

Single Integrated Metadata Structure (SIMS)

Country: Greece

Compiling agency: ELSTAT

Domain name: Index of Persons Employed in Retail Trade

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1. Contact Top	
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2. Introduction [Top](#)

The index of persons employed in retail trade is a quarterly index that was first compiled in 2004 with 2000=100.0 as the base year and backdated data from the 1st quarter of 2000. The compilation of this index is governed by the Council Regulation (EEC) No.1165/98 concerning short-term statistics,

The indices of hours worked, and gross wages and salaries with base year 2010=100.0 are quarterly indices that are first compiled in 2016 and backdated data from the 1st quarter of 2010. The compilation of these indices is governed by the Commission Regulation (EC) No 329/2009 amending Council Regulation (EC) No 1165/98 concerning short-term statistics as regards the updating of the list of variables.

In addition, all the above indices are governed by the Regulation No.1893/2006 of the European Parliament and of the Council establishing the statistical classification of economic activities NACE Rev.2.

3. Metadata update [Top](#)

3.1 Metadata last certified	May 2016
3.2 Metadata last posted	May 2016
3.3 Metadata last update	May 2016

4. Statistical presentation [Top](#)

4.1 Data description

1. Index of Persons Employed in Retail Trade

The index of persons employed in retail trade refers to the whole country. The overall index covers the economic activity classes with codes 4711-4799 of NACE Rev. 2. Four aggregated levels of economic classes are produced as follows:

- Overall index [Division 47: Retail trade except of motor vehicles and motorcycles]
- Overall index except automotive fuel [G47_X_G473:Division 47 except of Group 473]
- Food sector index [G47_FOOD :Class 4711 and Group 472]
- Overall index except food and automotive fuel sector [G47_NFOOD_X_G473:Class 4719 and Groups 474 to 479]

2. The Index of Hours Worked in Retail Trade

The index of hours worked in retail trade refers to the whole country and covers the economic activity classes with codes 4711-4799 of NACE Rev. 2. The index of hours worked is compiled at the division 47 level.

3. The Index of Gross Wages and Salaries in Retail Trade

The index of gross wages and salaries in retail trade refers to the whole country and covers the economic activity classes with codes 4711-4799 of NACE Rev. 2. The index of gross wages and salaries in retail trade is compiled at the division 47 level.

4.2 Classification system

NACE Rev.2 statistical classification of economic activities is applied, in conformity with Regulation (EC)

1893/2006 of the European Parliament and Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2.

4.3 Sector coverage

The indices of person employed, hours worked, and gross wages and salaries in retail trade (2010=100.0), according to NACE Rev. 2 classification, cover the economic activity classes identified by codes 4711 to 4799 inclusive.

4.4 Statistical concepts and definitions

1. Index of Persons Employed in Retail Trade

The purpose of the index of persons employed in retail trade is to measure, on a quarterly basis, changes in the number of persons employed in retail trade. This index is compiled in order to meet increasing demand for data concerning employment in retail trade, which resulted mainly after the signing of the Treaty on Economic and Monetary Union (EMU).

The compilation of the index includes the number of persons employed in the enterprise irrespective of their status (employers, own-account workers, salaried employees, unpaid family workers) and the nature of their work (managers, sales persons and auxiliary staff) and irrespective of whether they work on a provisional or seasonal basis, full time or part time, with or without remuneration.

Employment figures are recorded on the last working day of the reference quarter and refer to the total number of persons working for the enterprise, as follows:

- Unpaid persons employed include owners, partners, employers and members of their families who work regularly for the enterprise, without being paid, without a contract of employment and without receiving any fixed remuneration for the work they do.
- Paid employees include workers in all categories who are on the enterprise's payroll, and belong to the enterprise and are paid by it, whether working on or off the premises (sales representatives, goods delivery personnel, etc.). They include wage- and salary-earners, persons on temporary leave (maternity leave, sick leave, etc.) and those on part-time, temporary and seasonal employment.

2. The Index of Hours Worked in Retail Trade

The purpose of the hours worked index is to show the development in the volume of work done in retail trade from the total of persons employed (employers, own-account workers, salaried employees, unpaid family workers).

The total number of hours worked represents the aggregate number of hours actually worked for the output of the enterprise during the reference period (quarter). Included are hours actually worked during normal working hours; hours worked in addition to those; time which is spent at the place of work on tasks such as preparing the site and time corresponding to short periods of rest at the work place. This variable excludes hours paid but not actually worked such as for annual leave, holidays and sickness leave. It also excludes meal breaks and commuting between home and work.

3. The Index of Gross Wages and Salaries in Retail Trade

The purpose of the gross wages and salaries index is to approximate the development of the gross wage and salaries bill in retail trade. Wages and salaries are defined as the total remuneration, in cash or in kind, payable to all persons counted on the payroll (including home workers), in return for work done during the accounting period, regardless of whether it is paid on the basis of working time, output or piecework and whether it is paid regularly.

4.5 Statistical unit

The observation unit is the enterprise.

4.6 Statistical population

In the framework of the survey performed to compile the above indices (2010=100.0), it was decided to include 41.801 retail trade enterprises listed in the Business Register (BR) of ELSTAT having an annual turnover (in 2010) equal to or higher than 200.000 euro.

4.7 Reference area

The indices of person employed, hours worked, and gross wages and salaries in retail trade cover the whole country, with data coming from 58 Regional Units.

4.8 Time coverage

- a. The index of persons employed in retail trade series (2010=100.0) is available on a quarterly basis since 1st quarter 2000.
- b. The indices of hours worked, and gross wages and salaries in retail trade (2010=100.0) are quarterly indices that are first compiled in 2016 and backdated data since 1st quarter 2010.

4.9 Base period

Base year : 2010=100.0

5. Unit of measure

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Indices, quarter-on-quarter growth rates (%), year-on-year growth rates (%)

6. Reference period

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Quarter

7. Institutional mandate

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7.1 Legal acts and other agreements

1. The General Legislation 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 by article 90 paragraphs 8 and 9 of the Law 3842/2010 (Government Gazette No 58, Issue A): "*Restoration of fiscal justice, confrontation of tax evasion and other provisions*", by article 10 of the Law 3899/2010 (Government Gazette No 212, Issue A): "*Urgent measures for the implementation of the assistance program of the Greek Economy*", by article 45 of the Law 3943/2011 (Government Gazette No 66, Issue A): "*Combating tax evasion, staffing of auditing services and other provisions falling within the competence of the Ministry of Finance*", by article 22 paragraph 1 of the Law 3965/2011 (Government Gazette No 113, Issue A): "*Operations Reform of the Consignment and Loan Fund, Public Debt Management Agency, Public Enterprises and Government bodies, the establishment of the General Secretary of Public Property and other provisions*", by article first of the Law 4047/2012 (Government Gazette No 31, Issue A): "*Ratification of the Act of Legislative Content "Very urgent measures for the implementation of the Medium-term Fiscal Strategy 2012-2015 and of the State Budget for 2011" and of the Act of Legislative Content "Regulation of very urgent issues for the implementation of law 4024/2011 "Pension provisions, uniform pay scale - grading system, labour reserve and other provisions for the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and of issues falling within the competence of the Ministries of Administrative Reform and E-Governance, Interior, Finance, Environment, Energy and Climate Change, and of Education, Lifelong Learning and Religious Affairs and related to the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and other provisions*", by article 323 of the Law 4072/2012 (Government Gazette No 86, Issue A): "*Improvement of the business environment New corporate form - Trade Marks - Realtors - Regulating maritime, port and fishing matters and other provisions*" and by article 7 paragraph 1 of the Act of Legislative Content dated 18/11/2012 (Government Gazette No 228, Issue A): "*Financial rules and other provisions*", by Article 93 of the Law 4182/2013 (Government Gazette No 185, Issue A): "*Code of charitable estate, inheritances in abeyance and other provisions*", by Article 6 paragraph 8 of the Law 4244/2014 (Government Gazette 60, Issue A): "*Integration in Greek law of the Council Directive 2013/1/EU of 20 December 2012 amending Directive 93/109/EC as regards certain detailed arrangements for the exercise of the right to vote*"

and stand as a candidate in elections to the European Parliament for citizens of the Union residing in a Member State of which they are not nationals and amendment of law 2196/1994 (A` 41) and other provisions”, by Article first subparagraph C.3 of the Law 4254/2014 (Government Gazette No 85, Issue A): “Measures for the support and development of the Greek economy, in the context of the implementation of Law 4046/2012, and other provisions of law” and by Article 33, paragraphs 5a and 5b of the Law 4258/2014 (Government Gazette No 94, Issue A): “Demarcation process and arrangements of matters for streams - arrangements of Urban Planning legislation and other provisions”.

- **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 Program 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 governing the organization and operation of ELSTAT is posted on the website of ELSTAT: <http://www.statistics.gr/en/legal-framework>

2. Legal EU framework on the compilation of the index of persons employed in retail trade

- Council Regulation [1165/98](#) introducing short-term statistics at European level
- Regulation (EC) of the European Parliament and of the Council [1158/2005](#) amending Regulation 1165/98 introducing the European sample schemes, industrial import prices, output prices for services and other changes
- Regulation (EC) [1893/2006](#) of the European Parliament and of the Council establishing the statistical classification of economic activities NACE Revision 2
- Commission Regulation [1503/2006](#) defining variables and frequency of data compilation, repealing new orders received for building construction and new orders received for civil engineering

3. Legal EU framework of the indices of hours worked, and gross wages and salaries in retail trade

The indices of hours worked, and gross wages and salaries are governed by the Commission Regulation

(EC) No 329/2009 (<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0329&from=EN>) amending Council Regulation (EC) No 1165/98 concerning short-term statistics as regards the updating of the list of variables, In addition, these indices are governed by the Regulation No.1893/2006 of the European Parliament and of the Council establishing the statistical classification of economic activities NACE Rev.2.

7.2 Data sharing

Not applicable.

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 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

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

9.2 Release calendar access

The calendar is distributed to the press and is available to all interested parties free of charge. This calendar is also posted on the website of the ELSTAT (<http://www.statistics.gr/en/calendar>) under the item “*Calendar of Press Releases*”.

9.3 User access

Data are released simultaneously to all interested parties and users through the Press Release of the Index of Persons Employed in Retail Trade that is posted on the website of ELSTAT (<http://www.statistics.gr/en/statistics/-/publication/DKT12/>) according to the release calendar. This press release is also available by fax or e-mail to all interested parties.

In addition, data are transmitted to Eurostat on a predefined date, concomitantly with their national publication.

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

10. Frequency of dissemination

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The indices are produced and disseminated on a quarterly basis.

11. Dissemination format

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11.1 News release

Every quarter, 75 days after the end of the reference quarter, at 12.00, a Press Release is published, which

presents the calculated indices of persons employed, hours worked, and gross wages and salaries in retail trade, in Greek and English. The press release is sent, free-of-charge, and mostly by email to the press and to other interested parties. The press release is also available on the website of ELSTAT :

[http://www.statistics.gr/en/statistics/-/publication/DKT12/-](http://www.statistics.gr/en/statistics/-/publication/DKT12/)

11.2 Publications

The data are announced quarterly with a press release on specified dates. In the Press Release, they are published:

- Index of persons employed in retail trade compiled at four main aggregated levels of economic classes (overall index, overall index except automotive fuel, food sector, overall index except food and automotive fuel sector)
- Seasonally adjusted index of persons employed in retail trade compiled at four main aggregated levels of economic classes
- Indices of hours worked, and gross wages and salaries in retail trade at division level
- Indices of hours worked reduced to a typical quarter of equal duration at division level
- Seasonally adjusted Indices of hours worked, and gross wages and salaries in retail trade at division level
- Quarter-on-quarter growth rates and year-on-year growth rates of the indices

Tables that contain the above indices as well as quarter-on-quarter growth rates and year-on-year growth rates (+ or -) are posted on the ELSTAT' website:

[http://www.statistics.gr/en/statistics/-/publication/DKT12/-](http://www.statistics.gr/en/statistics/-/publication/DKT12/)

Moreover, data are published in the following publications:

- The Greek Economy (<http://www.statistics.gr/en/the-greek-economy>)
- Greece in figures (<http://www.statistics.gr/en/greece-in-figures>)

11.3 On-line database

There is no on-line database for the Index of Persons Employed in Retail Trade.

11.3.1 Data tables - consultations

Users' consultation as regards the survey on the Index of Persons Employed in Retail Trade amounts to 11,435 webpage hits for 2015. There is no potentiality to distinct consultations between data tables and metadata.

11.4 Micro-data access

Users can be given data or other statistical analysis, after submitting an application to the Statistical Information Dissemination Section - ELSTAT, 46, Pireos & Eponiton Str, 80847 Piraeus,

Tel ++30 213 135 2173

fax ++30 213 135 2022,

e-mail: data.dissem@statistics.gr

For confidential reasons, users can have access to micro-data, only under strict conditions and with respect to the relevant process.

11.5 Other

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

11.5.1 Metadata – consultations

Users' consultation as regards the survey on the Index of Persons Employed in Retail Trade amounts to 11,435 webpage hits for 2015. There is no potentiality to distinct consultations between data tables and metadata.

12. Accessibility of documentation

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12.1 Documentation on methodology

The methodology for the compilation of indices is laid down by ELSTAT, taking into account international practices and, in particular, Eurostat's recommendations, guidelines and standards that are included in the following manuals:

- [Methodology of Short-term Business Statistics, Interpretation and guidelines](#)
- [Methodology of short term business statistics, Associated documents](#)
- [PEEs in focus. A summary for the retail trade turnover and volume of sales indices](#)

A special methodological paper on the compilation of the index is posted on the website of ELSTAT containing detailed information on the sources and the methodology used through the link:

<http://www.statistics.gr/en/statistics/-/publication/DKT12/>

12.1.1 Metadata completeness - rate

Metadata on the compilation of the Index of Persons Employed in Retail Trade are available on the webpage of ELSTAT: <http://www.statistics.gr/en/statistics/-/publication/DKT12/>

Therefore metadata completeness is 100%.

12.2 Quality documentation

A user oriented quality report is available at the link :

<http://www.statistics.gr/en/statistics/-/publication/DKT12/>

13. Quality management

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13.1 Quality assurance

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

More specifically:

- Well-trained and experienced staff is utilized for all the stages of the compilation of the indices, that is, for data collection including communication with the enterprises, initial checks, data entry and final checks, which are conducted after the calculation of the indices. This way, the personnel have a comprehensive and longitudinal image of the enterprises under their responsibilities.
- Data are validated either before or after data entry by means of logical checks. Data processing also involves study based on rules to assist in identifying and correcting any errors (either measurement or data entry errors). The identification of these errors is based on checks to confirm that values are within given ranges, which are determined by the size of enterprises and the seasonality. Inconsistencies or big deviations (outside of a pre-established range) indicate that further checks are required, in cooperation with the enterprises, in order to determine whether it is actually an error or just an unusual value (outlier value).
- The indices are calculated by using a specialised software, through automatic computation procedures ("routines"), thus eliminating any errors to the final results. Nevertheless, even during this stage, consistency checks are carried out to the final results, mainly by comparing the percentage quarterly and annual changes of the sub-indices and their impact on the overall index.

The Hellenic Statistical Authority (ELSTAT) aims to ensure and further improve the quality of statistics produced and maintain the confidence of users in them. This is achieved through the Quality Policy of

ELSTAT which is posted on the website of ELSTAT and is available at the following links:

<http://www.statistics.gr/el/quality-asurance-framework> and <http://www.statistics.gr/en/policies>

13.2 Quality assessment

The indices are considered to be of highly quality (reliable indices), because:

- Quality checks and validation of data are carried out during the whole process of the compilation of indices
- Their concepts and methodology have been developed according to international standards and guidelines

14. Relevance

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14.1 User needs

The indices meet national needs and the needs of European users. Generally, the index provides statistical information necessary to improve the competitiveness and performance of the business community.

The main national users of the indices are as follows:

- The government and other public agencies,
- The Central Bank of Greece and other Hellenic banks
- Scientific community (Academic / Researcher, Student)
- Press and other Media
- Commercial Business
- National Confederation of Hellenic Commerce

At international level, the Index is used by Eurostat, International Monetary Fund (IMF), the United Nations (UN), the European Central Bank (ECB), the Organisation for Economic Co-operation and Development (OECD), the International Labour Organization (ILO) etc.

14.2 User satisfaction

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

Moreover:

a. User Satisfaction Survey

ELSTAT conducts a user satisfaction survey every six months the results of which are published in the "Library's Newsletter" a bilingual publication issued by the Library Section and the Statistical Data Dissemination Section utilizing the user questionnaire. This publication presents half-yearly figures of the number of users, in combination with some other variables, such as the degree of coverage of requests, the type of the requested statistics, and the dissemination of statistical information. These characteristics are tabulated into absolute values and in percentages. More information on the results of the user satisfaction surveys, is available at the following link on the portal ELSTAT:

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

b. User Conference

According to the Annual Statistical Program, ELSTAT has been conducting "User Conference" since 2010, on annual base, in which participants are representatives from institutions of private / public sector and educational / research institutions.

The user conferences provide an important opportunity to ELSTAT to collect comments and suggestions from users about the dissemination format of statistics, the data access and the extent to which the statistics that are needed are available.

The user conferences significantly help the ELSTAT to draw useful conclusions on the areas where the statistical products and services can be improved in order to meet the evolving needs of users. These conclusions are incorporated in the annual and medium term statistical programs of ELSTAT

More information on the results of the user conferences is available at the following link on the portal ELSTAT: <http://www.statistics.gr/en/user-conference>

14.3 Completeness

The compilation of indices of persons employed, hours worked and gross wages and salaries in retail trade, as well as the data provided are in line with the relevant EU Regulations.

15. Accuracy and reliability

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15.1 Overall accuracy

The sources of errors that impact on the accuracy of indices are sampling and non-sampling errors.

a) The sampling errors of the index arise from the fact that not all units of the target population are enumerated, but only a sample of them. The sample size of the survey ensures accurate estimates for the overall index and for the sub-indices.

b) As regards non-sampling errors, these are mostly due to erroneous counting (measurement errors) and to the non-response of some enterprises. Any measurement errors are detected by means of quality checks and are duly corrected. Concerning the non response, telephone contacts and field visits are conducted in order to increase the response rate and to reduce the impact of non response on the accuracy of the index.

Therefore, the indices are characterized by high accuracy

15.2 Sampling error

Sample survey is conducted in order to compile the indices, and thus sampling errors arise in the estimates of indices. More specifically:

1. Index of persons employed

The sampling errors, expressed in coefficient of variations (%), of quarterly growth rates of the persons employed index in 4th quarter 2015 by main retail store categories are as follows:

Main Retail Trade Store Categories	Coefficient of variations (%)
Overall Index [G47]	0.8
Overall index except automotive fuel [G47_X_G473]	0.8
Food sector [G47_FOOD]	1.1
Overall index except food and automotive fuel sector [G47_NFOOD_X_G473]	1.2

2. Indices of hours worked, and gross wages and salaries

The sampling errors, expressed in coefficient of variations (%), of quarterly growth rates for the hours worked index and the gross wages and salaries index in 4th quarter 2015 at the division 47 level are 1.4% and 1.8%, respectively.

To calculate the above coefficient of variations, variance estimation formulae were used that took into account both the sample design of the survey (one stage stratified sampling) and the estimation process. The variance estimation method appears at the link: [Variance estimation, Eurostat, 2002](#)

15.3 Non-sampling error

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 are observed (e.g., closed enterprises or enterprises out of the scope of the survey) in the Business Register of ELSTAT on the basis of which the survey on the compilation of the index was designed.

15.3.1.2 Common units – proportion

The index is compiled on the basis of a common sample of enterprises used for every quarter, which is updated when the Index is revised with a new base year. Therefore, the common sample of enterprises, in-between the quarters, amounts to 100%.

15.3.2 Measurement error

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

15.3.3 Non response error

In the case of non response, the surveyed enterprise is contacted by telephone, or is sent a reminder by fax or e-mail, or even the competent staff may pay a visit to the enterprise in order to response. In addition, in the estimation process of the index, the base weights of the respondent enterprises are adjusted to compensate for non-response and to make weighted sample totals conform to known population totals by categories of aggregated economic activity classes and by the size of enterprises.

15.3.4 Processing error

All tasks engaged to the processing procedure (e.g. weighting, calculations, tabulation etc) are performed by using a special software application, in order to eliminate processing errors.

15.3.5 Model assumption error

No model is used for the compilation of the indices

16. Timeliness and punctuality

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16.1 Timeliness

The indices are published 75 days after the end of the reference quarter.

16.2 Punctuality

The indices are published according to the pre-announced release calendar.

17. Comparability

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17.1 Comparability – geographical

The Short Term Statistics (STS) Regulations and the STS methodological guidelines are applied to compile the indices, thus ensuring a good comparability between the Greek indices of persons employed, hours worked and gross wages and salaries in retail trade and the other national and European respective indices, taking always into account any special conditions prevailing in each country, which may dictate minor methodological deviations.

17.1.1 Asymmetry for mirror flows statistics – coefficient

There are no mirror flows statistics among EU Member States in the indices

17.2 Comparability over time

- a. Time series of index of persons employed in retail trade with base year 2010=100.0, which is available from the 1st quarter 2000 and onwards, is considered fully comparable over time.
- b. Time series of indices of hours worked, and gross wages and salaries in retail trade with base year 2010=100.0, which is available from 1st quarter 2010 and onwards, is considered fully comparable over time.

18. Coherence

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18.1 Coherence cross-domain

18.1.1 Coherence – sub annual and annual statistics

a. Coherence between indices and Structural Business Survey (SBS)

According to the Regulations No 58/97 of the Council and No 295/2008 of the European Parliament and Council, Structural Business Survey (SBS) is conducted in order to compile annual structural business statistics. Among the other divisions of economic activity, the SBS covers the division of the retail trade. As the structural business statistics are annual, comparisons are performed to examine the coherence of growth rates between: a) the average annual index of persons employed and the number of persons employed produced by SBS and b) the average annual index of gross wages and salaries and the value of gross wages and salaries produced by SBS

Any small differences observed in the growth rates between the indices and the statistics coming from SBS are mostly due to the fact that for the compilation of the index a common sample of enterprises is used for every quarter, which is updated when the index is revised with new base year, while in the SBS surveys the sample of enterprises is updated on a yearly basis, except of very large size enterprises. The common sample of enterprises that is used in the index ensures accurate presentation of the evolution of the index over several time periods.

b. Coherence between indices and statistics of Labour Force Survey (LFS)

Labour Force Survey is harmonized with European legislation. The principal legal act is the Council Regulation (EC) No. 577/98 that stipulates the provisions on design, survey characteristics and decision making processes. In addition, the survey framework was modified in successive Commission regulations (Regulation (EC) No 1372/2007, Regulation (EC) No 2257/2003 and Regulation (EC) No 1991/2002). The survey produces statistics of employment and unemployment, and it covers population residing in private households, and staying (or intend to stay) at least 1 year in Greece. Individuals who permanently reside in collective houses (i.e. hospitals, hotels, asylums, homes for the elderly, orphanages, etc) are not covered by the survey.

More information on the Labour Force Survey is available at the link:

<http://www.statistics.gr/en/statistics/-/publication/SJO01/->

Any differences observed in the quarterly growth rates between a) the index of persons employed and the number of persons employed produced by LFS and b) the index of hours worked and the hours worked produced by LFS are mostly due to the fact that for the compilation of the index a sample of enterprises is used, while for the compilation of statistics in LFS, a sample of households is used.

18.1.2 Coherence – National Accounts

The indices are used to compile data for National Accounts. Therefore, the growth rates of indices are coherent with the corresponding growth rates of data in National Accounts for the division of the retail trade.

18.2 Coherence – internal

The indices are internally coherent. Higher-level aggregates derive from detailed indices according to well-defined procedures.

19. Cost and burden

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- a. Regarding the staff of ELSTAT, the annual cost in hours worked amount to 2,483
- b. Regarding the respondents, the annual average response burden in hours worked is 15.4 minutes per enterprise.

20. Data revision

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20.1 Revision policy

The indices are published 75 days after the end of the reference quarter. Data are provisional when first released. The indices are revised once, simultaneously with the publication of the next quarter. After this revision, the indices become final.

In accordance with the requirements of article 11 of the Council Regulation (EC) No 1165/98 concerning short-term statistics, short-term indices are revised every five (5) years, particularly in calendar years ending in 0 or 5. The purpose of the revision of the indices of persons employed, hours worked, and gross wages and salaries in retail trade is to adapt the indices to structural changes of retail trade sector by renewing the sample of enterprises that are surveyed, as well as the extrapolation factors (weighting) that are used (implementation of new weighting scheme).

In addition, the index applies the Revision Policy of ELSTAT, available at the link :

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

20.2 Revision practice

The data released for the reference quarter are provisional and are published together with the revised data of the previous quarter. The indices are revised and considered to be final, simultaneously with the publication of the next quarter.

21. Statistical processing

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21.1 Source data

The survey to compile the indices covers 41,801 retail trade enterprises listed in the Business Register having an annual turnover (in 2010) equal to or higher than 200.000 euro. Out of these enterprises a random sample of 754 enterprises was selected.

The single stratified random sampling method was applied, employing the enterprise as a surveyed unit. The sampling frame used for the sample design was based on the Business Register (BR) of the ELSTAT.

The enterprises included in the survey were stratified as follows:

- a. By 11 categories of aggregated economic activity classes as follows:
 1. Supermarkets
 2. Department stores
 3. Food, beverages and tobacco
 4. Automotive fuel-lubricants
 5. Pharmaceuticals and cosmetics¹
 6. Clothing and footwear²
 7. Furniture, electrical goods, household goods³
 8. Books, stationery and other articles⁴
 9. Retail sale via mail order houses or via Internet
 10. Retail sale of second-hand goods in stores
 11. Retail trade not in stores, stalls or markets
- b. By size class of enterprises. In each category of aggregated activity classes, the enterprises were stratified into six (6) size classes, according to their size, determined by their annual turnover (in 2010) in BR as follows:

Size class	Annual Turnover (€)
1	200,000 - 400,000
2	400,001 – 900,000
3	900,001 - 2.500,000
4	2,500,001 – 10,000,000
5	10,000,001 – 40,000,000
6	40,000,001+

In each stratum that is created by crossing the above stratification criteria, a sample of enterprises was selected with equal probabilities and by applying systematic sampling. This sample is a sub-sample of the existent sample of enterprises that is used to compile the revised Retail Trade Turnover and Volume Index (2010=100,0). The enterprises that belong to the 6th size class are surveyed exhaustively.

Specifically, of the 1607 enterprises included in the survey sample for the Retail Trade Turnover and Volume Index (2010=100,0), 754 enterprises were selected covering all the strata of the above survey, which resulted from the cross-linking of the economic activity (11 categories of aggregated economic activity classes) and the size class of enterprises.

This approach was based on the fact that:

- The reference population for the variable "number of persons employed" of the Index of Persons Employed in Retail Trade is the same and just as extensive as the reference population of the "turnover" variable of the Turnover Index in Retail Trade.
- There is a strong correlation between the "turnover" variable and the "number of persons employed" variable of the Index of Persons Employed in Retail Trade thus ensuring a satisfactory level of reliability for that second variable.

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¹ Dispensing chemist, medical and orthopaedic goods, cosmetic and toilet articles in specialised stores

² Textiles, clothing, footwear and leather goods in specialised stores

³ Furniture, lighting equipment, audio and video equipment, hardware, paints and glass, electrical household appliances, and other household articles. music and video recordings in specialised stores

⁴ Books, newspapers and stationery, computers, peripheral units and software, telecommunications equipment, carpets, rugs, wall and floor coverings, sporting equipment., games and toys, flowers, plants, seeds, fertilisers, pet animals and pet food, watches and jewellery. other retail sale of new goods in specialised stores

21.2 Frequency of data collection

Data are collected on a quarterly basis.

21.3 Data collection

Data are collected through a specially designed questionnaire. The collection of questionnaires is conducted by two ways:

- a. Personal visits to enterprises by trained private collaborators (face to face interview)
- b. By postage. More specifically, the questionnaires are sent by post or fax or e-mail and they are collected by means of the following ways:
 - via post
 - via fax
 - via e-mail.

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

21.4 Data validation

Data are validated by means of logical checks. Data processing involves checking the data derived from respondents with the aim of identifying and eventually correcting errors. Inconsistencies or big deviations (outside of a pre-established range) indicate that further checks are required, in cooperation with the enterprises, in order to determine whether it is actually an error or just an unusual value.

Eurostat also carries out validation checks on the national indices it receives. This may result in contacting the reporting country for outliers that are most in need of verification.

21.5 Data compilation

The indices of persons employed, hours worked, and gross wages and salaries in retail trade are calculated as chain indices. First, the moving based index is calculated by comparing the estimated value (persons employed, hours worked, gross wages and salaries persons) \widehat{E}_q for the current quarter q with the corresponding value \widehat{E}_{q-1} of the previous quarter. Afterwards, the fixed-base index for the current quarter I_q is calculated by multiplying the moving-based index by the fixed-base index of the previous quarter.

More specifically:

1. Persons employed, Hours Worked, Gross Wages and Salaries

a. Symbolisms

For each of the 11 categories of aggregated economic activity classes stands for:

h : size class of enterprises ($h = 1, \dots, 6$)

N_h : number of enterprises in the size class h (population size)

n_h : number of enterprises of sample in the size class h (sample size)

m_h : number of enterprises of sample that responded in the size class h (respondents)

r_h : response rate in the size class h , that is: $r_h = \frac{m_h}{n_h}$

a_h : extrapolation factor of the respondents in the size class h

that is: $a_h = \frac{N_h}{n_h \cdot r_h}$

e_{qhi} : persons employed or hours worked or wages and salaries of the current quarter q , of the enterprise of order i , in the size class h

E_{qh} : persons employed or hours worked or wages and salaries of the current quarter q , of all enterprises

that belong to the size class h , that is:
$$E_{qh} = \sum_{i=1}^{N_h} e_{qhi}$$

E_q : persons employed or hours worked or wages and salaries of the current quarter q , of all enterprises that belong to the category of aggregated economic activity classes:

that is:
$$E_q = \sum_{h=1}^6 E_{qh}$$

b. Estimation of Persons Employed, Hours Worked, Gross Wages and Salaries

For each of the eleven (11) categories of aggregated economic activity classes, the estimation \widehat{E}_q of the value (persons employed, hours worked, wages and salaries) E_q of the current quarter q is calculated by applying the following relations:

$$\widehat{E}_{qh} = \sum_{i=1}^{m_h} a_h \cdot e_{qhi} \quad (1)$$

$$\widehat{E}_q = \sum_{h=1}^6 \widehat{E}_{qh} \quad (2)$$

From the relations (1) and (2) it yields:

$$\widehat{E}_q = \sum_{h=1}^6 \sum_{i=1}^{m_h} a_h \cdot e_{qhi} \quad (3)$$

The estimated value (number of persons employed, hours worked, wages and salaries) for an economic activity level higher than the 11 categories of aggregated economic activity classes (i.e. Overall Index, Food sector etc) is calculated by adding the separate estimates of the categories composing the estimated level.

2. Indices of Persons Employed, Hours Worked, Wages and Salaries

a. Moving base index

For each of the eleven (11) categories of aggregated economic activity classes, first the moving-base index is calculated by comparing the estimated value (number of persons employed, hours worked, wages and salaries) for the current quarter q with the corresponding value of the previous quarter as follows:

$$I_{q,q-1} = \frac{\widehat{E}_q}{\widehat{E}_{q-1}} \quad (4)$$

where:

$I_{q,q-1}$: moving-base index for the current quarter q , in relation to the previous quarter $q-1$

\widehat{E}_q , \widehat{E}_{q-1} : estimated values (persons employed, hours worked, wages and salaries) for the current and the previous quarter

b. Fixed-base index

For each of the eleven (11) categories of aggregated economic activity classes, the fixed-base index for the current quarter is obtained by multiplying the moving-base index by the fixed-base index of the previous quarter, as follows:

$$I_{E_q} = I_{q,q-1} \cdot I_{E_{q-1}} \quad (5)$$

I_{E_q} : fixed-base index for the current quarter, q

$I_{E_{q-1}}$: fixed-base index for the previous quarter, $q - 1$

For the calculation of the first fixed-base indices of the base year 2010, the following equation applies:

$$I_{E_{q,10}} = \frac{\widehat{E}_{q,10}}{\overline{E}_{q,10}} \cdot 100 \quad (6)$$

where:

$I_{E_{q,10}}$: fixed-base index for the quarter q of the year 2010

$\widehat{E}_{q,10}$: estimated value (persons employed, hours worked, wages and salaries) for quarter q of year 2010

$\overline{E}_{q,10}$: mean annually estimated value (persons employed, hours worked, wages and salaries) for the year

$$2010, \text{ that is: } \overline{E}_{q,10} = \frac{\sum_{q=1}^4 \widehat{E}_{q,10}}{4}$$

The fixed-base index for an economic level higher than the 11 categories of aggregated economic activity classes (i.e. Overall Index, Food sector etc) is calculated as follows:

a) By taking as the numerator and denominator of the equation in relation (4) the total of the separate values (persons employed, hours worked, wages and salaries) for the categories composing the economic activity level under consideration for the current and previous quarter respectively (moving index), and

b) By multiplying the said moving index of the economic activity level by the fixed-base index of the relevant economic level of the previous quarter

If we compare the fixed base index of the current quarter to the fixed index of the corresponding quarter of the previous year, they calculated the annual rates as percentage changes (+ or -), That is:

$$\left[\frac{I_{E_{q,10}}^t}{I_{E_{q,10}}^{t-1}} - 1 \right] \cdot 100 \quad (7)$$

where:

$I_{E_{q,10}}^t$ $I_{E_{q,10}}^{t-1}$: fixed base indices of the quarter q of the current and the previous year t and $t-1$, respectively.

3. Indices of hours worked, and gross wages and salaries in retail trade (1st quarter 2010-1st quarter 2015

Indices of hours worked, and gross wages and salaries in retail trade for the period 1st quarter 2010-1st quarter 2015 have been compiled by using data coming from the labour force survey (LFS) and the survey of labour cost index (LCI). More specifically:

a. Hours worked of persons employed

The hours worked H_q^{STS} of persons employed, in quarter q, are calculated as follows:

$$H_q^{STS} = E_q^{STS} \cdot \frac{H_q^{LFS}}{E_q^{LFS}} \quad (8)$$

where:

E_q^{STS} : number of persons employed in retail trade based on data coming from the survey of the persons employed index (STS), in quarter q

E_q^{LFS} : number of persons employed in retail trade based on data coming from labour force survey (LFS), in quarter q

H_q^{LFS} : hours worked from the total of persons employed in retail trade based on data coming from labour force survey (LFS), in quarter q

b. Gross wages and salaries

To calculate the gross wages and salaries, the hours worked of salaried employees (based of data from the labour force survey) are multiplied by the gross wages and salaries per hour (based on data from the survey of labour cost index). More specifically:

b1. The hours worked $H_q^{W,STS}$ of salaried employees, in quarter q, are calculated as follows

$$H_q^{W,STS} = E_q^{STS} \cdot \frac{H_q^{W,LFS}}{E_q^{LFS}} \quad (9)$$

where:

$H_q^{W,LFS}$: hours worked of salaried employees in retail trade based on data from labour force survey (LFS), in quarter q

E_q^{STS} : number of persons employed in retail trade based on data from labour force survey (LFS), in quarter q

E_q^{LFS} : number of persons employed in retail trade based on data from labour force survey (LFS), in quarter q

More information on the survey of labour force survey is available on the portal ELSTAT at the following link: <http://www.statistics.gr/en/statistics/-/publication/SJO01/>

b2. The gross wages and salaries W_q^{STS} , in quarter q, are calculated as follows:

$$W_q^{STS} = H_q^{W,STS} \cdot \frac{W_q^{LCI}}{H_q^{LCI}} \quad (10)$$

where:

W_q^{LCI} : gross wages and salaries in retail trade based on data from the survey of labour cost index, in quarter q

H_q^{LCI} : hours worked of salaried employees in retail trade based on data from the survey of labour cost index, in quarter q

More information on the survey of labour cost index is available on the portal ELSTAT at the following link: <http://www.statistics.gr/en/statistics/-/publication/DKT06/>

21.5.1 Imputation – rate

Usually, imputation is not used to determine and assign replacement values for missing or inconsistent data. However, only in some cases imputation may be used. The percentage of the data that are imputed does not exceed 1%. The imputation process used takes into account the growth rates of values (persons employed, worked hours, gross wages and salaries) from respondents for each class of economic activity and size class of enterprise.

21.6 Adjustment

Hours worked index reduced to a typical quarter of equal duration

The hours worked index is reduced to a typical quarter of equal duration. To this end the hours worked estimates are multiplied by a suitable correction factor that is calculated by dividing the mean quarterly number of working days in the given year by the number of the regular working days in the quarter under consideration as follows:

$$C_{qt} = \frac{\bar{x}_t}{x_{qt}}$$

where:

C_{qt} : correction factor of the quarter q of a year t

\bar{x}_t : mean quarterly number of working days in the given year t

x_{qt} : number of regular working days of the quarter q in the given year

21.6.1 Seasonal adjustment

Seasonally adjusted time series are produced by removing the impact of seasonality on the time series in order to improve the comparability over time. The seasonal adjustment is conducted by applying the TRAMO-SEAT method with the use of JDemetra+ 2.0.0.

The whole series with seasonally adjusted indices is *recalculated* every time a *new* observation is added in time series.

22. Comment

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