, sewerage, waste management and remediation activities, as defined in the statistical classification NACE Rev. 2, and more specifically divisions 05-36.</p> <p>The turnover of the selected classes (4-digit level) represents approximately 88.2% of the total turnover of the above mentioned sections of the year 2015. The rest 11.8% of the turnover was duly allocated among the other classes of the same group (3-digit level), thus having no impact on the total turnover.</p>		
3.4 Statistical concepts and definitions		
<p>The purpose of the Producer Price Index in Industry (PPI) is to measure the monthly rates of change in the prices of industrial goods which that are produced in the domestic market and are available in this market or are exported.</p> <p>The measurement of the monthly change of the producer prices provides the information of the short-term and long-term development of the economic activity at national and European level, allows the monthly monitoring of prices at the various stages of the manufacturing process and allows the calculation of the actual changes in economic activities, providing information to the business community for the development of markets and industries.</p> <p>The Producer Price Index in Industry (PPI) is the composite index of the two sub-indices, namely PPI of Domestic Market and PPI of Non-Domestic Market. The Producer Price Index of Non-Domestic Market is the composite index of the two</p>		

sub-indices, namely, PPI of Eurozone Countries and PPI of Non-Eurozone Countries, according to the destination country of exports.

The definitions according to Commission Regulation (EC) 1503/2006 for short-term statistics are the following:

- The price data collected for the purpose of compilation of PPI in Industry refer mainly to transactions between the enterprises that produce and sell the selected products for reporting and the enterprises that buy those products, irrespective of whether those products are to be used as raw materials or as merchandise.
- The prices collected for products sold in the domestic market are basic prices, excluding VAT, duties and other taxes on products and including subsidies on products. Similar deductible taxes with VAT, directly linked to turnover are excluded. The prices collected for products sold to the non-domestic market are quoted FOB (Free On Board).
- When the collected prices refer to foreign currency are converted into euros using the euro exchange rate with the foreign currency at the monthly average fixing prices of the Bank of Greece.
- Price data refer mainly to the middle of the reference month, with monthly periodicity, but in exceptional cases they refer to the mean prices of the month in question.

3.5 Statistical unit

The observation unit for data collection is the enterprise / Kind of Activity Unit - KAU. Consequently, the products within the scope of the survey are included even if they are part of a secondary activity of the observation unit. The selection of the sample of products and units is based on the method of purposive sampling. According to this method, the main criterion for the selection of the sampling units in the domestic as well as in the non-domestic market was their sales value during the base year 2015, irrespective of the location of their headquarters, according to the Business Register of ELSTAT.

3.6 Statistical population

The statistical population refers to all the enterprises classified in the sections of Industry and comprises 5,788 enterprises according to the 2015 PRODCOM survey.

3.7 Reference area

The index covers Greece as a total and the prices are collected in 48 Regional Units of the country.

The prices used for the index compilation are collected from enterprises operating within the Greek territory.

3.8 Time coverage

The time series of the Producer Price Index in Industry with base year 2015=100.0 is being released on a monthly basis. Series start from January 2000.

3.9 Base period

From March 2020 onwards, with the announcement of the Press Release for February 2020, the base year is the year 2015 (2015=100.0).

4. Unit of measure

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Index. Monthly and annual rates of change (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>

EU legislation:

The legal basis for the STS indices and for PPI, in particular, is Council Regulation (EC) 1165/1998 of 19 May 1998 concerning short-term statistics (STS-R) as amended by the Regulation (EC) 1158/2005 of the European Parliament and of the Council of 6 July 2005 concerning short-term statistics and by Regulation (EC) 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 (EC) 1503/2006 of September 2006 implementing and amending Council Regulation (EC) 1165/1998 of 19 May 1998 concerning short-term statistics. The classification by main industrial groupings (MIGs) is defined by Commission Regulation 656/2007.

The statistical classification of products CPA 2008 of EU is defined by Regulation (EC) 451/2008 of the European Parliament and of the Council.

6.2 Data sharing

No data sharing takes place.

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.

<https://www.statistics.gr/en/statistical-confidentiality>

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 defence 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) 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 are flagged as confidential and are not published. Eurostat is legally bound to suppress such data from publication as well.

8. Release policy	Top
8.1 Release calendar	
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 ELSTAT's website (http://www.statistics.gr/en/home/) under the item " 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 Producer Price 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	Top
The index is disseminated on a monthly basis.	

10. Accessibility and clarity	Top
10.1 News release	
Every month, 30 days after the end of the reference month, at 12:00, a Press Release is published which presents the newly calculated Index of Producer Price Index in Industry (PPI) 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/DKT15/-).	
In the Press Release the Producer Price Index in Industry is published as following:	
<ul style="list-style-type: none">- index, (base year 2015=100.0),- month-on-month rates of change,- year-on-year rates of change.	

10.2 Publications

The PPI is published in the fortnightly publication of ELSTAT "The Greek Economy", where monthly, annual and annual average rates of change are published at the level of the overall index for the last five years. Moreover, PPI is published in the respective e-publication "The Greek Economy" (<http://www.statistics.gr/en/the-greek-economy>).

10.3 On-line database

There is no on-line database for the PPI.

10.3.1 Data tables - consultations

Users' consultation as regards the survey on PPI amounts to 173,000 webpage's hits for 2020. 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. More information is available in the following link:

http://www.statistics.gr/el/scientific_provision_data

10.5 Other

Users can have access to ELSTAT publications, even for previous years, where they can find data on the MPI, which are posted on the digital library of ELSTAT, through:

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

Data are sent to Eurostat and published in Eurostat online database

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

The results of the Producer Price Index are posted on the website of ELSTAT, at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT15/->.

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:

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

Users can also contact the Data Dissemination Section, at the following e-mail address:

data.dissem@statistics.gr, data.supply@statistics.gr and data.source@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', 2007, 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>.

The [Handbook on industrial producer price indices \(PPI\)](#), 2012, brings together best practices in the Member States, extended methodological guidelines, practical examples, and international recommendations, in particular from Eurostat, the International Monetary Fund (IMF) and the United Nations (UN). As such, the aim of this handbook is to serve as a tool for improving the quality of the PPIs in the Member States. It is available at the link:

<https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-ra-12-020>

A special methodological paper on the compilation of the PPI 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/DKT15/>.

10.6.1 Metadata completeness – rate

Metadata on the compilation of the PPI Index are available on the webpage of ELSTAT (<http://www.statistics.gr/en/statistics/-/publication/DKT15/>), 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/DKT15/>.

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 controls 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.

More specifically:

- At a first stage, for each product selected for observation, its determining characteristics (variety, weight, packaging and other qualitative attributes) as well as its transactional characteristics (usual quantity, discounts, method of payment, etc.) are set out in great detail (tight item specification).
- **Replacement of products/units:** If certain products or varieties of products are not representative any more, or if any change occurs in their determining characteristics, they are replaced by new products or varieties. In these cases, their prices, for the base year, are calculated on the basis of the producer price indices of the group where they are classified.
- **Introduction of new products and new units/enterprises:** New products are added only during the revision of the Producer Price Index in Industry. The Index is fully revised every five years, when the base year is changed and new weights are adopted. New units/enterprises are added (or those that don't exist anymore are deleted) in order to ensure representativeness of the sample of selected units/enterprises for the specific products.
- Well-trained and experienced staff is utilized for all the stages of the compilation of the index, that is a) for data collection (including communication with the enterprises), b) initial checks, c) data entry and d) final checks, which are conducted after the calculation of the index. This way, the personnel have a comprehensive and longitudinal image of the producers and enterprises under their responsibilities.
- Data are validated either before or after data entry by means of logical checks. Initially, basic quality checks, completeness checks and logical consistency of the correlating variables are performed. Subsequently, the collected questionnaires are being checked for the changes of the surveyed variables in relation to the data of the previous months and in relation to the corresponding data of the previous year. In cases where deviations are important (outside of a pre-established range), further checks are performed in cooperation with the enterprise in order to confirm that it is an error, or it is just an unusual price (outlier value). After the completion of the above mentioned checks, the possibility of processing errors is minimised.

- The indices are calculated by means of specialised software, through computation 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.

11.2 Quality assessment

The Producer Price Index in Industry is considered to be a highly reliable index.

Producer Price Index of Industrial Products started being compiled in 1982, with base year 1980=100.0. Until then, the evolution of the changes of the producer price index of industrial products was monitored by the Wholesale Price Index (WPI) of Finished Products; this index did not include all the domestic industrial products, but only the finished products. The fact that the Wholesale Price Index (WPI) included only the finished products resulted to a limited interest expressed by users for this index. On the contrary, users preferred the Producer Price Index of industrial Products, which included not only the finished, but the intermediate products as well, i.e., all the products of industry.

After the publication of the Producer Price Index in industry, with base year 2000=100.0 (in March 2005 with first reference month, January 2005) the Wholesale Price Index of Finished Products was discontinued (with last reference period December 2004). The discontinuation of the latter and its replacement by the Producer Price Index in industry was considered necessary in order to bring the Greek statistical system into line with international and European practice. It should be noted that the users of the index had been notified in advance of that change.

In addition, concepts and definitions of variables, as well as relevant methodology for the compilation of the Index follow European and international standards and guidelines.

12. Relevance

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12.1 User needs

The Producer Price Index in Industry meets national needs as well as needs to fulfil obligations arising from the implementation of European Regulations. Generally, the Producer Price Index in Industry provides statistical information, which is necessary for improving competitiveness and productivity of the business sector.

The main national users of PPI are the government, other public agencies, the Central Bank of Greece, Public Power Corporation S.A., the Centre for Planning and Economic Research (KEPE), the Foundation for Economic and Industrial Research (IOBE), etc. the Hellenic Federation of Enterprises (SEV), the Union of Steel Industries, enterprises and chambers etc, while at international level, the Index is used by Eurostat, the International Monetary Fund (IMF), the United Nations (UN), the International Energy Agency (IEA), the International Labour Office (ILO) etc.

The monitoring of the monthly rates of change of the index covers the need for information on the short and medium-term evolution of the economic activity, both at national and European level. It makes it possible not only to follow the monthly fluctuations of prices at various stages of the manufacturing process, but also to calculate the real rates of change in economic activities, since it eliminates the effect of price fluctuations by applying deflators. Furthermore, producer prices provide the business community with valuable information on the performance of markets and the sectors of economic activity.

At European level, there is the need for fully comparable statistics in order to draw the European economic policy.

12.2 User satisfaction

The Manufacture – Construction Indices and Industrial Products Section monitors on a regular basis users' needs in order to satisfy them. More generally, there is a smooth cooperation resulting to the best possible response to user's requests, something that is acknowledged by users.

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 23 December 2019. More information on the conference is available at the link: <http://www.statistics.gr/en/user-conference-2019>.

12.3 Data completeness

The compilation of the Producer Price Index in Industry and the data provided are fully in line with the relevant EU Regulations.

13. Accuracy and reliability

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13.1 Overall accuracy

The index is characterized by high accuracy. Nevertheless, sampling errors are not relevant and thus 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 (measurement – processing errors) and to the non-response (non-response errors) of some enterprises.

In the case of measurement – processing errors, the efforts are mostly focused on identifying, using well-established procedures, and correcting as many errors as possible during the different stages of the data processing. Regarding response, the percentage of enterprises, which report data on time for the first release of the index, is relatively satisfying, considering that missing values usually refer to less significant products in terms of their weighting coefficient.

13.2 Sampling error

Sampling errors are not calculated because of the sampling method used (cut-off sampling).

For the compilation of PPI and the calculation of the weights at every level (domestic and non-domestic market, Eurozone and non-eurozone countries), the following annual data for the year 2015 have been taken into account:

- The results of the annual survey of Structural Business Statistics (SBS);
- The results of the annual survey of the Production and Sales of Industrial Products (value of production and sales by product in 8-digit code of Prodcom);
- The export data of foreign trade statistics, only of the manufacturing enterprises, in order to exclude exports of products which had been imported. The classification of the foreign trade statistics is the Combined Nomenclature (CN8), which corresponds to Prodcom classification.

In the current revision with base year 2015=100.0, the criteria for the selection of the products were the sales in the economic activity in which are classified (i.e., the most representative species within the economic activity), and the possibility of the price collection for these products during the time.

In particular, they were selected to be monitored at the 6-digit NACE Rev.2 classification code, 403 domestic market products (21 of which relate to new products) and 171 non-domestic market products. Of the 171 non-domestic market products, 141 of them are available in Eurozone countries (13 of which are new products) and 156 are in non-Eurozone countries (18 of which are new products). The data are collected from approximately a sample of 821 enterprises, whereas the total number of observations (prices) amounts to 2,713.

The observation unit for data collection is the enterprise / Kind of Activity Unit - KAU. Consequently, the products within the scope of the survey are included even if they are part of a secondary activity of the observation unit. The selection of the sample of products and units is based on the cut-off method of purposive sampling. The enterprises of the sample cover approximately 73% of the total sales value (turnover) of 2015, within each branch of economic activity (4-digit level).

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. Even though the survey is compulsory, some enterprises refuse to provide data. In some cases, even some large companies that are

"unique" in the sector of economic activity where they belong refuse to provide data, having as a result that missing values refer to more important products in terms of their weighting coefficient.

In order to increase the response rate, there is direct communication with the surveyed enterprise by telephone or by sending a reminder by fax or email which emphasizes the obligation to provide data as well as the purpose of the survey. The competent staff may even visit the enterprise in order to achieve cooperation.

It is not unusual for periodic breaks to occur in the flow of price data, or for prices to be unavailable. When a break occurs in the flow of price data or when data are not available, the method used during the break is the so-called "carry forward" method, i.e. the repetition of the last observed price. Other options for dealing with the shortage of prices are administrative and other sources (data from the internet, from the press), as well as the application of an estimation method for the calculation of missing data using the monthly average change of other pricing sources at the product level. If an entire product index is missing, it is recommended to use the change/index of the next level up in aggregation as the basis for performing the imputation.

If certain products or varieties of products cease to be representative, or if any change occurs in their determining characteristics, they are replaced by new products or varieties. In these cases, the calculation of the prices for the base year is calculated with the index of group in which these products are classified.

If some products or varieties of products are not representative any more, or if there are changes in their determining characteristics, they are replaced by new products or varieties. In such cases, the special method of changing the base prices of substitute products is used.

The Producer Price Index in Industry is published on a monthly basis, 30 days after the end of the reference month and the released data are final. Generally, in the data release for the reference month, the response rate is around 90%. It should be noted that the missing values usually refer to smaller enterprises, for which the response burden is normally higher. Particularly for September 2020 for the released data, the unweighted response rate was 97.0%. The weighted response rate is not available because of the cut-off sampling method used for PPI.

b. Item non - response

Item non-response is not relevant, as for the survey of PPI only one variable (e.g. price) 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 index was designed.

13.3.1.1 Over-coverage – rate

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

13.3.1.2 Common units – proportion

Not applicable.

13.3.2 Measurement error

These are errors that occur during data collection and they are categorized as survey instrument, respondent and interviewer. Regarding survey instrument errors, for the compilation of the index, data are collected through a specially designed questionnaire, which is appropriately adjusted for each enterprise, with the products concerning the regular production of the enterprises being pre-printed. Interviewer errors are not very common as well-trained and experienced staff is utilized for the stage of the data collection including direct communication with the enterprises. Respondent errors are the most frequent type of errors. In this context, erroneous data may be provided by the surveyed enterprises. These errors are usually easy to identify, as there are in force rules to assist in detecting possible inconsistencies that require further investigation in order to determine whether they are actually errors or just unusual values. Current responses are compared with data provided by the enterprises during the previous months or years and are duly corrected after telephone contact.

13.3.3 Processing error

Processing errors are errors that may occur when processing the collected data, manually or automatically and comprise of data entry, data editing, coding and imputation.

As already mentioned in the case of measurement errors, the data of the surveyed enterprises are examined thoroughly (both electronically and manually) by the competent staff using logical controls. If these checks reveal inconsistencies, further measures are taken to either assure the accuracy of data or correct them (if they are proven to be erroneous data). Data editing is carried out for the entire sample of enterprises, but with priority given to those with the greatest impact in the index calculation. There are no processing errors as regards the use of the relevant software application.

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 30 days after the end of the reference month.

14.2 Punctuality

Producer Price 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 Producer Price Index 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 Producer Price Index in Industry (PPI).

15.2 Comparability over time

The time series of the revised the Producer Price Index in Industry (PPI) (2015=100.0) includes the back-casted indices of the previous time series from January 2000 to December 2019 and the indices from January 2020 onwards which have been calculated with the new data on prices, new products and the new weighting coefficients.

Therefore, the time series of the Producer Price Index in Industry with base year 2015 = 100.0 is available from January 2000 onwards and it is comparable over time.

15.3 Coherence cross-domain

Checks are carried out regularly on the basis of data from other surveys. The results of the Index are compared with results from the annual survey of Structural Business Statistics (SBS) and the annual survey of Production and Sales of Manufactured Products (PRODCOM), once the annual results are made available. In addition, crosschecks are carried out with other data such as data on turnover in industry. Additionally, comparisons are made with the sub-indices of the Consumer Price Index (CPI) related to respective sectors (food, fuel, household electricity consumption), Import Price Index (MPI), Input and Output Indices in Agriculture-Livestock. Any differences are checked and duly justified.

15.3.1 Coherence – sub annual and annual statistics

Any small discrepancies observed in the rates of change between the PPI in industry and the structural statistics are on account of the fact that the index is compiled on a basis of a common sample of enterprises for each month that is renewed with the change of the base year, whereas the sample used for structural statistics changes every year, except for the very big enterprises. The common sample of enterprises used for the index ensures the accurate representation of the evolution of the index during several time periods.

15.3.2 Coherence – National Accounts

The Producer Price Indices in Industry are available in the National Accounts Division for the compilation of provisional quarterly and annual estimations and and act as deflators for the respective sectors of economic activity in industry.

15.4 Coherence - internal

The index is characterised by internal coherency. The indices of the higher distribution levels are based on the indices of lower levels in compliance with clearly defined procedures.

16. Cost and burden

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According to the results of the Cost survey which was carried out by ELSTAT in 2020, it can be concluded that regarding the staff of ELSTAT, the annual cost in hours worked amount to 7,530 while from the results of the Burden survey for the year 2019, it can be concluded that regarding the respondents, the annual average burden in hours worked is 3.60 hours per enterprise or totally 3,186 hours for all enterprises.

In order to reduce the burden on enterprises, data from the internet and from administrative sources (export data of foreign trade statistics) are utilized, in cases where it is deemed appropriate.

17. Data revision

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17.1 Revision policy

The general revision policy adopted for ELSTAT, which is also applied to the Producer Price Index in Industry (PPI), 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 Producer Price Index in Industry is published on a monthly basis, 30 days after the end of the reference month and the released data are final. Thus, routine revisions are not applicable in the case of PPI.

Major revisions

In accordance with the requirements of the Council Regulation (EC) 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. Major revisions are pre-announced to the public through a special methodological paper, named "Information note on the revision of the Producer Price Index in Industry (PPI)", containing detailed information about the revision. This note is available at the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT15/>.

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

Major revisions are accompanied by updated data when they are published.

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.

The same revision policy for all kind of revisions is applied to data released nationally and to those transmitted to Eurostat, in order to assure coherence.

Vintage databases

Vintage databases are not available.

17.2 Revision practice

In accordance with the requirements of the Council Regulation (EC) 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 2015=100.0, was completed in 2020.

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

<http://www.statistics.gr/en/statistics/-/publication/DKT15/>.

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

18. Statistical processing

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18.1 Source data

For the compilation of PPI and the calculation of the weights at every level (domestic and non-domestic market, Eurozone and non-eurozone countries), the following annual data for the year 2015 have been taken into account:

- The results of the annual survey of Structural Business Statistics (SBS);
- The results of the annual survey of the Production and Sales of Industrial Products (value of production and sales by product in 8-digit code of Prodcom);
- The export data of foreign trade statistics, only of the manufacturing enterprises, in order to exclude exports of products which had been imported. The classification of the foreign trade statistics is the Combined Nomenclature (CN8), which corresponds to Prodcom classification.

In the current revision with base year 2015=100.0, the criteria for the selection of the products were the sales in the economic activity in which are classified (i.e., the most representative species within the economic activity), and the possibility of the price collection for these products during the time.

In particular, they were selected to be monitored at the 6-digit NACE Rev.2 classification code, 403 domestic market products (21 of which relate to new products) and 171 non-domestic market products. Of the 171 non-domestic market products, 141 of them are available in Eurozone countries (13 of which are new products) and 156 are in non-Eurozone countries (18 of which are new products). The data are collected from approximately a sample of 821 enterprises, whereas the total number of observations (prices) amounts to 2,713.

The observation unit for data collection is the enterprise / Kind of Activity Unit - KAU. Consequently, the products within the scope of the survey are included even if they are part of a secondary activity of the observation unit. The selection of the sample of products and units is based on the cut-off method of purposive sampling. The enterprises of the sample cover approximately 73% of the total sales value (turnover) of 2015, within each branch of economic activity (four-digit level).

18.2 Frequency of data collection

Data are collected on a monthly basis.

18.3 Data collection

The monthly data are collected through a specially designed questionnaire, where figure all the products produced by each enterprise for which prices are collected.

The prices collected for products sold in the domestic market are basic prices, excluding VAT, duties and other taxes on products and including subsidies on products. Similar deductible taxes with VAT, directly linked to turnover are excluded. The prices collected for products sold to the non-domestic market are quoted FOB (Free on board).

For each product selected for observation, the determining characteristics (variety, weight, packaging and other qualitative attributes) as well as its transactional characteristics (usual quantity, discounts, method of payment, etc) are defined fully and in great detail (tight item specification).

Price data refer mainly to the middle of the reference month, with monthly periodicity, but in exceptional cases they refer to the mean prices of the month in question.

When the collected prices refer to foreign currency are converted into euros using the euro exchange rate with the foreign currency at the monthly average fixing prices of the Bank of Greece.

The prices are collected by means of:

- visits paid by ELSTAT's statistical interviewers who interview the surveyed units,
- telephone communication,
- sending the questionnaire by fax
- sending the questionnaire by 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

The data are validated by means of logical checks. During data processing any errors are identified and are dully corrected. Special emphasis is placed on the errors that may have major impact on the results. After identifying the errors, those are further checked and cross-checked in cooperation with the price collection sources in order to confirm that it is an error or it is just about an unusual price. At the same time, data are checked for completeness, accuracy and consistency of the correlating variables. Data processing and validation of data are carried out either during or after data entry.

The data are compared with the data of previous months and with corresponding data of previous years and if major inconsistencies are identified, further checks are carried out.

Eurostat also carries out validation checks on the national aggregated indices received, using validation rules implementing in the data feeding software. In case any inconsistencies are identified in the validation process, further clarifications may be needed by the Member States. Then Eurostat proceeds to the validation and publication of data.

18.5 Data compilation

The revised PPI in Industry refers to Greece total and is calculated by means of a variation of the Laspeyres formula, as follows:

$$I^{(t)} = \sum_{i=1}^n R_i^{(t)} * w_i$$

where:

$I^{(t)}$, is the general index of the current period (month) t,

$R_i^{(t)}$, is the individual index for the product i during the current period (month) t,

$$w_i = \frac{p_i^{(0)} q_i^{(0)}}{\sum_{i=1}^n p_i^{(0)} q_i^{(0)}}, \quad \sum_{i=1}^n w_i = 1$$

w_i = the corresponding weight of the product i,

$p_i^{(0)}$, $q_i^{(0)}$ = the price and quantity of the product i during the base period 0,

i = 1,2,...,n products

t = current period (month or year)

The individual index of product i, i.e. $R_i^{(t)}$, is calculated as the simple arithmetic mean of the relevant prices of the product's variations from all the reporting units (enterprises).

That is:

$$R_i^{(t)} = \frac{1}{N_i} \sum_{j=1}^{N_i} \left(\frac{p_{ij}^{(t)}}{p_{ij}^{(0)}} * 100 \right)$$

where:

N_i , is the count of product i variations from all the reporting units,

$p_{ij}^{(t)}$, is the price j of product i variation in the current period t,

$p_{ij}^{(0)}$, is the price j of product i variation during the base period 0, j=1,2,3,.. N_i .

The above calculations are applied for the compilation of the individual indices for domestic and non-domestic markets with the distinction in eurozone and non-eurozone countries. The Overall PPI is calculated as the weighted average of the 2digit, 3digit, 4digit branches of NACE rev. 2 classification, as they are forming in the MIGs (Main Industrial Groupings) indices; and as weighted average index of the domestic and non-domestic markets indices.

Back casting of time series

Backdated calculations for the monthly, annual and product groups PPI for the period January 2000 - December 2019, were calculated using the individual annual price index of every product in 2015 year, according to the following type:

$$R_{i(2015)}^{(t)} = R_{i(2010)}^{(t)} * \frac{100}{\bar{R}_{i(2010)}^{(2015)}}$$

where:

$R_{i(2015)}^{(t)}$: is the individual index of product i in the current period (month, year) t, with 2015 as base year,

$R_{i(2010)}^{(t)}$: is the individual index of product i in the current period (month, year) t, with 2010 as base year and

$\bar{R}_{i(2010)}^{(2015)}$: is the mean individual annual index of product i in 2015, with 2010 as base year.

For the new products for which individual indices were not available in the revision 2015=100.0, those of the correspondent groups where they belong to were used.

Further details on methodology and calculation of the Producer Price Index in Industry are available on the webpage of ELSTAT and more specifically under the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT15/>

18.5.1 Imputation – rate

When a break occurs in the flow of price data or when data are not available, the method used during the break is the so-called “carry forward” method, i.e. the repetition of the last observed price. Other options for dealing with the shortage of prices are administrative and other sources (data from the internet, from the press), as well as the application of an estimation method for the calculation of missing data using the monthly average change of other pricing sources at the product level. If an entire product index is missing, it is recommended to use the change/index of the next level up in aggregation as the basis for performing the imputation. The percentage of the data that are imputed is about 3.7%.

18.6 Adjustment

Adjustment to address differences in quality: In case a variety is replaced, the new item takes a new base price adjusting the relevant price of the variant of product, so as not to have an impact on the calculation of the individual index of the product. The quality adjustment methods that are mainly used are three: a) the overlap method, which is used for the cases where the periods of price collection of the old (replaced) product is the same with that of the new product, b) the quantity adjustment method (when products are sold in different quantities), and c) the comparable replacement which is used when there are changes in the name of products or enterprises (mergers, affiliations) and not in the special characteristics of the product, so a direct comparison is feasible.

Calendar adjustment

The data of the index are not calendar adjusted.

18.6.1 Seasonal adjustment

The data of the index are not seasonally adjusted.

19. Comment

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None