

Metadata in Euro-SDMX format (ESMS)

Country: Greece

Compiling agency: ELSTAT

Domain name: Retail Trade Turnover and Volume Index

ELSTAT metadata

[Reference metadata](#)

- [1. Contact](#)
- [2. Metadata update](#)
- [3. Statistical presentation](#)
- [4. Unit of measure](#)
- [5. Reference period](#)
- [6. Institutional mandate](#)
- [7. Confidentiality](#)
- [8. Release policy](#)
- [9. Frequency of dissemination](#)
- [10. Dissemination format](#)
- [11. Accessibility of documentation](#)
- [12. Quality management](#)
- [13. Relevance](#)
- [14. Accuracy and reliability](#)
- [15. Timeliness and punctuality](#)
- [16. Comparability](#)
- [17. Coherence](#)
- [18. Cost and burden](#)
- [19. Data revision](#)
- [20. Statistical processing](#)
- [21. Comment](#)

1. Contact		Top
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2. Metadata update Top	
2.1 Metadata last certified	April 2016
2.2 Metadata last posted	April 2016
2.3 Metadata last update	April 2016

3. Statistical presentation Top	
3.1 Data description	
<p>The Retail Trade Turnover Index refers to the whole country. The overall index is composed of the separate indices for the eleven (11) categories of aggregated economic activity classes. These categories result from the aggregation of the relevant economic activity classes (NACE Rev. 2 codes: 47.11-47.99).</p> <p>The eleven (11) categories of aggregated economic activity classes of the revised Retail Trade Turnover and Volume Indices are the following:</p> <ol style="list-style-type: none"> 1. Supermarkets 2. Department stores 3. Food, beverages and tobacco 4. Automotive fuel-lubricants 5. Pharmaceuticals and cosmetics 6. Clothing and footwear 7. Furniture, electrical goods, household goods 8. Books, stationery and other articles 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 <p>The breakdown of the Retail Trade Volume Index is similar, the difference being that for the last three categories, it is not calculated the Volume Index.</p>	
3.2 Classification system	
<p>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.</p>	
3.3 Sector coverage	
<p>The Retail Trade Turnover Index (2010=100.0), according to the NACE Rev. 2 classification covers the economic activity divisions identified by codes 4711 to 4799 inclusive.</p>	
3.4 Statistical concepts and definitions	
<p>The purpose of the Retail Trade Turnover Index is to show the performance of the goods market. The index does not cover other activities, such as provision of services. The index is corrected on the basis of the number of working days in each month. Therefore, the index is reduced to a typical month of equal duration.</p> <p>According to the Commission Regulation 1503/2006, the turnover comprises the total amounts invoiced by the enterprise during the reference period, which correspond to the resale of goods without any further transformation. The data collected each month refer to sales effected (both retail and wholesale), excluding VAT but including other duties and taxes on the goods.</p>	

The sales volume represents the turnover value, at constant prices, and is a quantum index. It can be calculated as the turnover at current prices, deflated by applying the sales deflator.

3.5 Statistical unit

The observation unit is the enterprise.

3.6 Statistical population

In the framework of the survey carried out for the compilation of the Retail Trade Turnover Index (2010=100.0), it was decided to include 41.801 retail trade enterprises listed in the Business Register of ELSTAT having an annual turnover (in 2010) equal to or higher than 200.000 euro.

3.7 Reference area

The index covers the Whole Country with data coming from 61 Regional Units.

3.8 Time coverage

Revised Retail Trade Turnover index series (2010=100.0) that include fuel is available on a monthly basis since January 2000, whilst for the corresponding series that do not include fuels, backcasting is performed since January 1995.

Revised Retail Trade Volume Index series (2010=100.0) that include and not include fuel is available on a monthly basis since January 2000.

3.9 Base period

Base year : 2010=100.0

4. Unit of measure

[Top](#)

Indices, monthly and annually percentage changes (+ or -)

5. Reference period

[Top](#)

Month

6. Institutional mandate

[Top](#)

6.1 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 2012-1015" 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. The legal EU framework on the compilation of the Retail Trade Turnover and Volume Index is as follows:

- 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

6.2 Data sharing

Not applicable.

7. Confidentiality

[Top](#)

7.1 Confidentiality policy

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

More precisely:

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

7.2 Confidentiality – data treatment

- ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:
 - a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or
 - b) the statistical unit has given its consent, without any reservations, for the disclosure of data.
- The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.
- ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:
 - a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;
 - b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;
 - c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning

the research, as the case may be, and by ELSTAT.

- Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:
 - the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;
 - the anonymization criteria for the microdata provided to users;
 - the granting to researchers access to confidential data for scientific purposes.
- The staff of ELSTAT, under any employment status, as well as the temporary survey workers who are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose.
- Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal.

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

8. Release policy

[Top](#)

8.1 Release calendar

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

8.2 Release calendar access

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

8.3 User access

Data are released simultaneously to all interested parties and users through the Press Release on the Retail Trade Turnover and Volume Index which is posted on the website of ELSTAT (<http://www.statistics.gr/en/statistics/-/publication/DKT39/->) according to the release calendar. This press release is also available by fax or e-mail to all interested parties.

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

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

9. Frequency of dissemination

[Top](#)

The index is produced and disseminated on a monthly basis.

10. Dissemination format	Top
10.1 News release	
<p>Every month, 60 days after the end of the reference month, at 12.00, a Press Release is published which presents the newly calculated Retail Trade Turnover and Volume Index 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/DKT39/.</p>	
10.2 Publications	
<p>The data are announced monthly with a press release on specified dates. In the Press Release, the overall index and the sub-indices are published as well as month-on-month growth rates and year-on-year growth rates.</p> <p>Tables that contain monthly and annually data, as well as monthly and annual percentage growth rates (+ or -) are posted on the ELSTAT' website: http://www.statistics.gr/en/statistics/-/publication/DKT39/.</p> <p>Moreover, data are published in the following publications:</p> <ul style="list-style-type: none"> • The Greek Economy (http://www.statistics.gr/en/the-greek-economy) • Greece in figures (http://www.statistics.gr/en/greece-in-figures) 	
10.3 On-line database	
Not available	
10.4 Micro-data access	
<p>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</p> <p>For confidential reasons, users can have access to micro-data, only under strict conditions and with respect to the relevant process</p>	
10.5 Other	
<p>http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database</p>	

11. Accessibility of documentation	Top
11.1 Documentation on methodology	
<p>The methodology for the compilation of the index is laid down by ELSTAT, taking into account international practices and, in particular, Eurostat's recommendations, guidelines and standards that are included in the following manuals:</p> <ul style="list-style-type: none"> ➤ 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 <p>A special methodological paper on the compilation of the Retail Trade Turnover and Volume Index in Greece is posted on the website of ELSTAT containing information on the sources and the methodology used for computing the indices (http://www.statistics.gr/en/statistics/-/publication/DKT39/).</p>	

11.2 Quality documentation

A user oriented quality report is available at the link :

<http://www.statistics.gr/en/statistics/-/publication/DKT39/>.

12. Quality management

[Top](#)

12.1 Quality assurance

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

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 index. This way, the personnel have a comprehensive and longitudinal image of the enterprises under their responsibilities.
- Data are validated either before or after data entry by means of logical checks. 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 monthly 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>,

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

12.2 Quality assessment

The Index is considered to be of highly quality (reliable index), because:

- Quality checks and validation of data are carried out during the whole process of the compilation of the index
- The index is compiled in Greece since 1963, so the personnel have acquired a lot of experience in its compilation.
- Its concepts and methodology have been developed according to international standards and guidelines

13. Relevance

[Top](#)

13.1 User needs

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

The main national users of the index are 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.

The compiled index covers the wide range of users' needs: as concerns domestic market, the index is used as a tool providing useful information on the activities, competitiveness and productivity of the business sector, thus helping the government in drawing economic policy and entrepreneurs or other agencies in decision making concerning their taking up several initiatives. At European level, there is the need for fully comparable statistics in order to draw the European economic policy.

13.2 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>

13.3 Completeness

The compilation of the Retail Trade Turnover and Volume Index and the data provided are in line with the relevant EU Regulations.

14. Accuracy and reliability

[Top](#)

14.1 Overall accuracy

The sources of errors that impact on the accuracy of the index 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 most of 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 index is characterized by high accuracy.

14.2 Sampling error

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

Turnover index

The sampling errors, expressed in coefficient of variations (%), of annual and monthly growth rates of the turnover index in October 2015 by retail store categories are as follows:

Retail Trade Store Categories	Coefficient of variations (%)	
	Annual growth rates	Monthly growth rates
Overall Index [G47]	1.2	0.8
Overall index except automotive fuel [G47_X_G473]	1.4	0.9
Main store categories		
Food sector [G47_FOOD]	2.2	1.1
Automotive fuel sector [G473]	3.4	1.3
Non-food sector except automotive fuel [G47_NFOOD_X_G473]	1.3	1.4
Specialized store categories		
Supermarkets [G4711]	2.6	1.1
Department stores [G4719]	2.8	1.4
Food, beverages and tobacco [G472]	2.5	4.4
Pharmaceuticals and cosmetics [G47_NF_HLTH]	2.0	2.1
Clothing and footwear [G47_NF_CLTH]	2.2	2.0
Furniture, electrical goods, household goods [G47_NF_OTH2]	2.4	2.3
Books, stationery and other articles [G47_NF_OTH1]	3.9	4.0

Retail Trade Volume index

The Retail Trade Volume Index is obtained from the Retail Trade Turnover Index if the latter is deflated in accordance with the Consumer Price Index (CPI). Non-probability sampling is applied to estimate the CPI and since elements (sampling units) are chosen purposively, there is no way to estimate the probability of

any one element being included in the sample. As a result, no assurance is given that each item has a chance of being included, making it impossible to estimate sampling variability of the CPI. So, the precision of the Retail Trade Volume Index may be approached by the corresponding precision of the turnover index.

For the calculation of 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 grossing-up process. Variance estimation methods are available at the link: [Variance estimation, Eurostat, 2002](#)

14.3 Non-sampling error

a. 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.

b. Measurement error

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

b. 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.

c. 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. Timeliness and punctuality

[Top](#)

15.1 Timeliness

The index is published 60 days after the end of the reference month.

15.2 Punctuality

The index is published according to the pre-announced release calendar.

16. Comparability

[Top](#)

16.1 Comparability – geographical

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

16.2 Comparability over time

For the revision of the Retail Trade Turnover and Volume Index (2005=100.0), it was deemed necessary to calculate parallel series for those indices including and not including fuel. This was due to the inclusion of fuel in retail trade in order to maintain comparability with the previous series of the Retail Trade Turnover and Volume indices (2000=100.0).

To establish the link with the previous Retail Trade Turnover and Volume indices (2000=100.0), backcasting was used for these series, including and not including fuels, until December 2008 inclusive, as required by Commission Regulation (EC) 472/2008 concerning backcasting. Backcasting of revised index series (2005=100.0) that include fuel was feasible and had been used since January 2000, whilst for the

corresponding series that do not include fuel, backcasting is performed since January 1995.

Therefore, backcasting of revised index series (2010=100.0) that include fuel is feasible and has been used since January 2000, whilst for the corresponding series that do not include fuel, backcasting is performed since January 1995.

17. Coherence

[Top](#)

17.1 Coherence cross-domain

Coherence of index with Structural Business Statistics

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 the average annual turnover index and the turnover of produced by SBS.

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

17.2 Coherence – internal

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

18. Cost and burden

[Top](#)

- a) Regarding the staff of ELSTAT, the annual cost in hours worked amount to 12,715.
- b) Regarding the respondents, the annual average response burden in hours worked is 7.5 minutes per enterprise.

19. Data revision

[Top](#)

19.1 Revision policy

The index is published 60 days after the end of each reference month. Data is provisional when first released. The index is revised once, simultaneously with the publication of the next month. After this revision, the index becomes 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 Retail Trade Turnover Index is to adapt the index to structural changes of retail trade sector by renewing the sample of enterprises that are surveyed, as well as the extrapolation factors weighting which 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>

19.2 Revision practice

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

20. Statistical processing

[Top](#)

20.1 Source data

The survey for the compilation of the index 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 1,607 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
- b. By size class of the enterprise. In each category of aggregated activity classes, the enterprises were stratified into H=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+

The sampling units were allocated to the ultimate strata (that are created by crossing the above stratification criteria) by applying the optimal (Neyman) allocation. In each ultimate stratum, a systematic sample was selected with equal probabilities. In order for each stratum the sample to be representative by class and geography, implicit stratified sampling procedure was applied by using a sorted list (Regional Units within the classes) and then by taking a systematic sample from the sorted list using a fixed sampling interval and a random start.

The enterprises that belong to the 6th size class are surveyed exhaustively.

20.2 Frequency of data collection

Data are collected on a monthly basis

20.3 Data collection

Data are collected through a specially designed questionnaire. The questionnaires are sent by trained private collaborator or fax or e-mail and they are collected by means of the following ways:

- via trained private collaborator (face to face survey)
- via post
- via fax
- via e-mail

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

20.4 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. In addition, data processing involves checks for completeness, checks to confirm that values are within given ranges. Data processing may take place during or after data entry. Responses can be compared with the responses of previous months. Inconsistencies or big deviations (outside of a pre-established range) indicate that further checks are required and may result in further processing. The data processing is designed to give top priority to those outliers that are most in need to be edited, thus ensuring reliability of aggregates.

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.

20.5 Data compilation

The turnover index is calculated by the chaining method. First, the moving based index is calculated by comparing the estimated turnover value \widehat{Y}_m for the current month m with the corresponding value \widehat{Y}_{m-1} of the previous month. Afterwards, the fixed-base index for the current month I_m is calculated by multiplying the moving-based index by the fixed-base index of the previous month.

More specifically:

1. Turnover value

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 the sample in the size class h (sample size)

m_h : the number of the enterprises of the 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: $a_h = \frac{N_h}{n_h \cdot r_h}$

y_{mhi} : turnover value of the current month m , of the enterprise of order i , in the size class h

Y_{mh} : turnover value of the current month m , of all enterprise that belong to the size class h

that is: $Y_{mh} = \sum_{i=1}^{N_h} y_{mhi}$

Y_m : turnover value of the current month m , of all enterprise that belong to the category of aggregated economic activity classes:

that is: $Y_m = \sum_{h=1}^6 Y_{mh}$

b. Estimation of the turnover value

For each of the eleven (11) categories of aggregated economic activity classes, the estimation \widehat{Y}_m of the turnover value Y_m of the current month m is calculated by applying the following relations:

$$\widehat{Y}_{mh} = \sum_{i=1}^{m_h} a_h \cdot y_{mhi} \quad (1)$$

$$\widehat{Y}_m = \sum_{h=1}^6 \widehat{Y}_{mh} \quad (2)$$

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

$$\widehat{Y}_m = \sum_{h=1}^6 \sum_{i=1}^{m_h} a_h \cdot y_{mhi} \quad (3)$$

The estimated turnover value for an economic 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.

c. Reduction of turnover values to a typical month

The initial turnover value estimates for the category of aggregated economic activity classes refer to calendar months which do not all have the same number of working days (e.g. February, March, etc.), and therefore all the compiled indices are not comparable. The monthly indices for the category of aggregated economic classes are made comparable by adjusting the indices in order to make them of equal duration.

To this end, the turnover estimates are multiplied by a suitable correction factor which is different for each month of the year. The correction factor is calculated by dividing the mean monthly number of working days in the given year by the number of regular working days in the month under consideration, as follows:

$$C_m = \frac{\bar{x}}{x_m} \quad (4)$$

where:

C_m : correction factor of the month m

\bar{x} : the mean monthly number of working days in the given year

x_m : the number of regular working days in the month m

2. Turnover index

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' turnover value for the current month m with the corresponding value of the previous month, as follows:

$$I_{m,m-1} = \frac{\widehat{Y}_m}{\widehat{Y}_{m-1}} \quad (5)$$

where:

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

$\widehat{Y}_m, \widehat{Y}_{m-1}$: the corresponding turnover estimates for the current and previous months

b. Fixed-base index

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

$$I_{Y_m} = I_{m,m-1} \cdot I_{Y_{m-1}} \quad (6)$$

I_{Y_m} : the fixed-base index for the current month, m

$I_{Y_{m-1}}$: the fixed-base index for the previous month, $m - 1$

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

$$I_{Y_{m,10}} = \frac{\widehat{Y}_{m,10}}{\widehat{Y}_{m,10}} \cdot 100 \quad (7)$$

where:

$I_{Y_{m,10}}$: the fixed-base index for the month, m of year 2010

$\widehat{Y}_{m,10}$: the turnover estimate for month m of year 2010

$\widehat{Y}_{m,10}$: the mean monthly turnover estimate for year 2010, that is: $\widehat{Y}_{m,10} = \frac{\sum_{m=1}^{12} \widehat{Y}_{m,10}}{12}$

The indices for each category of aggregated economic activity classes are converted to typical month indices, by multiplying the turnover values of the moving-base index in relation (5) with appropriate correction factor, according to the relation (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 (5) the total of the separate turnover values of categories composing the economic level under consideration for the current and previous month respectively (moving index), and

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

3. Retail trade Volume index

The Retail Trade Volume Index is obtained from the Retail Trade Turnover Index if the latter is deflated in accordance with the Consumer Price Index (CPI), as follows:

Using CPI data, deflator-indices are compiled for the corresponding groups of the Turnover Index. More specifically, deflators are calculated for the general index and for 8 of the 11 categories of economic activity classes of the index. It should be noted that no deflator is calculated for the last 3 categories, 'Retail sale via mail order houses or via Internet', 'Retail sale of second-hand goods in stores' and 'Retail trade not in stores, stalls or markets', because it is not possible to calculate the required deflators.

In order to deflate the turnover index and convert it to a Volume Index, the individual turnover indices are divided by the appropriate deflators.

20.6 Adjustment

The index does not cover any other activities, such as the supply of services within the observation unit, it is self-weighting, it is reduced to a typical month of equal duration and it is seasonally adjusted.

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 method applied for the seasonal adjustment is 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.

Backcasting of revised index series

The backcasting of revised index series (2010=100.0) that include fuel for the period January 2000 - December 2013 and for the corresponding series that do not include fuel for the period January 1995 - December 2013 was calculated on the basis of the average annual indices in 2010, according to the formula:

$$R_{k(2010)}^m = R_{k(2005)}^m \cdot b_k \quad (8)$$

where:

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

$R_{k(2010)}^m$: the index of the category of aggregated economic activity classes k , during the month m , with base year 2010

$R_{k(2005)}^m$: the index of the category of aggregated economic activity classes k , during the month m , with base year 2005

$\overline{R}_{k(2005)}^{(2010)}$: the average annual index of the category of aggregated economic activity classes k , in the year 2010, with base year 2005

The backcasting of monthly indices for economic activities higher than the 11 categories of aggregated economic activity classes (i.e. Overall Index, Food sector etc) was calculated by applying similar method.

21. Comment

[Top](#)