Metadata in Euro-SDMX format (ESMS)

Country: Greece

Compiling agency: ELSTAT

Domain name: IMPORT PRICE INDEX IN INDUSTRY (MPI)

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3. Statistical presentation

3.1 Data description

The <u>Import Price Index in Industry</u> was first compiled and published in its present form, with 2000=100.0 as base year, with October 2005 as the first reference month of the data. Then, the 2005=100.0 revision is followed, and the last revision, with 2010=100.0 as base year, where the calculated new indices replaced the previous time series of the indices.

The new Import Price Index in Industry (MPI) is compiled on a monthly basis as an independent index and with the distinction into two sub-indices, namely the <u>Import Price Index for eurozone countries</u> and the <u>Import Price Index for non-eurozone countries</u>.

Until 2004, the Foreign Final Products Price Index, i.e., one of the components of the Final Products Wholesale Price Index, measured the change in the prices of imported industrial products. The later was abolished at the beginning of 2005 and the Producer Price Index (PPI) in Industry replaced it.

It should be noted that the coverage of the Foreign Final Products Price Index, was very limited, thus it covered only the final products (i.e. only the products distributed to the domestic market without including their processing by domestic industry) and not the total of industrial products, which are imported.

The purpose of the Import Price Index in Industry (MPI) is to measure the monthly rates of change in the prices of industrial products that are imported from abroad and are transferred, through purchase, to domestic unitsenterprises, irrespective of the industrial grouping where these units belong.

Based on the distinction of countries of origin into two purchase zones (euro-zone countries and non-euro-zone countries), the corresponding sub-indices are compiled, which compose the Import Price Index in Industry for total imports.

The collected prices of imported products are <u>CIF prices (Cost, Insurance, Freight)</u> at the Greek border, excluding all taxes and duties paid by the enterprises. This means that the prices include product transport (freight) and insurance costs incurred by the enterprise for their import.

On a monthly basis, the Import Price Index in Industry is compiled and released as follows:

- Monthly rates of change,
- Annual rates of change.

3.2 Classification system

For reasons pertaining to the structure of the index and for the purpose of aggregating the prices of products into categories, the following classifications have been used:

- a. At product level, the new Eurostat classification CPA 2008 (Classification of Products by Activity).
- b. At the level of branches of economic activity (classes, groups, divisions, sub-sections, sections), the new Eurostat classification NACE Rev.2.
- c. 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 No 656/2007.

3.3 Sector coverage

The index (MPI) covers Sections B–Mining and Quarrying, C–Manufacturing, D–Electricity, gas and steam, E - Water supply, of NACE Rev. 2, the main industrial groupings and all the levels of the branches of economic activity, as well as the imported products.

3.4 Statistical concepts and definitions

The purpose of the Import Price Index in Industry is to measure the monthly rates of change in the prices of products in the sectors of mining, quarrying, manufacturing and electricity that are imported from abroad and are transferred, through purchase, to domestic units-enterprises, irrespective of the industrial grouping where these units belong. Service imports are not covered by the index, since the external trade survey, which is the basis for price monitoring, covers only goods, and the products that are selected for price collection must remain comparable in the course of time (comparable goods).

Based on the distinction of countries of origin between two purchase zones (eurozone countries and noneurozone countries), the sub-indices, which compose the Import Prices Index in Industry for the corresponding purchase zones are compiled for total imports.

The index is particularly useful because it allows for monitoring the evolution of prices in the different categories or groups of products and at the same time it offers the possibility, as a deflator, to calculate the changes in the imports volume in external trade and national accounts statistics, after subtracting price changes.

3.5 Statistical unit

The observation unit for data collection is the enterprise/unit by kind of activity - 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 a cut-off method.

The imports prices are collected from units-enterprises, which import the products originally selected and are used for the compilation of the MPI. The prices mainly refer to transactions between units-enterprises that are established in the country and import products and units-enterprises that are established abroad and export products to Greece.

3.6 Statistical population

The statistical population refers to all the enterprises classified in the following NACE.2 Rev categories: B - Mining and Quarrying, C - Manufacturing, D – Electricity, Gas and Steam, E - Water supply. The data are collected from 1,061 enterprises, which import products and located in Attica and in 32 other prefectures of the country.

3.7 Reference area

The index covers Greece-total and price collection takes place in Attica and in other 32 Prefectures of Greece.

3.8 Time coverage

From January 2000 onwards, the time series for the Import Price Index in Industry, with base year 2010 (2010=100.0), are available on a monthly basis.

3.9 Base period

The base year is 2010 (2010=100.0)

4. Unit of measure

Indices, rates of change (%).

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5. Reference period

The reference period is the month.

6. Institutional mandate

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

6.2 Data sharing

The data of Import Price Index in Industry are transmitted to Eurostat, according to Council Regulation (EC) No.1165/1998 "concerning short-term statistics", as amended by Regulation (EC) No 1158/2005 of the European Parliament and of the Council.

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

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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

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.

8. Release policy

8.1 Release calendar

The Import Price Index in Industry is released on a monthly basis, through the corresponding Press Release, <u>45</u> <u>days</u> after the end of the reference month. The release dates are set out at the end of the previous calendar year and they figure in the Press Releases Calendar of ELSTAT.

8.2 Release calendar access

The press releases calendar is disseminated to the media and it is available to users for free. The release calendar is also posted on the web page of ELSTAT, "Press Releases" / *"Release Calendar*": http://www.statistics.gr/en/calendar

8.3 User access

In compliance with Community legislation and the European Statistics Code of Practice, ELSTAT releases all national statistical data on its webpage, fully observing professional independence and with a view to ensuring the simultaneous, equal and timely access of all users to statistical data.

This way, data are released simultaneously to all users through the press release on the Import Price Index in Industry, which is posted on the webpage of ELSTAT according to the release calendar. The press release can also be transmitted to users by fax or e-mail. In addition, data are transmitted to Eurostat on a predefined date, at the same time they are released at national level.

Neither users nor any government bodies have access to data before their official release.

9. Frequency of dissemination

The Import Price Index in Industry is disseminated on a monthly basis.

10. Dissemination format

10.1 News release

The Import Price Index in Industry (MPI) is released on a monthly basis, through the corresponding Press Release, 45 days after the end of the reference month. The MPI press release is presenting all recently calculated data in Greek and English. This press release is disseminated to the media and to other users, free of charge, through e-mail. This press release is also available on the website of ESLTAT at:

http://www.statistics.gr/en/statistics/-/publication/DKT18/-

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10.2 Publications

Data on the Import Price Index in Industry can be found in the following publications of ELSTAT:

• "Monthly Bulletin":

http://dlib.statistics.gr/portal/page/portal/ESYE/categoryyears?p_cat=10007366&p_topic=10007366

- *"Statistical Yearbook of Greece":* <u>http://dlib.statistics.gr/portal/page/portal/ESYE/categoryyears?p_cat=10007369&p_topic=10007369</u>

- "Concise Statistical Yearbook of Greece": http://dlib.statistics.gr/portal/page/portal/ESYE/categoryyears?p_cat=10007372&p_topic=10007372

as well as in special publications of Eurostat.

10.3 On-line database

There is no on-line database for the Import Price Index in Industry.

10.4 Micro-data access

Microdata are made available to users after their submitting a request to the:

Division of Statistical Information and Publications

46, Peiraios and Eponiton Str.,

18510 Piraeus

Tel: +30 213 135 2022

Fax: +30 213 135 2312

http://www.statistics.gr/en/provision-of-statistical-data

For confidentiality reasons access to microdata is granted to users only under strict conditions and by always adhering to the relevant procedure.

10.5 Other

In addition to transmitting data to Eurostat, users can be given data or other statistical analysis, through fax or email, upon request, after submitting an application to the Division of Economic and Short-term Indices Division / Wholesale Prices and Price Indices Section or to the Statistical Information Dissemination Section. Users can submit their requests to the following e-mail addresses, <u>k.thomas@statistics.gr</u>, <u>e.vlachokosta@statistics.gr</u>, <u>data.dissem@statistics.gr</u>, <u>data.supply@statistics.gr</u> and <u>data.source@statistics.gr</u>.

Users can also submit their requests electronically, through the portal at: <u>http://www.statistics.gr/en/statistical-data-request</u>

More links for data dissemination:

http://dlib.statistics.gr/portal/page/portal/ESYE/ http://www.statistics.gr/en/statistics/-/publication/DKT18/http://ec.europa.eu/eurostat/web/short-term-business-statistics/

11. Accessibility of documentation

11.1 Documentation on methodology

The methodology on the compilation of the Index is set out by ELSTAT, by fully taking into consideration international practices and more specifically instructions, guidelines and standards of Eurostat. The methodological manual:

<u>Methodology of short-term business statistics - Interpretation and Guidelines</u>, includes a comprehensive set of guidelines for the compilation of short-term statistics.

The manual: Import price index (2011), focuses on methodological aspects of MPIs in industry. It includes

guidelines methodology for short-term statistics, best practices and methods used in other Member States, etc. In addition, users can find further details on sources and methodology used for the compilation of the index in the methodological publication of ELSTAT on the Import Price Index in Industry, which is available on the webpage of ELSTAT at:

http://www.statistics.gr/en/statistics/-/publication/DKT18/-

11.2 Quality documentation

A concise user-oriented quality report is available on the website of ELSTAT at : http://www.statistics.gr/en/statistics/-/publication/DKT18/-

12. **Quality management**

12.1 Quality assurance

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.

- 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 import indices of the group where they are classified. Accordingly when a unit / enterprise discontinues to import/merchandise a specific product, it is replaced by another enterprise.
- Quality adjustments: In the case where a variety is replaced, the new product has a new base price adjusted to the relevant price of the variety of the product, thus not affecting the calculation of the subindex 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.
- New units/enterprises and new products: New products are added only during the revision of the Import 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 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 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 producers and 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 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.

Moreover, in order to ensure the quality of data, all the procedures that are described in the circulars on the Quality Policy of ELSTAT are followed: http://www.statistics.gr/en/policies

12.2 Quality assessment

- The Import Price Index in Industry is a new variable introduced by Regulation No 1158/2005 of the European Parliament and of the Council of 6 July 2005, amending and supplementing Council Regulation No 1165/98 concerning Short-Term Statistics. This Index, like all other short-term indices, is revised every five years in years ending in 0 or 5, in accordance with article 11 of Regulation 1165/1998.
- The Import Price Index in Industry in its present is being compiled since January 2005, when it replaced the Foreign Final Products Wholesale Price (which was compiled until 1963). Until 2004, the Foreign Final Products Price Index, i.e., one of the components of the Final Products Wholesale Price Index, monitored the changes in the price of imported industrial products. This later was abolished at the beginning of 2005 and was replaced by the Producer Price Index in Industry.
- It should be noted that until then the changes in the price of the imported industrial products were monitored by the Foreign Final Products Price Index but the coverage of this Index was very limited, thus it covered only the final products (i.e. only the products distributed to the domestic market without including their processing by domestic industry) and not the total of industrial products, which are imported.
- The fact that the Wholesale Price Index included only the finished products resulted to a limited interest expressed by users for this index. On the contrary, users preferred the Import Price Index of industrial Products, which includes not only the finished, but the intermediate products as well, i.e., all the products of industry.
- The discontinuation of the aforementioned index and its replacement by the Import Price Index in industry was considered necessary also 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.
- The Import Price Index in Industry was first compiled and published in its present form, with 2000=100.0 as base year, with October 2005 as the first reference month of the data. Then, the 2005=100.0 revision is followed, and the last revision, with 2010=100.0 as base year, where the calculated new indices replaced the previous time series of the indices.
- 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 and more specifically EU Regulations 1165/1998 and 1158/2005 on short-term statistics.

13. Relevance

13.1 User needs

- Generally, the Import Price Index in Industry provides statistical information, which is necessary for improving competitiveness and productivity of the business sector.
- 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 for the different groups of categories of products, but also to calculate the real rates of change in the volume of imports in external trade statistics and in national accounts, as a deflator, after subtracting price changes. Furthermore, import 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.

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• Among the main national users are: the government, public services, the Bank of Greece, other banks, universities, enterprises, the Public Power Corporation S.A., the Centre for Planning and Economic Research, (KEPE), the Foundation for Economic and Industrial Research (IOVE), etc. and at international level Eurostat, IMF, OECD, UN, etc.

13.2 User satisfaction

The Wholesale Prices and Price Indices 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.

In addition to that, ELSTAT carries out a survey on users' satisfaction every six months. The comments made in the media are positive. More information concerning the results of the users' satisfaction survey is available in the Library's Newsletter:

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

13.3 Completeness

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

14. Accuracy and reliability

14.1 Overall accuracy

The index is characterised by high accuracy. Nevertheless, sampling errors are not taken into consideration because the sampling method used is not random sampling but a cut-off sampling method (directed 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 on identifying and correcting as many errors as possible during the revision of data.

The Import Price Index in Industry is fully revised every five years (more specifically in years ending in 0 or 5), with the change of the base year and the adoption of the new weights. Regarding response, the percentage of enterprises which actually report data on time is relatively satisfying, taking into account that missing values usually refer to less significant products.

14.2 Sampling error

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

In order to compile the Import Price Index in Industry a survey is carried out. The sampling frame was the annual import data from the survey of external trade statistics for the year 2010. For calculating the weights at all levels (product, economic activity, group, main industrial grouping, etc.) and for the zones of origin, the import values at corresponding levels were taken into consideration, both as a total and in the individual zones of origin in 2010.

The external trade survey included the imports value for 2010 for all industrial products, with breakdown into euro zone countries and non-euro zone countries and the classification used was the combined nomenclature, CN8, which is also correlated with PRODCOM 2010. The weighting coefficients and the monthly prices refer to product level (in CPA classification). At a first stage the products of the index at 6-digit level are selected and at a second stage the enterprises.

Prices are collected from approximately 1.061 enterprises that import products. The index covers the country as a whole, since the main criterion for selecting the units-enterprises, from which import prices are collected, was the value of the enterprises' imports during base year 2010, without taking into account the location of their head office.

The observation unit is the enterprise/activity unit (KAU) which imports the products. 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 sample of products that are selected is based on a cut-off method. The selection of enterprises is based on the value of imports (purchases), so that the selected units cover about 70% of the total imports value (turnover) of 2010 within each branch of economic activity (4-digit level).

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14.3 Non-sampling error

There are no errors, which have to do with inconsistent use of definitions or with data processing. For each product, which has been selected for the index sample, all its defining characteristics (variety, weight, packaging, other features) were fully and precisely determined, including those characteristics relating to its transaction (usual quantity, discounts, mode of payment, country of origin, etc.). The prices resulting from transactions of affiliated units-enterprises, such as transactions between parent and subsidiary company, are taken into consideration under certain conditions.

Some counting errors may occur, such as errors in the data provided by the surveyed enterprises. Theses errors are usually easy to identify, through checks and cross-checks with the data provided by enterprises in the previous years and these errors are corrected after telephone communication with the stakeholders

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 data flow due to absence of transactions or to seasonality, the method used during the break is "repeating of the last observed price". 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, In such cases, the special method of changing the base prices of substitute products is used.

14.3.1 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.

14.3.1.1 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.

14.3.1.2 Common units (percentage)

The index is compiled on the basis of a common sample of enterprises for each month, which is renewed with the change of the base year. Therefore, the percentage of common enterprises of the sample among the months is 100%.

14.3.2 Measurement error

Measurements errors occur during data collection. They are identified by means of quality checks and are duly corrected.

14.3.3 Non response error

In case of non-response, the surveyed enterprise is contacted by telephone, or is sent a reminder by fax or email or even a statistical interviewer pays a visit to the enterprise in order to obtain th required information. Total response rate of the monthly index is generally considered to be high, amounting to 95%. Missing values are treated by estimating them by "repeating the last prices" during the period of non-response.

14.3.4 Item non response error

Item non-response errors are not observed in key variables for estimating.

14.3.5 Processing error

After data collection a series of processes takes place before the compilation of the index (e.g., weighting of enterprises, calculations by implementing mathematic formulae, tabulation of results, etc.)There are some processing errors, such as errors on account of erroneous information provided by the surveyed enterprises. These errors are usually easy to be identified by means of checks and cross-checks of data with the corresponding data of the previous years after contacting by phone the enterprise. There are no processing errors as regards the use of the relevant software application.

14.3.6 Model assumption error

No model is used for the compilation of the index.

15. Timeliness and punctuality

15.1 Timeliness

The Index is published approximately <u>45 days</u> after the end of the reference month.

15.2 Punctuality

The Import Price Index in Industry is released as scheduled, in accordance with the Release Calendar of ELSTAT.

16. Comparability

16.1 Comparability – geographical

The compilation of the index is based on relevant EU legislation and on basic methodology on short-term statistics used throughout EU Member States, thus the survey produces fully comparable results, taking always into consideration specific conditions in each country, which may require minor deviations from methodology.

16.2 Comparability over time

The time series of the revised MPI in Industry (2010=100.0) includes the indices compiled by imputation of the previous time series <u>from January 2000 to June 2013</u>. The indices from <u>July 2013</u> onwards have been calculated with the new data on prices and products and with the new weighting coefficients, with the distinction into two sub-indices: on import price indices from eurozone and non-eurozone countries.

The back casting calculation of indices is a simple reduction in the base year 2010=100.0. Backdated calculations for the monthly and annual Import Price Indices in Industry, for the period January 2000 – June 2013, were calculated using the individual annual price index of every product in 2010 year, according to the following type:

$$R_{i(2010)}^{(t)} = R_{i(2005)}^{(t)} * \frac{100}{\overline{R}_{i(2005)}^{(2010)}}$$

Where:

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

 $R_{i(2005)}^{(t)}$ is the individual index of material i in the current period (month, year) t with 2005 as base year and

$\overline{\mathbf{n}}^{(2010)}$

 $R_{i(2005)}$ is the mean individual annual index of material i in 2010, with 2005 as base year.

17. Coherence

17.1 Coherence cross-domain

Checks are carried out regularly on the basis of data from other surveys. More specifically, comparisons are

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made with the sub-indices of the Producer Price Index in industry, Input and Output Indices in Agriculture-Livestock, and intersections with other data, such as with the annual figures for Imports of external trade survey, when these data become available.

17.2 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.

18. Cost and burden

The survey on cost and burden conducted by ELSTAT for the year 2012 produced the following results: a) as regards the staff of ELSTAT that is involved in the compilation of the index, the annual cost concerning the hours worked is estimated at 10,186 hours, b) as regards the surveyed enterprises, the average annual burden, expressed in hours worked for filling in the questionnaire, amounts to 1.82 hours per enterprise or 1,933 hours for all the surveyed enterprises.

19. Data revision

19.1 Revision policy

The index is published 45 days after the end of the reference month in compliance with Regulation 1158/2005 of the European Parliament and of the Council and the released data is final. The Revision Policy of ELSTAT, is available at the following link:

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

19.2 Revision practice

In compliance with Council Regulation (EC) 1165/1998 concerning "short-tem statistics", short-terms indices should be revised every five years and more specifically in years ending in 0 or 5. In this framework, the Import Price Index in Industry is fully revised every five years with the change of the base year and the adoption of the new weights.

20. Statistical processing

20.1 Source data

In order to compile the Import Price Index in Industry a survey is carried out. The sampling frame was the annual import data from the survey of external trade statistics for the year 2010. For calculating the weights at all levels (product, economic activity, group, main industrial grouping, etc.) and for the zones of origin, the import values at corresponding levels were taken into consideration, both as a total and in the individual zones of origin in 2010. The external trade survey included the imports value for 2010 for all industrial products, with breakdown into euro

zone countries and non-euro zone countries and the classification used was the combined nomenclature, CN8, which is also correlated with PRODCOM 2010.

The main criteria for choosing the products of the sample were the volume of the imports value (purchases) in the branch of economic activity where they belong and the possibility to collect their prices in the course of time. At a first stage the products of the index at 6-digit level are selected and at a second stage the enterprises are selected.

Prices are collected from approximately 1.061 enterprises that import products with head offices in Attica and in another 32 prefectures-the administrative divisions of the country. The index covers the country as a whole, since the main criterion for selecting the units-enterprises, from which import prices are collected, was the value of the enterprises' imports during base year 2010, without taking into account the location of their head office.

The observation unit is the enterprise/activity unit (KAU) which imports the products. 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 sample of products that are selected is based on a cut-off method. The selection of enterprises is based on

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the value of imports (purchases), so that the selected units cover about 70% of the total imports value (turnover) of 2010 within each branch of economic activity (4-digit level).

20.2 Frequency of data collection

Data are collected on a monthly basis.

20.3 Data collection

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

The collected prices of imported products are CIF (Cost, Insurance and Freight) prices at the Greek border, free of all taxes and duties payable by the import enterprises. This means that they include the product transport (freight) and insurance costs incurred by the enterprise for their importation.

Transactions between units belonging to the same enterprise (e.g. parent and subsidiary company) are taken into consideration for the time period during which the prices are based on the market or affected by it and their differences compared to market prices are minimal.

Prices refer to actual transaction prices and not to price list prices and therefore discounts have been deducted from the prices.

In order for the index to reflect more accurately the real evolution (change) of prices, all the characteristics of the products are taken into consideration, which have to do with their price, thus aiming at correcting any quality changes and at maintaining their comparability over time.

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, country of origin, etc.) are set out in great detail.

The information regarding prices mainly refer to the middle of the reference month, with a monthly periodicity while, in exceptional cases, they refer to the average prices of this monthly period. The index, however, needs to reflect the comparison of the current period's average price level compared to the corresponding period of its base period and this can be seen more clearly in the case of products with significant price fluctuations during the monthly period.

When collected product prices are indicated in foreign currency, they are converted to euros using the Euroforeign currency exchange rate, according to the average monthly fixing rates of the Bank of Greece.

The prices are collected my 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 email, or even the competent staff may pay a visit to the enterprise.

20.4 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.

20.5 Data compilation

The Import Price Index in Industry (2010=100.0) covers all of Greece and price collection takes place in Attica and in the other 32 Prefectures of the country.

The MPI is calculated using a variation of the Laspeyres formula, as follows:

$$I^{(t)} = \sum_{i=1}^{n} R_i^{(t)} * W_i \qquad i = 1, 2, ..., n$$

where:

 $I^{(t)}$

is the overall index of the current period (month) t,

 $R_i^{(t)}$ is the individual index for the product I, during the current period (month) t and the coefficient:

$$w_{i} = \frac{p_{i}^{(0)}q_{i}^{(0)}}{\sum_{i=1}^{n} p_{i}^{(0)}q_{i}^{(0)}}, \quad \sum_{i=1}^{n} w_{i} = 1$$

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 w_i = is the corresponding weight of the product i , where $p_i^{(0)}$ and $q_i^{(0)}$ are the price and quantity of the product i during the base period 0, respectively.

The individual index $R_i^{(t)}$ for the product i is the simple arithmetic mean of the relevant prices of the varieties of that product from all the reporting units (enterprises). Thus:

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

where:

 N_i is the number of varieties of product i from all the reporting units,

 $p_{ij}^{(t)}$ is the price of variety *j* of product *i* during the current period *t*

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

The above calculations are used for the calculation of the Overall Import Price Index, as well as for the calculation of the two individual import price indices for eurozone and non-eurozone countries. The overall MPI is calculated as the weighted average of the two separate sub-indices for eurozone and non-eurozone countries.

Further details on methodology and calculation of the Import Price Index in Industry are available on the webpage of ELSTAT and more specifically under the link: http://www.statistics.gr/en/statistics/-/publication/DKT18/-

20.6 Adjustment

<u>Adjustment to address differences in quality:</u> 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.

The data of the index are not seasonally adjusted.

21.	Comment	<u>Top</u>
None		