Single Integrated Metadata Structure (SIMS v2.0)

Country: Greece

Compiling agency: ELSTAT

Domain name: Wholesale Turnover Index

ELSTAT metadata

Reference metadata

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1. Contact	Top
1.1 Contact organisation	Hellenic Statistical Authority (ELSTAT)
1.2 Contact organisation unit	Division of Business Statistics Section of Trade and Services Indices
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2. Metadata update		Top
2.1 Metadata last certified	2/6/2023	
2.2 Metadata last posted	2/6/2023	
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3. Statistical presentation — Top

3.1 Data description

The Wholesale Turnover Index covers the whole country. The Wholesale Turnover Index includes the activities classified under Division 46 (Wholesale trade, except 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.

Division 46 (Wholesale trade) includes the following activities:
- Wholesale on a fee or contract basis
- Wholesale of agricultural raw materials and live animals
- Wholesale of food, beverages and tobacco
- Wholesale of household goods
- Wholesale of information and communication equipment
- Wholesale of other machinery, equipment and supplies
- Other specialized wholesale
- Non-specialized wholesale trade

3.2 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 20th December 2006 establishing the statistical classification of economic activities NACE Rev.2.

3.3 Sector coverage

The Wholesale Turnover Index covers the division 46 (*Wholesale trade, except of motor vehicles and motorcycles*) of NACE Rev. 2 statistical classification of economic activities.

3.4 Statistical concepts and definitions

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

The purpose of the index is to measure in value terms the activity of wholesale trade 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 of the Commission on the Implementation of Regulation (EC) No 1165/98 of the Council "on short-term statistics", 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.

3.5 Statistical unit

The observation unit is the enterprise.

3.6 Statistical population

For the Wholesale Turnover Index the population encompasses 15,911 enterprises from the Business Register of ELSTAT with annual turnover in year 2015, equal to or higher than 300,000 euros.

3.7 Reference area

Geographical level of the data is the whole country.

3.8 Time coverage

The distribution of the time series of the Wholesale Turnover Index in the Wholesale Trade (2015=100.0), is done quarterly from the 1st quarter of 2000.

3.9 Base period

The base year is the year 2015 (2015=100.0).

4. Unit of measure

Index, percentage changes (%) (quarterly and annual).

5. Reference period

Quarter (monthly calculation).

6. Institutional mandate

6.1 Legal acts and other agreements

The legal framework concerning the organization and operation of ELSTAT is as follows:

➢ **Law 3832/2010** (Government Gazette No 38, Issue A): *"Hellenic Statistical System Establishment of the Hellenic Statistical Authority (ELSTAT) as an Independent Authority",* as amended and in force

➢ **Regulation on the Operation and Administration of the Hellenic Statistical Authority** (ELSTAT), 2012, (Government Gazette No 2390, Issue B, 28-8-2012)

➢ **Regulation (EC) No 223/2009 of the European Parliament and of the Council**, on the European statistics (Official Journal of the European Union L 87/164).

➢ **Article 14 of the Law 3470/2006** (Government Gazette No 132, Issue A): *"National Export Council, tax regulations and other provisions"*.

➢ **Article 3, paragraph 1c, of the Law 3448/2006** (Government Gazette No 57, Issue A): *"For the further use of information coming from the public sector and the settlement of matters falling within the responsibility of the Ministry of Interior, Public Administration and Decentralization"*.

➢ **European Statistics Code of Practice**, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 on the

independence, integrity and accountability of the national and Community statistical Authorities, after its revision, which was adopted on 28 September 2011 by the European Statistical System Committee.

> **Presidential Decree 226/2000** (Government Gazette No 195, Issue A): *"Organization of the General Secretariat of the National Statistical Service of Greece".*

> **Articles 4, 12 , 13, 14, 15 and 16 of the Law 2392/1996** (Government Gazette No 60, Issue A): *"Access of the General Secretariat of the National Statistical Service of Greece to administrative sources and administrative files, Statistical Confidentiality Committee, settlement of matters concerning the conduct of censuses and statistical works, as well as of matters of the General Secretariat of the National Statistical Service of Greece".*

The Legal Framework is detailed in the following link:
http://www.statistics.gr/en/legal-framework

The legal framework concerning Eurostat legislation:

The legal basis for the index in Transport sector is the Council Regulation No 1165/98 of 19th May 1998 concerning short-term statistics (STS) as amended by the Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6th July 2005 concerning short-term statistics (STS). The definitions of short-term statistics variables are laid down in Commission Regulation No 1503/2006 of 28th September 2006.

In addition, it is the new Regulation (EU) No 2019/2152 of the European Parliament and of the Council on European business statistics. as well as Commission Implementing Regulation (EU) No 2020/1197 laying down technical specifications and arrangements pursuant to Regulation (EU) No 2019/2152.

6.2 Data sharing

The Wholesale Turnover Index are transmitted to Eurostat according to the Council Regulation No 1165/98 concerning short-term statistics as amended by the Regulation (EC) No 1158/2005, also by Regulation (EU) No 2019/2152 of the European Parliament and of the Council on European business statistics. as well as Commission Implementing Regulation (EU) No 2020/1197 laying down technical specifications and arrangements pursuant to Regulation (EU) No 2019/2152.

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7. Confidentiality

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.

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

7.2 Confidentiality - data treatment

> ELSTAT protects and does not disseminate data it has obtained or it has access to, which enable the direct or indirect identification of the statistical units that have provided them by the disclosure of individual information directly received for statistical purposes or indirectly supplied from administrative or other sources. ELSTAT takes all appropriate preventive measures so as to render impossible the identification of individual statistical units by technical or other means that might reasonably be used by a third party. Statistical data that could potentially enable the identification of the statistical unit are disseminated by ELSTAT if and only if:

a) these data have been treated, as it is specifically set out in the Regulation on Statistical Obligations of the agencies of the Hellenic Statistical System (ELSS), in such a way that their dissemination does not prejudice statistical confidentiality or
b) the statistical unit has given its consent, without any reservations, for the disclosure of data.

- The confidential data that are transmitted by ELSS agencies to ELSTAT are used exclusively for statistical purposes and the only persons who have the right to have access to these data are the personnel engaged in this task and appointed by an act of the President of ELSTAT.

- ELSTAT may grant researchers conducting statistical analyses for scientific purposes access to data that enable the indirect identification of the statistical units concerned. The access is granted provided the following conditions are satisfied:
a) an appropriate request together with a detailed research proposal in conformity with current scientific standards have been submitted;
b) the research proposal indicates in sufficient detail the set of data to be accessed, the methods of analyzing them, and the time needed for the research;
c) a contract specifying the conditions for access, the obligations of the researchers, the measures for respecting the confidentiality of statistical data and the sanctions in case of breach of these obligations has been signed by the individual researcher, by his/her institution, or by the organization commissioning the research, as the case may be, and by ELSTAT.

- Issues referring to the observance of statistical confidentiality are examined by the Statistical Confidentiality Committee (SCC) operating in ELSTAT. The responsibilities of this Committee are to make recommendations to the President of ELSTAT on:

  - the level of detail at which statistical data can be disseminated, so as the identification, either directly or indirectly, of the surveyed statistical unit is not possible;

  - the anonymization criteria for the microdata provided to users;

  - the granting to researchers access to confidential data for scientific purposes.

- The staff of ELSTAT, under any employment status, as well as the temporary survey workers who are employed for the collection of statistical data in statistical surveys conducted by ELSTAT, who acquire access by any means to confidential data, are bound by the principle of confidentiality and must use these data exclusively for the statistical purposes of ELSTAT. After the termination of their term of office, they are not allowed to use these data for any purpose.

- Violation of data confidentiality and/or statistical confidentiality by any civil servant or employee of ELSTAT constitutes the disciplinary offence of violation of duty and may be punished with the penalty of final dismissal.

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

8. Release policy

8.1 Release calendar

A release calendar is available on the website with the precise release dates of statistics 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 (www.statistics.gr) under the link: "Announcements Calendar" http://www.statistics.gr/en/calendar

8.3 User access
Data are released simultaneously to all interested parties and users through the Announcement, which is posted on the website of ELSTAT and specifically under the link: http://www.statistics.gr/en/statistics/-/publication/DKT42/- according to the release calendar. This Announcement is also available by e-mail to all interested parties. In addition, data are transmitted to Eurostat on a predefined date, concomitantly with their national publication.

9. Frequency of dissemination   Top

Wholesale Turnover Index is produced and disseminated quarterly.

10. Accessibility and clarity   Top

10.1 Announcements
Every quarter, 52-55 days after the end of the reference quarter, at 12.00, an Announcement is published which presents the newly calculated indices in Greek and English. This Announcement is also available on the website of ELSTAT: http://www.statistics.gr/en/statistics/-/publication/DKT42/-

10.2 Publications
Data are published in the Announcement and in specific publication of ELSTAT, such as: "The Greek Economy":   • «The Greek Economy» (http://www.statistics.gr/en/the-greek-economy)

10.3 On-line database
There are no data concerning the Wholesale Turnover Index available on the on-line database of ELSTAT.   **10.3.1 Data tables - consultations**   During 2022, there were 43,350 visits to the Wholesale Turnover Index pages.
10.4 Micro-data access
Microdata are available on request at: Statistical Information and Publications Division   Data Dissemination Section   46 Pireos & Eponiton str.   185.10 Piraeus   Tel. (+30) 213-1352022, email: data.dissem@statistics.gr.   Access to microdata is only permitted under strict conditions and always with due process.   More information are available on the website link: http://www.statistics.gr/en/scientific_provision_data

10.5 Other
Users can be given data or further analysis, usually via e-mail after submitting a request, describing the requested data to the Section of Statistical Dissemination (the Trade and Services Indices Section will be informed), at the following e-mail addresses: data.dissem@statistics.gr, data.supply@statistics.gr and data.source@statistics.gr.   Users can also submit their requests electronically, through the portal at: http://www.statistics.gr/en/statistical-data-request   More links for data dissemination: http://www.statistics.gr/en/statistics/-/publication/DKT42/-   http://ec.europa.eu/eurostat/web/short-term-business-statistics/

10.5.1 Metadata – consultations

During 2022, there were 43,350 visits to the WholsaleTurnover Index pages. Data and metadata visits cannot be distinguished.

10.6 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.
http://ec.europa.eu/eurostat/web/short-term-business-statistics/methodology

The Methodology of Short-term Business Statistics, contains a comprehensive set of recommendations on the compilation of the STS statistics.
➢ Methodology of short-term business statistics - Interpretation and Guidelines

10.6.1 Metadata completeness – rate

Metadata for the compilation of the Wholesale Turnover Index are available on the website of ELSTAT (http://www.statistics.gr/en/statistics/-/publication/DKT42/-), so the completeness rate is 100%.

10.7 Quality documentation

A user oriented short quality report is available at the link:

 http://www.statistics.gr/en/statistics/-/publication/DKT42/-.

11. Quality management

11.1 Quality assurance

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 link:
http://www.statistics.gr/en/quality-asurance-framework and http://www.statistics.gr/en/policies.

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.
The well-trained and experienced staff deals with all the stages of the compilation of the indices, that is: data collection, including communication with the enterprises, initial checks of the data as to their correctness, data entry and final checks, which are conducted after the calculation of the index. This way, the personnel have a comprehensive and long-standing experience with the enterprises under survey.

Data are validated either before or after data entry by means of logical checks. During data processing, the data are checked in order to identify and correct any measurement or data entry errors. The detection of these errors is done in data of the enterprises, by examining whether these data are within a certain range of values, based on the size of the enterprises, as well as the seasonality of the data. At the same time, data are checked for completeness, accuracy and consistency of the correlating variables.

The index is calculated by means of specialised software, through computation routines, thus eliminating any errors to the final results. Nevertheless, even during this stage, consistency checks are carried out to the final results, mainly on comparing the percentage changes of the corresponding quarters.

11.2 Quality assessment

The Wholesale Turnover Index is considered to be a credible and sufficiently accurate index because :

• The accuracy of the data used to calculate the index is ensured by performing quality checks to validate them.
The concepts and definitions of the variables used to compile the index, as well as the applied methodology of the index follow European and international standards.

12. Relevance

12.1 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.

12.2 User satisfaction

a.User satisfaction survey:

ELSTAT conducts an annual user satisfaction survey. The comments on the media are positive. More information about the latest results of user research, for the annual periods per semester, is available in the Library Information Bulletin, on the website of ELSTAT (www.statistics.gr), "Products and Services" at the link:

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

b.Conference of statistical data users

According to its annual statistical program, ELSTAT has been conducting a user conference since 2010 on an annual basis, attended by representatives of private and public sector bodies, as well as educational and research institutions. Information about user conferences at the link:

http://www.statistics.gr/en/user-conference.

12.3 Data completeness

Data are in full compliance with the relevant European Regulations.

13. Accuracy and reliability

13.1 Overall accuracy

The sources of errors that affect the accuracy of the index are a) sampling errors and b) non-sampling errors.
Sampling errors are due to the fact that not all target population businesses are surveyed to compile the index, but a sample of them. The size of the index's business sample provides high-precision estimates for the general index, as well as for most categories of grouped sectors of economic activity. The non-sample errors of the index mainly concern the data measurement errors and the non-response errors of the companies in the sample. The measurement errors made when collecting the data are detected by performing quality checks and then corrected. With regard to non-response errors, every effort is made to communicate by telephone or other communication with the companies that did not send data, in order to cooperate and provide the requested information.

Therefore, the overall accuracy of the wholesale turnover index is generally considered high.

13.2 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, The sampling error, expressed as coefficient of variation (CV quarterly change

%) for the 3rd quarter 2022 is 2.50%.

13.3 Non-sampling error

a. Unit non – response

The non-response of the enterprises is addressed by telephone communication, sending a reminder via e-mail and by personal visits, in order to achieve the collection of the requested data. There are also non-response of enterprises, where the procedure for handling the missing data is to evaluate them due to the trend of the administrative data of these enterprises.

b. Item non - response

13.3.1 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 in Retail Trade was designed.

13.3.1.1 Over-coverage – rate

No over-coverage errors are observed.

13.3.1.2 Common units – proportion

A common sample of enterprises is used every month for the compilation of the Index. The sample is revised when the base year changes and remains the same for as long as the base year is the same.

13.3.2 Measurement error

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

13.3.3 Non response error

The weighted variable used is turnover, where the size-weighed response rate for the Semptember 2022 is Rrsw=96.78%.

13.3.4 Processing error

After collecting the data, a series of procedures are performed before the index calculation (eg. business weighting, calculations with the application of mathematical formulas, tabulation of results, etc). Errors in the data processing process do not occur, because all this work is performed using special software.

13.3.5 Model assumption error

No model is used to compile the index.

14. Timeliness and punctuality [Top]

14.1 Timeliness

The index is published 52 to 55 days after the end of the reference quarter.

14.2 Punctuality

The Wholesale Turnover Index is published on the pre-announced release dates.

15. Coherence and comparability [Top]

15.1 Comparability - geographical

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

15.1.1 Assymetry for mirror flows statistics – coefficient

There are no mirror flows statistics among EU Member States in the Wholesale Turnover Index.

15.2 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 compilation of the index was according to the new NACE Rev.2 classification and the retrospective data were avalaible from the 1st quarter of 2000.

The time series of the index with base year 2015=100.0, which is available from January 2000 onwards, is considered fully comparable over time.

15.3 Coherence cross-domain

Regular crosschecks are made with information from other surveys. The index is been compared with the available results of the SBS survey "Annual Structural Survey on enterprises".

15.3.1 Coherence – sub annual and annual statistics

Coherence of the index with the structural statistics in the wholesale trade

According to Regulations (EC) No 58/97 of the Council and No 295/2008 of the European Parliament and of the Council, the structural statistics of enterprises cover, among other sectors in economic activity, also the wholesale trade sector. As the structural statistics are annual, a comparison is made on the coherence of the rate of change of the average annual index with the corresponding rate of the annual turnover of the structural statistics of the enterprises in wholesale trade.

The small differences in the rate of change between the index and the turnover of structural statistics are mainly due to the fact that for the compilation of the index a common enterprises sample is used every quarter (which is updated when a revision happens, with the change of the base year of the index), while for the compilation of the structural statistics, the enterprises sample changes every year (with the exception of the very large enterprises). The common enterprises sample used by the index ensures accurate recording of the change of the index among different time periods.

15.3.2 Coherence – National Accounts

The index is used in the calculation of the quarterly and provisional annual data of the Gross Domestic Product (GDP) in wholesale trade. Therefore, there is coherence of the rate of change of the index with the corresponding rate of change of wholesale trade in the National Accounts.

15.4 Coherence - internal

The estimates of the index in the categories of groups of economic activity have a high internal coherence, because a single database is used and their calculation is done by the same method.

16. Cost and burden Top

a) Regarding the staff of ELSTAT that is involved in the compilation of the index, the annual cost, in working hours in 2022, amounts to 3.570 hours.
b) With regard to the surveyed enterprises, the average annual charge, in working hours required to provide a response in 2022, is 10.7 minutes per enterprise.

17. Data revision Top

17.1 Revision policy

According to Regulation No 1165/98 (art.11), the Wholesale Turnover Index, like other short-term statistics variables, is revised every five years in years ending in 0 or 5. The purpose of these revisions is to adjust the index to the current developments in the wholesale trade structure, where in addition to the change of the base year, both, the survey sample and the reduction factors (weights) of the enterprises are updated.
This practice follows ELSTAT's revision policy: http://www.statistics.gr/en/policies.

17.2 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.

18. Statistical processing

18.1 Source data

The survey for the compilation of the index covers 15,911 wholesale trade enterprises listed in the Business Register (BR) of ELSTAT, having an annual turnover (in the year 2015) equal to or higher than 300,000 euro. Out of these enterprises a random sample of 520 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 BR for the year 2015.
The enterprises included in the survey were stratified by the size class of enterprises that was determined by their annual turnover (in 2015) in BR as follows:

Size class	Annual Turnover (€)
1	300,000 – 580,000
2	580,001 – 1,300,000
3	1,300,001 – 2,700,000
4	2,700,001 – 5,400,000
5	5,400,001 – 10,600,000
6	10,600,001 – 20,500,000
7	20,500,001 – 40,000,000
8	40,000,001 – 100,000,000
9	100,000,001 up

In each stratum (class) created by the intersection of the two layering criteria (activity and class), an enterprises sample is selected with equal probabilities and with the application of systematic sampling.
All the enterprises which included in the (8th) and (9th) class of turnover are researched.

18.2 Frequency of data collection

Data are collected on a quarterly basis.

18.3 Data collection

A specially designed questionnaire is used to collect the data. The questionnaires are sent to enterprises with trained private partners by email and then the data are collected in the following ways:

- through trained private partners.

- by email (email)
Non-response is addressed by telephone or email reminder and personal visits in the enterprises. Also, the administrative data of the enterprises are collected.

18.4 Data validation

Data validation is done by comparing the current values with those of the previous quarter, and of the same quarter of the previous year. Communication with respondents follows in case of outliers.

18.5 Data compilation

The Wholesale Turnover Index is compiled on the basis of the chain-linking method. Firstly, the moving-base index was calculated, by comparing the "estimated" turnover value $\hat{Y}_q$ of the data of the sample enterprises of the current quarter with the corresponding value $\hat{Y}_{q-1}$ of the previous quarter. The fixed-base index at each two-digit level of economic activity of the current quarter is calculated by multiplying the moving-base index by the fixed-base index of the previous quarter.

The estimate of turnover value in current quarter is based on a reduction in all relevant data from the

enterprises sample. This is achieved by multiplying the monthly turnover value of each enterprtise, with a suitable reduction factor and then summing up of the products. This factor, for each stratum h (intersection of activity and class of enterprises turnover size) is defined as the quotient of the total number of N_h enterprises, by the number of enterprises of the n_h sample, which corresponded.

The reduction factor a_h for each enterprise in stratum (class) h is given by the equation:

$$\alpha_h = \frac{N_h}{n_h}$$

where:
N_h is the total number of enterprises in stratum h
n_h is the number of enterprises that responded in stratum h of the sample.

The estimate $\hat{Y}_q$ of the turnover value Y_q for the current quarter q, in any two-digit division of economic activity, is given by the equation:

$$\hat{Y}_q = \sum_{h=1}^{l} \alpha_h \sum_{i=1}^{n_h} y_{qhi}$$

where y_{qhi} is the turnover value for the current quarter q of the ith enterprise
in stratum h=1.2.3,…l, and l=9, the number of stratums in division 46 of economic activity of NACE Rev.2 classification.

The fixed-base index for each two-digit levei of economic activity for the current quarter q, is thus obtained by multiplying the moving-base index by the fixed-base index of the previous quarter.
The above is a consequence of the types:

$$I_{Y_q} = I_{q,q-1} * I_{Y_{q-1}} \quad \text{and} \quad I_{q,q-1} = \frac{\hat{Y}_q}{\hat{Y}_{q-1}}, \text{ where,}$$

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

I_{Y_q} is the fixed-base index for the current quarter q,

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

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

The time series of the indices was revised with base year 2015=100,0 by multiplying the indices calculated with base year 2010=100,0 by the following weighting coefficient: $\frac{100}{\bar{I}_{10}^{15}}$, where: $\bar{I}_{10}^{15}$,is the average of the indices of the year 2015 with base year 2010=100.0.

18.5.1 Imputation – rate
Usually, imputed values are not used to substitute turnover values in the enterprises sample. However, in very few cases, imputed prices are used, the percentage of which does not exceed 0.01%. The procedure for handling missing values is to estimate them (imputed values), based on the turnover of the enterprises in previous years, taking into account the evolution of the rate of changes of the value of turnover in the economic activity sector; the class of size of the enterprise and the trend of the administrative data of the enterprise.

18.6 Adjustment
The index is adjusted to the working days of the months of the quarters.

The indices are reduced to a typical quarter by multiplying the estimated turnover values by a specific correction factor according to the number of working days of each quarter. The typical quarter refers to the actual number of working days.

The correction factor c_t is obtained by dividing the average quarterly number of working days of the current

year by the number of working days of the surveyed quarter as follows: $c_t = \frac{\bar{x}}{x_t}$, where:

$\bar{x}$: the average quarterly number of working days, of the current year,

x_t: the number of working days in quarter t.

These weighting coefficient are reviewed annually.

18.6.1 Seasonal adjustment

Seasonal adjustment is the procedure followed to remove the impact of seasonality on the timeseries (that is eliminating the monthly effects, e.g: the beginning of the school year, holidays, tourist period, etc) in order to improve the comparability over time. The seasonal adjustment is performed with the application of TRAMO-SEATS 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 into the timeseries.

19. Comment

None.