# Single Integrated Metadata Structure (SIMS)

**Country:** Greece

**Compiling agency:** ELSTAT

**Domain name: Turnover  Index for Motor Trades**

## ELSTAT metadata

**Reference metadata**



## 1. Contact

Top

| | |
|---|---|
| **1.1 Contact organization** | Hellenic Statistical Authority (ELSTAT) |
| **1.2 Contact organization unit** | Economic and Short-Term Indicators Division<br>Retail Sales Value Index Section |
| **1.3 Contact name** | Ioannis Nikolaidis (Mr) |
| **1.4 Contact person function** | Head of the Section |
| **1.5 Contact mail address** | 46 Pireos & Eponiton str.<br>185.10 Piraeus |

| | |
|---|---|
| | Greece |
| **1.6 Contact email address** | ret.sal@statistics.gr, i.nikolaidis@statistics.gr |
| **1.7 Contact phone number** | +30 2131352717 |
| **1.8 Contact fax number** | +30 2131352729 |

## 2. Introduction

Top

The Turnover Index for Motor Trades is a quarterly index, which was released for the first time in 2006, with 2005=100,0 as the base year, for the sale, maintenance and repair of motor vehicles and motorcycles, as well as the sale of corresponding spare parts and accessories. It is being compiled pursuant to the provisions of Council Regulation (EC) No 1165/98 concerning short-term statistics (STS) and the requirements of Regulation (EC) No 1158/05 of the European Parliament and Council, amending the original Regulation 1165/98.

The first compilation of the above index was according to NACE Rev.1 classification (Statistical Classification of Economic Activities in the European Community) and covered the period 2005-2008. During the year 2009 the index was recompiled according to the classification NACE Rev.2 and with back data from the first quarter 2000.

During the last revision of the index, with the year 2010=100.0 as the base period, the recursive on reduction quarterly and annual indices was calculated based on the average annual indices in 2010, so that backcasting of revised index series has been performed for the period since the first quarter 2000.

The need for short-term statistics mainly arose after the signing of the Treaty on Economic and Monetary Union (EMU), when rapidly available reliable statistical data were considered necessary for analyzing the economic progress of each Member State, within the framework of the EU's economic policy.

## 3. Metadata update

Top

| | |
|---|---|
| **3.1 Metadata last certified** | April 2016 |
| **3.2 Metadata last posted** | April 2016 |
| **3.3 Metadata last update** | April 2016 |

## 4. Statistical presentation

Top

### 4.1 Data description

The Turnover Index for Motor Trades covers the whole of the country. The index includes the activities classified under Division 45 (*Wholesale and retail trade and repair of motor vehicles and motorcycles*) of NACE Rev. 2 classification (Statistical Classification of Economic Activities in the European Community), as required by the Regulation (EC) No 1893/2006 of the European Parliament and the Council.

More specifically, Division 45 includes the following groups:

451 Sale of motor vehicles
452 Maintenance and repair of motor vehicles
453 Sale of motor vehicle parts and accessories
454 Sale, maintenance and repair of motorcycles and related parts and accessories.

Turnover Index for Motor Trades is compiled for the Division (two-digit code) 45 and Group (three-digit code) 451 of the NACE Rev.2 classification.

### 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 index covers the division 45 (*Wholesale and retail trade and repair of motor vehicles and motorcycles*) of NACE Rev. 2 statistical classification of economic activities.

**4.4 Statistical concepts and definitions**

The index is an indicator of an enterprise's business cycle showing the development of the market for goods and services.

The aim of this index is to measure in value terms the activity of *Wholesale and retail trade and repair of motor vehicles and motorcycles* in the market. Turnover excludes VAT and comprises the totals invoiced by the enterprise during the reference period (quarter), which correspond to sales of goods or services supplied to third parties.

The definitions used, in accordance with Commission Regulation (EC) No 1503/2006 defining variables and frequency of data compilation, repealing new orders received for building construction and new orders received for civil engineering are as follows:

- Turnover comprises the totals invoiced by the enterprise during the reference period, and this corresponds to market sales of goods and services supplied to third parties.
- Turnover includes all duties and taxes on the services invoiced by the enterprise, with the exception of the VAT passed on by the enterprise to its customers. It also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice.

More specifically, the items generally included in turnover are the following:

- Sales of manufactured products;
- Sales of products manufactured by subcontractors;
- Sales of goods purchased for resale in the same condition as received;
- Sales of by-products;
- Invoiced charges for packaging and transport;
- Hours worked invoiced to third parties for labour-only subcontracting;
- Invoiced mounting, installations and repairs;
- Invoiced installments (stage payments);
- Sales of waste and scrap materials;

Price reductions, rebates and bonuses conceded later to clients, for example at the end of the year, are not taken into account.

Income classified as other operating income, financial income and extraordinary income in company accounts are excluded from turnover. Any operating subsidies received are also excluded.

**4.5 Statistical unit**

The observation unit is the enterprise.

**4.6 Statistical population**

In the survey for the compilation of the Turnover Index for Motor Trades (2010=100.0), it was decided to include 2,012 enterprises listed in the Business Register of ELSTAT, which had an annual turnover (in 2010) equal to or higher than 300,000 euros.

**4.7 Reference area**

The index covers the whole country, with data coming from 46 Regional Units.

**4.8 Time coverage**

The time series of the (2010=100.0) covers the period from the 1st quarter 2000 onwards.

**4.9 Base period**

Base year : 2010=100.0

## 5. Unit of measure

Top

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

## 6. Reference period

Top

Quarter

## 7. Institutional mandate

Top

### 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 2012-1015" 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 Turnover Index for Motor Trades 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

### 7.2 Data sharing

Not applicable.

## 8. Confidentiality

Top

### 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

Top

### 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 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".*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 on the Turnover Index for Motor Trades, which is posted on the website of ELSTAT (http://www.statistics.gr/en/statistics/-/publication/DKT45/-) 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

Top

The index is produced and disseminated on quarterly basis.

## 11. Dissemination format

Top

### 11.1 News release

Every quarter, within specified deadlines 52-55 days after the end of the reference quarter, at 12.00, a Press Release is published which presents the newly calculated Turnover Index for Motor Trades 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/DKT45/-)

### 11.2 Publications

The data are announced quarterly with a press release on specified dates. In the Press Release, the index is published as well as quarter-on-quarter growth rates and year-on-year growth rates.

Tables that contain quarterly and annually data, as well as quarterly and annual percentage growth rates (+ or -) are posted on the ELSTAT' website: http://www.statistics.gr/en/statistics/-/publication/DKT45/-. 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 Turnover Index for Motor Trades.

#### 11.3.1 Data tables - consultations

Users' consultation as regards the survey on Turnover Index for Motor Trades amounts to 2,568 webpage

hits for the tear 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 Turnover Index for Motor Trades amounts to 2,568 webpage hits for the year 2015. There is no potentiality to distinct consultations between data tables and metadata.

## 12. Accessibility of documentation

Top

### 12.1 Documentation on methodology

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

- *Methodology of Short-term Business Statistics, Interpretation and guidelines*
- Methodology of short term business statistics, Associated documents
- PEEIs in focus. A summary for the retail trade turnover and volume of sales indices

A special methodological paper on the compilation of the Turnover Index for Motor Trades 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/DKT45/-

#### 12.1.1 Metadata completeness - rate

Metadata on the compilation of the Turnover Index for Motor Trades are available on the webpage of ELSTAT: http://www.statistics.gr/en/statistics/-/publication/DKT45/-

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/DKT45/-

## 13. Quality management

Top

### 13.1 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 index, that is, for data collection including communication with the enterprises, initial checks, data entry and final checks, which are conducted after the calculation of the index. This way, the personnel have a comprehensive

and longitudinal image of the 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 index is 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 examining the percentage quarterly growth rates of the turnover of the 3-digit code economic activities 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 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
- Its concepts and methodology have been developed according to international standards and guidelines

## 14. Relevance

Top

### 14.1 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.

### 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 the index and the data provided are in line with the relevant EU Regulations.

## 15. Accuracy and reliability

Top

### 15.1 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 of the index.

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.

### 15.2 Sampling error

Sample survey is conducted in order to compile the index, and thus sampling errors arise in the estimates of the index. More specifically, in 4$^{th}$ quarter 2015, the sampling errors, expressed in coefficient of variations (%), of annual and quarterly growth rates of the overall index for division 45 are 2.0% and 2.3%, respectively.

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 estimation

process. Variance estimation methods are appeared 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 in 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 quarter 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 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 Index.

## 16. Timeliness and punctuality

Top

### 16.1 Timeliness

The index is published within specified deadlines 52-55 days after the end of the reference quarter.

### 16.2 Punctuality

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

## 17. Comparability

Top

### 17.1 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 Turnover Index for Motor Trades and the other national and European 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 Turnover Index of Motor Trades.

**17.2 Comparability over time**

The first compilation of the index was according NACE Rev.1 classification (Statistical Classification of Economic Activities in the European Community) and covered the period 2005-2008.During the year 2009 the index was recompiled according to the classification NACE Rev.2. Due to the exclusion of the group "retail sale of automotive fuel" from the motor trades division, the indices were recalculated. Moreover, in compliance with Commission Regulation (EC) 472/2008 concerning backcasting, data were estimated for the years 2000-2004.

Backcasting of revised index series (2010=100.0) has been performed since the 1st quarter 2000.Therefore, the time series of the index with base year 2010=100.0, which is available from the 1st quarter 2000 and onwards, is considered fully comparable over time.

## 18. Coherence

Top

**18.1 Coherence cross-domain**

**18.1.1 Coherence – sub annual and annual statistics**

**Coherence between Index and 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 Wholesale and retail trade and repair of motor vehicles and motorcycles. 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 produced by SBS.

Any small differences observed in the growth rates between the average annual 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 quarter, 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 enterprises. The common sample of enterprises used in the index ensures accurate presentation of the evolution of the index over several time periods.

**Coherence between Index an statistics on the issuing of new road motor vehicle circulation licenses**

ELSTAT conducts the monthly survey on the issuing of new motor vehicle circulation licenses. The primary data derive from the Ministry of Infrastructure, Transport and Networks and arise from the issuing of new circulation licences.

http://www.statistics.gr/en/statistics/-/publication/SME24/-

As strong correlation exists between the turnover of 'Sale of motor vehicles', comparisons are performed to examine the coherence of growth rates between the turnover index and the average quarterly statistics on issuing of new circulation licences.

**18.1.2 Coherence – National Accounts**

The index is used for the computation of GDP data. Therefore, the growth rate of the index is coherent with the corresponding growth rate of GDP.

**18.2 Coherence – internal**

The index is internally coherent. Higher-level aggregates derive from detailed estimates of the turnover by groups (3-digit code of economic activities) of enterprises according to well-defined procedures.

## 19. Cost and burden

Top

a) Data on the response burden of the surveyed enterprises are not available. Regarding the staff of ELSTAT, the annual cost in hours worked amount to 1,050.

b) Regarding the respondents, the annual average response burden in hours worked is 11.5 minutes per enterprise.

## 20. Data revision

Top

### 20.1 Revision policy

The index is published within specified deadlines, 52-55 days after the end of each reference quarter. Data are provisional when first released. The index is revised once, simultaneously with the publication of the quarter. 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 Turnover Index for Motor Trades is to adapt the index to structural changes of the "w*holesale and retail trade and repair of motor vehicles and motorcycles"* division 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

### 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 index is revised and considered to be final, simultaneously with the publication of the next quarter.

## 21. Statistical processing

Top

### 21.1 Source data

The survey for the compilation of the index covers 2,012 enterprises listed in the Business Register having an annual turnover (in 2010) equal to or higher than 300,000 euro. Out of these enterprises a random sample of 319 enterprises was selected.

The one stage 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 economic activity (groups: 3-digit code activities of NACE Rev. 2) as follows: 451, 452. 453+454
b. By size class of enterprises: In each class, the enterprises were stratified into seven (7) size classes, determined by their annual turnover (in 2010) in BR as follows:

| Size class | Annual Turnover (€) |
|---|---|
| 1 | 300,000 – 700,000 |
| 2 | 700,001 – 1,400,000 |
| 3 | 1,400,001 – 3,000,000 |
| 4 | 3,000,001 – 6,100,000 |
| 5 | 6. 100,001 – 15,000,000 |
| 6 | 15,000,001 – 30,000,000 |
| 7 | 30,000,001+ |

The sampling units (enterprises) were selected from the sampling frame based on data from BR. The sampling units were allocated to the ultimate strata (that were 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 (4-digit code economic activity) 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 7$^{th}$ size class are surveyed exhaustively.

**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. 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 quarters. 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.

**21.5 Data compilation**

The turnover index is calculated by the chaining method. First, the moving based index is calculated by comparing the estimated turnover value $\widehat{Y}_q$ for the current quarter $q$ with the corresponding value $\widehat{Y}_{q-1}$ 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. Turnover value**

***a. Symbolisms***

$h$ : stratum of enterprises $(h = 1,...,H)$
$H$ : number of strata in division 45
$N_h$ : number of enterprises in the stratum $h$ (population size)
$n_h$ : number of enterprises of the sample in the stratum $h$ (sample size)
$m_h$ : the number of the enterprises of the sample that responded in the stratum $h$ (respondents)

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

$a_h$ : extrapolation factor of the respondents in the stratum $h$

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

$y_{qhi}$ : turnover value of the current quarter $q$, of the enterprise of order $i$, in the stratum $h$

$Y_{qh}$ : turnover value of the current quarter $q$ of all enterprise that belong to the stratum $h$ that is:

$$Y_{qh} = \sum_{i=1}^{N_h} y_{qhi}$$

$Y_q$ : turnover value of the current quarter $q$ of all enterprises that belong to the target population (division 45)

that is: $Y_q = \sum_{h=1}^{H} Y_{qh}$

**b**. **Estimation of the turnover value**

The estimation $\widehat{Y}_q$ of the turnover value $Y_q$ of the current quarter $q$ is calculated by applying the following relations:

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

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

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

$$\widehat{Y}_q = \sum_{h=1}^{H} \sum_{i=1}^{m_h} a_h \cdot y_{qhi} \quad (3)$$

**c. Reduction of turnover values to a typical quarter**

The initial turnover value estimates for the division 45 refer to calendar quarters which do not all have the same number of working days and therefore all the compiled indices are not comparable. The quarterly indices 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 special correction factor which is different for each quarter of the year. The correction factor is calculated by dividing the mean quarterly number of working days in the given year by the number of regular working days in the quarter under consideration, as follows:

$$c_q = \frac{\bar{x}}{x_q} \quad (4)$$

where:

$c_q$ : correction factor of the quarter $q$

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

$X_q$ : the number of regular working days in the quarter $q$

**2. Turnover index**

**a. Moving base index**

First the moving-base index is calculated by comparing the 'estimated' turnover value for the current quarter $q$ with the corresponding value of the previous quarter, as follows:

$$I_{q,.q-1} = \frac{\widehat{Y}_q}{\widehat{Y}_{q-1}} \quad (5)$$

where:

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

$\widehat{Y}_q$, $\widehat{Y}_{q-1}$ : the corresponding turnover estimates for the current and previous quarters

**b. Fixed-base index**

The fixed-base index for the current quarter $q$ $(q>1)$ is obtained by multiplying the moving-base index by the fixed-base index of the previous quarter, as follows:

$$I_{Y_q} = I_{q,q-1} \cdot I_{Y_{q-1}} \quad (6)$$

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

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

For the calculation of the first fixed-base index ($q=1$) of the base year 2010, the following equation applies:

$$I_{Y_{1,10}} = \frac{\widehat{Y}_{1,10}}{\overline{\widehat{Y}}_{q,10}} \cdot 100 \quad (7)$$

where:

$I_{Y_{1,10}}$ : the fixed-base index for the first quarter of year 2010

$\widehat{Y}_{1,10}$ : the turnover estimate for the first quarter of year 2010

$\overline{\widehat{Y}}_{q,10}$ : the mean quarterly turnover estimate for year 2010, that is: $\overline{\widehat{Y}}_{q,10} = \frac{\sum_{m=1}^{4} \widehat{Y}_{q,10}}{4}$

$\widehat{Y}_{q,10}$ the turnover estimate for the quarter $q$ of the year 2010

### 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 0.5%. The imputation process used takes into account the turnover growth rates of respondents for each stratum of enterprises.

### 21.6 Adjustment

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

### 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

Top