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Country: Greece

Compiling agency: ELSTAT

Domain name: Turnover Index in Accommodation and Food Service Activities sector

ELSTAT metadata

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1. Contact

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2. Metadata update Top	
2.1 Metadata last certified	October 2014
2.2 Metadata last posted	October 2014
2.3 Metadata last update	October 2014
3. Statistical presentation Top	
3.1 Data description	
The Turnover Index in Accommodation and Food Service Activities sector, covers Greece total, for the activities of Section I of the statistical classification NACE Rev 2 "Accommodation and Food Service Activities". It includes the following groups: 55.1 (Hotels and similar accommodation), 55.2 (Holiday and other short-stay accommodation), 55.3 (Camping grounds, recreational vehicle parks and trailer parks), 55.9 (Other accommodation), 56.1(Restaurants and mobile food service activities), 56.2 (Event catering and other food service activities), 56.3 (Beverage serving activities).	
3.2 Classification system	
NACE Rev.2 is used in compliance with Regulation (EC) 1893/2006 of the European Parliament and of the Council.	
3.3 Sector coverage	
The Turnover Index in Accommodation and Food Service Activities sector, covers Greece total, for the activities of Section I of the statistical classification NACE Rev 2 "Accommodation and Food Service Activities" and more specifically the following groups: 55 and 56.	
3.4 Statistical concepts and definitions	
The turnover indices in services are important business indicators, which show the evolution of the services market. The objective of these indices is to calculate the activity of the surveyed sector in value terms. Turnover comprises the totals invoiced by the observation unit during the reference period (quarter) and corresponds to the market sales of goods and services supplied to third parties. Subsidies on goods or services are also included. Turnover excludes VAT and other similar deductible taxes directly linked to turnover, as well as all duties and taxes on the goods or services invoiced by the observation unit. Income classified as other operating income, financial income and extraordinary income in company accounts is also excluded from turnover.	
3.5 Statistical unit	
The sampling unit for the collection of data of the survey is the enterprise.	
3.6 Statistical population	
The compilation of this index encompasses enterprises with annual turnovers equal to or higher than 250.000 euros.	
3.7 Reference area	
All regions of Greece are covered.	
3.8 Time coverage	
The time series of the Accommodation and Food Service Activities sector with base year 2010=100.0 is being released on a quarterly basis since the first quarter 2000.	
3.9 Base period	
The base year is the year 2010 (2010=100.0)	
4. Unit of measure Top	
Percentage changes (%) (quarterly).	
5. Reference period Top	
The reference period is the quarter.	

6. Institutional mandate

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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 by article 90 paragraphs 8 and 9 of the Law 3842/2010 (Government Gazette No 58, Issue A): "Restoration of fiscal justice, confrontation of tax evasion and other provisions", by article 10 of the Law 3899/2010 (Government Gazette No 212, Issue A): "Urgent measures for the implementation of the assistance program of the Greek Economy", by article 45 of the Law 3943/2011 (Government Gazette No 66, Issue A): "Combating tax evasion, staffing of auditing services and other provisions falling within the competence of the Ministry of Finance", by article 22 paragraph 1 of the Law 3965/2011 (Government Gazette No 113, Issue A): "Operations Reform of the Consignment and Loan Fund, Public Debt Management Agency, Public Enterprises and Government bodies, the establishment of the General Secretary of Public Property and other provisions", by article first of the Law 4047/2012 (Government Gazette No 31, Issue A): "Ratification of the Act of Legislative Content "Very urgent measures for the implementation of the Medium-term Fiscal Strategy 2012-2015 and of the State Budget for 2011" and of the Act of Legislative Content "Regulation of very urgent issues for the implementation of law 4024/2011 "Pension provisions, uniform pay scale - grading system, labour reserve and other provisions for the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and of issues falling within the competence of the Ministries of Administrative Reform and E-Governance, Interior, Finance, Environment, Energy and Climate Change, and of Education, Lifelong Learning and Religious Affairs and related to the implementation of the Medium-term Fiscal Strategy Framework 2012-2015" and other provisions", by article 323 of the Law 4072/2012 (Government Gazette No 86, Issue A): "Improvement of the business environment New corporate form - Trade Marks - Realtors - Regulating maritime, port and fishing matters and other provisions" and by article 7 paragraph 1 of the Act of Legislative Content dated 18/11/2012 (Government Gazette No 228, Issue A): "Financial rules and other provisions", by Article 93 of the Law 4182/2013 (Government Gazette No 185, Issue A): "*Code of charitable estate, inheritances in abeyance and other provisions*", by Article 6 paragraph 8 of the Law 4244/2014 (Government Gazette 60, Issue A): "*Integration in Greek law of the Council Directive 2013/1/EU of 20 December 2012 amending Directive 93/109/EC as regards certain detailed arrangements for the exercise of the right to vote and stand as a candidate in elections to the European Parliament for citizens of the Union residing in a Member State of which they are not nationals and amendment of law 2196/1994 (A' 41) and other provisions*", by Article first subparagraph C.3 of the Law 4254/2014 (Government Gazette No 85, Issue A): "*Measures for the support and development of the Greek economy, in the context of the implementation of Law 4046/2012, and other provisions of law*" and by Article 33, paragraphs 5a and 5b of the Law 4258/2014 (Government Gazette No 94, Issue A): "*Demarcation process and arrangements of matters for streams - arrangements of Urban Planning legislation and other provisions*".
- **Regulation on the Operation and Administration of the Hellenic Statistical Authority** (ELSTAT), 2012, (Government Gazette No 2390, Issue B, 28-8-2012)
- **Regulation (EC) No 223/2009 of the European Parliament and of the Council**, on the European statistics (Official Journal of the European Union L 87/164).
- **Article 14 of the Law 3470/2006** (Government Gazette No 132, Issue A): "National Export Council, tax regulations and other provisions".
- **Article 3, paragraph 1c, of the Law 3448/2006** (Government Gazette No 57, Issue A): "For the further use of information coming from the public sector and the settlement of matters falling within the responsibility of the Ministry of Interior, Public Administration and Decentralization".
- **European Statistics Code of Practice**, adopted by the Statistical 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".

Eurostat legislation:

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

6.2 Data sharing

There are not any international agreements.

7. Confidentiality

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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

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8.1 Release calendar

In September of each year ELSTAT publishes a releases, which includes the exact dates for the release of all the statistical data for the following year.

8.2 Release calendar access

The calendar is disseminated 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) at the link: "Announcements Calendar". http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/calendar_gr_2014.pdf

8.3 User access

In line with the Community legal framework and the European Statistics Code of Practice, ELSTAT disseminates national statistics on ELSTAT's website respecting professional independence and in an objective, professional and transparent manner in which all users are treated equitably.

In this content, data are released simultaneously to all interested parties and users through the Press Release on the The Turnover Index in Accommodation and Food Service Activities sector, which is posted on the website of ELSTAT (www.statistics.gr) and specifically under the link: http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A2099 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. In compliance with Community legislation and the European Statistics Code of Practice, ELSTAT releases all national statistical data on its webpage, fully observing professional independence and with a view to ensuring the simultaneous, equal and timely access of all users to statistical data.

9. Frequency of dissemination	Top
The index in Accommodation and Food Service Activities sector is disseminated on a quarterly basis.	
10. Dissemination format	Top
10.1 News release	
Every month, 67 days after the end of the reference month, at 12.00, a Press Release is published which presents the newly calculated Index in Accommodation and Food Service Activities sector 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 (www.statistics.gr).	
10.2 Publications	
Data on the index in Accommodation and Food Service Activities sector are published in several publications of ELSTAT such as "The Greek Economy", "Greece in figures", as well as in the special edition issued for the "International Fair of Thessaloniki".	
10.3 On-line database	
Data on the index have not published on the on-line database. However, there are available data at the following link: http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A2099 .	
10.4 Micro-data access	
Data are available after submitting a request to ELSTAT, Division of Statistical Information and Publications, Peiraios 46 & Eponiton, 18510, Piraeus (tel. (+30) 213 135 2022, Fax: (+30) 213 135 2312, e-mail: data.dissem@statistics.gr).	
10.5 Other	
Users can be given data or further analysis, usually by fax or e-mail after submitting a request, describing the requested data, to the Division of Statistics on Trade and Services/ Tourism Section or to the Section of Statistical Dissemination, at the following e-mail addresses: Trade-Services@statistics.gr , tourism.sector@statistics.gr , data.dissem@statistics.gr and data.supply@statistics.gr .	
11. Accessibility of documentation	Top
11.1 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. The Methodology of Short-term Business Statistics, Interpretation and guidelines, 2006, contains a comprehensive set of recommendations on the compilation of the STS statistics. http://epp.eurostat.ec.europa.eu/portal/page/portal/short_term_business_statistics/documents/KS-BG-06-001-EN.pdf	
11.2 Quality documentation	
A user oriented quality report is available at the link : http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/A2099/Other/A2099_DKT51_MT_QQ_03_2013_00_2099_01UO_F_GR.pdf	
12. Quality management	Top
12.1 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/portal/page/portal/ESYE/BUCKET/General/ELSTAT_Quality_Policy_GR.pdf. http://www.statistics.gr/portal/page/portal/ESYE/BUCKET/General/ELSTAT_quality_guidelines.pdf	

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.

First of all, 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. During data processing the data are checked in order to identify and correct any errors. When an error is identified, data are further investigated, in cooperation with the enterprises in order to confirm that it is an error or it is just an unusual value. 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 by means of comparing the percentage changes of the corresponding quarters.

12.2 Quality assessment

The index in Accommodation and Food Service Activities sector is considered to be a highly reliable index. It is an index that is being compiled in Greece since 2005, so the personnel have acquired a lot of experience in its compilation. Moreover, its concepts and methodology have been developed according to international standards and guidelines.

13. Relevance

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13.1 User needs

The index in Accommodation and Food Service Activities sector 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 the government, other public agencies, the Central Bank of Greece, other Hellenic banks and private researchers, etc., while at international level, the Index is used by Eurostat and other international organizations (ECB, IMF, OECD), etc.

13.2 User satisfaction

Generally, there is a smooth cooperation, through prompt response to users' requests. Users' comments are positive.

Moreover, ELSTAT conducts a user satisfaction survey every year. Comments on media are also positive. More information about the results of the survey is available on the Library Newsletter at:

<http://www.statistics.gr/portal/page/portal/ESYE/PAGE-conferences>.

13.3 Completeness

The compilation of The Turnover Index in Accommodation and Food Service Activities sector and the data provided are in line with the relevant EU Regulations.

14. Accuracy and reliability

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14.1 Overall accuracy

The index is characterised by high accuracy because sampling errors do not exceed 3%. As regards non-sampling errors, these are mostly due to erroneous measurement and to the non-response of some enterprises. The efforts are mostly focused in identifying and correcting as many errors as possible during the revision of data. The compilation of this index encompasses enterprises with annual turnovers equal to or higher than 250.000 euros and there is cover at least 75% of the total turnover represented.

14.2 Sampling error

The enterprises of the sample were selected on the basis of the single random stratified sampling. The sampling error is <3%.

14.3 Non-sampling error	
There are no errors, which have to do with inconsistent use of definitions. Some counting errors may occur, such as errors in the data provided by the surveyed enterprises. These errors are usually easy to identify, through checks and cross-checks with the data provided by the enterprises during the previous years and these errors are corrected after telephone communication with the stakeholders.	
15. Timeliness and punctuality	Top
15.1 Timeliness	
The index is published 67 days after the end of the reference quarter.	
15.2 Punctuality	
The turnover Index in Accommodation and Food Service Activities sector 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 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.	
16.2 Comparability over time	
From 3 rd quarter 2013 onwards the time series of the revised turnover index in Accommodation and Food Service Activities sector, with base year 2010(2010=100,0) was backcasted and dully adjusted. Therefore, the time series of the index with base year 2010=100.0, which is available from January 2000 onwards, is considered fully comparable over time.	
17. Coherence	Top
17.1 Coherence cross-domain	
Regular checks are carried out on the basis of information from the other surveys. The results of the Index are compared with results from the survey of the "Structural Business Statistics in Accommodation and Food services Activities sector" and no problems on coherence have observed.	
17.2 Coherence - internal	
There is internal coherence among the variables and the definitions of the survey.	
18. Cost and burden	Top
There are not available data concerning cost and burden of enterprises of the survey.	
19. Data revision	Top
19.1 Revision policy	
The index is published 67 days after the end of the reference quarter. Moreover, in accordance with the requirements 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. In this framework, the index is fully revised every five years, with the revision of the base year, the renewal of the sample of the enterprises and the implementation of new weighting scheme. The latest revision of the index, with base year 2010=100.0, was completed in the 3 rd quarter 2013.	
19.2 Revision practice	
The revision Policy of ELSTAT is implemented which is available at the following link: http://www.statistics.gr/portal/page/portal/ver-1/ESYE/BUCKET/General/ELSTAT_Revisions_Policy_22_5_2013_EN.pdf	

20. Statistical processing

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20.1 Source data

For the purposes of the survey for the compilation of the revised turnover Index in Accommodation and Food Service Activities sector (2010=100.0), a representative sample of 249 enterprises was selected from the whole country that belong to branches of economic activities of the groups 55 and 56 of the statistical classification NACE Rev 2 "Accommodation and Food Service Activities".

The enterprises of the sample were selected on the basis of the single random stratified sampling. For each of the 2-digit branches of economic activity the surveyed enterprises were further stratified into 7 size classes (strata) on the basis of their annual turnover for the year 2010 as follows:

1st class: 250.000 – 599.999,9 euro

2nd class: 600.000 – 1.299.999,9 euro

3rd class: 1.300.000 – 2.699.999,9 euro

4th class: 2.700.000 – 5.299.999,9 euro

5th class: 5.300.000 – 9.999.999,9 euro

6th class: 10.000.000 – 19.999.999,9 euro

7th class: 20.000.000 – and over euro

20.2 Frequency of data collection

Data are collected on a quarterly basis.

20.3 Data collection

Data are collected through a specially designed questionnaire. The questionnaires are sent by post and they are collected by means of the following ways:

-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.

20.4 Data validation

Tabulated data are validated through logical checks both by ELSTAT and Eurostat. During data processing, the data are checked in order to identify and duly correct any errors. It is obvious that it is not possible to detect all the errors but emphasis is put on those having a major impact on the results. Once identified, they are further investigated in cooperation with the enterprise in order to confirm that it is an error or just an unusual value.

20.5 Data compilation

The Turnover Index in Accommodation and Food Service Activities Sector is compiled on the basis of the chain-linking method and is in full compliance with the methods and guidelines stipulated in Eurostat's Manual "*Methodology of short – term business statistics, October 2005 Edition*". At a first stage, the moving-base index was calculated, by comparing the "estimated" turnover value of the data of the sample enterprises of the current quarter with the corresponding value of the previous quarter. The fixed-base index at each 2-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 first step in compiling the index shall be to estimate, from the records kept by the enterprises in the sample, the turnover value $\hat{Y}_q$ for the current quarter q , which then has to be compared with the corresponding estimate for the previous quarter $\hat{Y}_{q-1}$ (moving-base index).

The turnover estimate for the current quarter is obtained by reduction from the entire set of relevant data

supplied by the enterprises in the sample. This is achieved by multiplying the quarterly turnover value of each enterprise by an appropriate reduction factor and then adding the partial products. This reduction factor for each turnover stratum h (cross-linking the division and the turnover stratum) is defined as the quotient obtained by dividing the total number of enterprises N_h by the number of enterprises in sample n_h . The reduction factor α_h for each enterprise in stratum 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 in stratum h included in the sample.

It should be noted that in the last stratum (stratum 7) the reduction factor is $\alpha_h=1$, since all the enterprises in the stratum are surveyed on a census basis ($N_h=n_h$).

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

$$\hat{Y}_q = \sum_{h=1}^7 \sum_{i=1}^{n_h} \alpha_h * y_{qhi}$$

where y_{qhi} is the turnover value for the current quarter q of the i^{th} enterprise in stratum h .

The index is calculated by the chaining method.

First the moving-base index is calculated by comparing the 'estimated' turnover value for the current quarter with the corresponding value for the previous quarter.

The fixed-base index for the two-digit division of economic activity for the current quarter q - where $q \geq 2$ - is thus obtained by multiplying the moving-base index by the fixed-base index for the previous quarter.

The above is the product of the equations:

$$I_{Y_q} = I_{q,q-1} * I_{Y_{q-1}}$$

and

$$I_{q,q-1} = \frac{\hat{Y}_q}{\hat{Y}_{q-1}}$$

where

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

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

$I_{Y_{q-1}}$ 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.

It should be noted that, in calculating the first fixed-base index I_{Y_1} of the base year, that is the index for the first quarter of 2010 ($q=1$), the following equation applies:

$$I_{Y_1} = \frac{\hat{Y}_1}{\hat{Y}_0} * 100$$

where

$\hat{Y}_1$ is the turnover estimate for the first quarter of 2010, and

$\hat{Y}_0$ is the mean quarterly turnover estimate for the year 2010.

That is to say:

$$\hat{Y}_0 = \frac{\sum_{q=1}^4 \hat{Y}_q}{4},$$

where

$\hat{Y}_q$ is the turnover estimate for the quarter q of the year 2010.

If the fixed-base index for the reference quarter is compared with the fixed-base index for the same quarter of the previous year, the percentage changes (+ or –) are calculated and we thus have:

$$\left[\frac{I_{Y_q}^t}{I_{Y_q}^{t-1}} - 1 \right] * 100$$

where

$I_{Y_q}^t, I_{Y_q}^{t-1}$ are the fixed-base indices for the quarter q of the current year t and the previous year t-1, respectively.

The time series of the indices was revised with base year 2010=100,0 by multiplying the indices calculated with base year 2005=100,0 by the following weighting coefficient.

$$\frac{100}{\bar{I}_{05}^{10}}$$

where $\bar{I}$ is the average of the indices of the year 2010 with base year 2005=100.0

20.6 Adjustment

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

21. Comment

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