# Single Integrated Metadata Structure (SIMS)

Country: Greece

**Compiling agency:** ELSTAT

**Domain name:** Import Price Index in Industry (MPI)

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### 2. Introduction

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#### 2.1 Introduction

The Import Price Index (MPI) in Industry, in its current form, is being released since January 2005, when it replaced the Wholesale Price Index of the Final Products, which was compiled since 1963. The purpose of the MPI is to measure the monthly rates of change in the prices of products in the sectors of mining, guarrying, manufacturing and electricity that are imported from abroad and are transferred, through purchase, to domestic units-enterprises.

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4. Statistical Presentation		Тор

### 4. Statistical Presentation

### 4.1 Data description

The Import Price Index in Industry was first compiled and published in its present form during the revision of the base year, 2000=100.0, with October 2005 as the first reference month of the data. Then, the 2005=100.0 revision 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 last revision of the MPI in industry, with the base year 2010 = 100.0, is published from September 2013 with July 2013 as the first reference month of data.

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 Import Price Index for eurozone countries and the Import Price Index for non-eurozone countries.

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, since 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.

On the basis of the distinction of countries of origin into two purchase zones (euro-zone countries and non-eurozone 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 CIF prices (Cost, Insurance, Freight) 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.

### 4.2 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 Eurostat classification CPA 2008, pursuant to Council Regulation No 451/2008.

- b. at the level of branches of economic activity (classes, groups, divisions, sub-sections, sections), the Eurostat classification NACE Rev.2, in accordance with Regulation No 1893/2006 of the European Parliament and of the Council.
- c. at the level of main industrial groupings, the 2-digit and 3-digit NACE Rev. 2 headings are allocated to categories of aggregate classification in compliance with Council Regulation No 656/2007.

#### 4.3 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.

#### 4.4 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. Imports of services 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).

On the basis of 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 follows the monthly changes in the prices in the different categories or groups of products; at the same time it offers the possibility, as a deflator, to calculate the changes in the volume of imports in external trade and national accounts statistics, after subtracting price changes.

#### 4.5 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.

#### 4.6 Statistical population

The statistical population refers to all the enterprises classified in the following NACE Rev.2 sections: 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 are located in Attica and in 32 other Departments (NUTS 3) of the country.

#### 4.7 Reference area

The index covers Greece total and prices are collected in Attiki and in 32 Prefectures (NUTS 3) of Greece.

#### 4.8 Time coverage

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

### 4.9 Base period

The base year is the year 2010 (2010=100.0).

### 5. Unit of measure

Indices, rates of change (%).

### 6. Reference period

The reference period is the month.

### 7. Institutional mandate

#### 7.1 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>

### 7.2 Data sharing

The data of MPI 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.

### 8. Confidentiality

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#### 8.1 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

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Regulation on the Operation and Administration of ELSTAT. More precisely: ELSTAT disseminates the statistics in compliance with the statistical principles of the European Statistics Code of Practice and in particular with the principle of statistical confidentiality.

http://www.statistics.gr/en/statistical-confidentiality

### 8.2 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.

### 9. Release policy

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### 9.1 Release calendar

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

### 9.2 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*": <u>http://www.statistics.gr/en/calendar</u>

### 9.3 User access

In compliance 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 Import Price Index in Industry, which is released on the official website of ELSTAT (www.statistics.gr) according to the release calendar schedule. This press release is also made 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.

### **10. Frequency of dissemination**

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

### **11. Dissemination Format**

### 11.1 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/-

### 11.2 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

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- "Statistical Yearbook of Greece": http://dlib.statistics.gr/portal/page/portal/ESYE/categoryyears?p\_cat=10007369&p\_topic=10007369

- "Concise Statistical Yearbook of Greece":

http://dlib.statistics.gr/portal/page/portal/ESYE/categoryyears?p\_cat=10007372&p\_topic=10007372

as well as in specialized publications of Eurostat

### 11.3 On-line database

There are no available data on the Import Price Index in Industry on the on-line database of ELSTAT.

### 11.3.1 Data tables - consultations

In 2013, total access to the website as regards the MPI amounted to 8,996 hits. There is no possibility to make the distinction between users' consultations on data tables and users' consultations on metadata.

### 11.4 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.

### 11.5 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: <a href="http://www.statistics.gr/en/statistical-data-request">http://www.statistics.gr/en/statistical-data-request</a>

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/

### 11.5.1 Metadata - consultations

In 2013, total access to the website as regards the MPI amounted to 8,996 hits.

### 12. Accessibility of documentation

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### 12.1 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 Methodology of short-term business statistics - Interpretation and Guidelines ,

includes a comprehensive set of guidelines for the compilation of short-term statistics.

The manual: <u>Import price index (2011)</u>, 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/-

### 12.1.1 Metadata completeness (percentage)

The metadata of the MPI are posted on the webpage of ELSTAT at the link: <u>www.statistics.gr</u>, with metadata completeness amounting to 100%.

### 12.2 Quality documentation

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

### 13. Quality management

### 13.1 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).
- <u>Replacement of products/units</u>: 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 indices of the group where they are classified. Accordingly, a unit/enterprise is replaced by another one, when it does not import any more the specific product.
- <u>Quality adjustments:</u> 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.
- <u>Introduction of new products and units:</u> new products are added in the Import r Price Index in Industry (MPI) when the index is revised. The index is fully revised every five years with the change of the base year and the adoption of the new weightings coefficients. New enterprises /units are added, in order to maintain the representativeness of the sample of the selected enterprises/units 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 producers and 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 producers and 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: <u>http://www.statistics.gr/en/policies</u>

#### 13.2 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, since
  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 during the revision of the base year, 2000=100.0, , with October 2005 as the first reference month of the data. Then, the 2005=100.0 revision 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.

### 14. Relevance

#### 14.1 User needs

The Import Price Index in Industry covers national needs, as well as needs of the EU and other users. More specifically:

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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.
- 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.

### 14.2 User satisfaction

The Wholesale Prices and Price Indices Section monitors on 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, and comments made by users are positive.

In addition, ELSTAT conducts:

a. A users' satisfaction survey.

Every six month, ELSTAT conducts a user's satisfaction survey. The results of this survey are published in the "Library's Newsletter" (in Greek and English), a publication which is issued by the Library of ELSTAT and by the Section of Statistical Information Dissemination, on the basis of information deriving from the User Questionnaire. This publication present semi-annual data on the number of users in combination with other variables, such as the degree of satisfaction of users' requests, the kind of the requested data and the modes of statistical dissemination. These data are presented in the form of tables, absolutes values and percentage points.

b. A User Conference

In accordance with its Annual Statistical Work Programme, ELSTAT, from 2010 onwards, has been conducting a User Conference, on a yearly basis with the participation of representatives of the private and public sector, academics, researchers and research institutes. These conferences give ELSTAT the opportunity to gather comments and interventions made by the users of statistics on issues such as the dissemination of statistical information, access of users to statistics and any omissions in the statistical output. The User Conferences help ELSTAT to draw useful conclusions on how the statistical output and the services provided can be improved so as to meet user's growing needs. These conclusions are incorporated in the annual statistical work programmes of ELSTAT.

More information on the results of the user's satisfaction surveys and on the user conferences are available at: http://www.statistics.gr/en/user-satisfaction-survey

### **14.3 Completeness**

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

### 15. Accuracy and reliability

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### 15.1 Overall accuracy

The accuracy of MPI is generally considered to be high. ELSTAT does not calculate sampling errors because the purposive sampling technique is applied, instead of the random sampling technique. As regards non-sampling errors, they mostly refer to measurement or non-response errors. The efforts which are made mostly focus on identifying and eliminating, to the extent possible, these errors, through 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.

### 15.2 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).

### 15.3 Non-sampling error

There are not any errors related to the inconsistent implementation of definitions, only errors concerning the procedure of processing. 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).

It is not unusual for periodic breaks to occur in the flow of price data, or for prices to be unavailable, provisional or final. When a break occurs in the data flow due 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. In such cases, a special technique is implemented for changing the base prices of the replacing products

### 15.3.1 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.

### 15.3.1.1 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.

### 15.3.1.2 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%.

### 15.3.2 Measurement error

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

#### 15.3.3 Non response error

In case of non-response, the surveyed enterprise is contacted by telephone, or is sent a reminder by fax or e-mail 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.

### 15.3.4 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.

### 15.3.5 Model assumption error

No model is used for the compilation of the index.

### 16. Timeliness and punctuality

### **16.1 Timeliness**

The Index is published on a monthly basis, 45 days after the end of the reference month.

### 16.2 Punctuality

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

### 17. Comparability

### 17.1 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.

### 17.1.1 Assymetry for mirror – flows – statistical (coefficient)

For the MPI there are no mirror-flows statistics among EU Member States.

### 17.2 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 from January 2000 to June 2013. The indices from July 2013 onwards have been calculated with the <u>new data</u> 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. For the period January 2000 – June 2013, the indices were calculated using the individual annual price index of every product in 2010 year, according to the following type:

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

Where:

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

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

### $\overline{\boldsymbol{p}}^{(2010)}$

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

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### 21. Statistical processing

## 18.1 Coherence cross-domain

18. Coherence

Checks are carried out regularly on the basis of data from other surveys. More specifically, comparisons are made with the sub-indices of the Producer Price Index (PPI) in Industry, Input and Output Indices in Agriculture-Livestock, and intersections with other data, such as with the annual figures for Imports of Foreign Trade Survey, when these data become available.

### 18.1.1 Coherence – sub annual and annual statistics

Any small discrepancies observed in the rates of change between the MPI 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.

### 18.1.2 Coherence – National Accounts

The MPI are used by the National Accounts Division for changing the current prices to constant prices in exports.

### 18.2 Coherence – internal

The index is characterised by internal coherency since a common data base is used and they are compiled using the same methodology. The indices of the higher distribution levels are based on the indices of lower levels in compliance with clearly defined procedures.

### 19. 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.

### 20. Data revision

### 20.1 Revision policy

The Index is published on a monthly basis, 45 days after the end of the reference month and the released data are final.

The data are revised, in accordance with the Revision Policy of ELSTAT, which is available at the following link: <u>http://www.statistics.gr/en/policies</u>

### 20.2 Revision practice

According to the requirements of the Council Regulation (EEC) No 1165/98 concerning short-term statistics, short-term indices are revised every five (5) years, particularly on calendar years ending with a 0 or a 5. In this framework, major revisions of the MPI take place every five years, with the change of the base year and implementation of the new weighting scheme.

The latest revision of the index, besides the changing of the weighting coefficients and of the base year, incorporated the implementation of the new statistical classification of economic activities, NACE Rev. 2 and of products CPA 2008, as already described in a previous paragraph.

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### 21.1 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 value of imports (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 and are located in Attica and in another 32 departments (NUTS 3) 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. 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 and units 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 class (4-digit level).

#### 21.2 Frequency of data collection

The data are collected on a monthly basis.

### 21.3 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

The questionnaires are sent to the Regional Statistical Offices by

- Fax (a very small number is sent by fax)
- e-mail (96% of questionnaires is sent be 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.

### 21.4 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.

### 21.5 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 Departments (NUTS3) of the country.

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

$$I^{(t)} = \sum_{i=1}^{n} R_{i}^{(t)} * W_{i,i=1,2,...,n}$$

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  $w_i$ :

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

*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, i = 1, 2... products.

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,

 $p_{ii}^{(t)}$ , 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<sub>i</sub>.

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/-

### 21.5.1 Imputation-rate

No imputed values are used to substitute price collection in the sample enterprises.

#### 21.6 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.

### 21.6.1 Seasonal adjustment

No seasonal adjustment.

### 22. Comment

None

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