



HELLENIC REPUBLIC



MINISTRY OF ECONOMY AND FINANCE



**GENERAL SECRETARIAT OF
THE NATIONAL STATISTICAL SERVICE
OF GREECE**

SHORT-TERM STATISTICS

NATIONAL METHODOLOGY

TURNOVER INDICES IN SERVICES (PART)¹

¹ This is part of the STS Sources Update 2007, which was sent to Eurostat.

GREECE

SERVICES TURNOVER (2007)

2.1 Base information

2.1.1 Contact

Organisation

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2.1.2 The Data: coverage, periodicity and timeliness

2.1.2.1 Coverage characteristics

Activities covered

NACE Rev. 1 Divisions 50,51,55,60,61,62,63,64,72,74. These indices are compiled quarterly, as separate indices, and cover Divisions 50 (Motor trade) 51(Wholesale Trade) 55(Hotels and restaurants), 60(Land Transport), 61(Water transport),62(Air transport) 63(The supporting and auxiliary transport activities;activities of travel agencies, 64 (Post and Telecommunications), 72 (Computer and Related Activities) and 74 (Other Business Activities), as defined by the current Eurostat statistical classification, NACE Rev. 1 (Statistical Classification of Economic Activities in the European Community).

The Motor Trades sector (Division 50) covers:

- sale maintenance and repair of motor vehicles,
- motorcycles and related and
- retail sale of automotive fuel.

The Wholesale Trade sector(Division 51)covers:

-wholesale trade and commission trade except of motor vehicles and motorcycles, where it is included the wholesale of agricultural raw materials, live animals, of food beverages and tobacco, of household goods, of machinery equipment and supplies, etc.

The Hotels and restaurants sector(Division 55) covers:

- Hotels
- Camping sites and other provision of short-stay accomodation
- Restaurants
- Bars
- Canteens and catering

The Land transport;transport via pipelines sector (Division 60)covers

- Transport via railways
- Other land transport
- Transport via pipelines

The Water transport sector (Division 61)covers:

- Sea and coastal water transport

The Air transport sector (Division 62) covers:

- Scheduled air transport
- Non- Scheduled air transport

The supporting and auxiliary transport activities;activities of travel agencies sector (Division 63) covers:

- Cargo handling and storage
- Other supporting transport activities
- Activities of travel agencies and tour operators;tourist assistance activities n.e.c
- Activities of other transport agencies

The Post and Telecommunications sector (Division 64) covers:

- Postal activities (including the pick-up, transport and delivery of letters and parcels – whether by the national postal service or by private courier services – and mailbox rental, door-to-door delivery services, etc.).
- Telecommunications (including telephone communication, communication by telex, fax, etc., transmission of radio and television programmes, network maintenance, internet service provision, etc.).

The sector of Computer and Related Activities (Division 72) covers:

- Hardware consultancy.
- Software consultancy and supply.
- Data processing (*including the provision of data, the processing of data employing either the customer's or a proprietary programme, data entry services, Internet hosting, etc.*).
- Database activities (*including the publishing of databases, the publishing of indices, Web search portals, etc.*).
- Maintenance and repair of office, accounting and computing machinery.
- Other computer related activities.

The sector of Other Business Activities (Division 74) covers:

- Legal, accounting, book-keeping and auditing activities.
- Tax consultancy, market research and public opinion polling. Business and management consultancy. Holdings.
- Architectural and engineering activities and related technical consultancy.
- Technical testing and analysis (*including measuring related to cleanness of water or air, measuring of radioactivity, testing activities in the field of food hygiene, testing of calculations for building elements, certification of ships, aircraft and motor vehicles, periodic road-safety testing of motor vehicles, etc.*).
- Advertising (*including creation and realization of advertising campaigns, creation and placing of outdoor advertising, media representation, aerial advertising, distribution of advertising material or samples, etc.*).
- Labour recruitment and provision of personnel.
- Investigation and security activities.
- Industrial cleaning of buildings, means of transportation and other premises.
- Miscellaneous business activities (*including photographic, packaging, secretarial and translation activities, call centre activities, activities of interior decorators, activities of fair, exhibition and congress organizers, etc.*).

Geographical area covered

The aforesaid Services Turnover Indices are now being compiled for the first time in Greece and cover the whole of the country.

Size classes covered

Enterprises with an annual turnover below EUR 30 000 are excluded from the survey for NACE Rev.1 branches 50,64,72,74. For NACE Rev.1 branch 51 enterprises with an annual turnover below EUR 100 000 are excluded from the survey. For NACE Rev.1 branch 55 enterprises with an annual turnover below EUR 75 000 are excluded from the survey. For NACE Rev.1 branch 61 enterprises with an annual turnover below EUR 600 000 are excluded from the survey. For NACE Rev.1 branches 60, 62,63 there is no exclusion all size classes are covered.

Other inclusions or exclusions

None

Reporting unit

Enterprise

Observation unit(s)

Enterprise

Planned changes in the population surveyed

None

2.1.2.2 Periodicity

Data collection is carried out quarterly. The data should be received by the respondents within 20 calendar days after the reference quarter.

2.1.2.3 Timeliness

For NACE branches 50,51,64,72,74 :

- The index is published through a press release 70-75 days after the end of the reference quarter. The data is revised 140-150 days after the end of the reference quarter. Data is provisional when first released. Data become final as soon as all data gathered become definite. More specifically the data released for the most recent quarter is provisional and is published together with revised data of the previous quarter. Quarterly correction is made due to late reporting of respondents. There is a formal revision policy. The data is revised once, simultaneously with the publication of the next quarter. After this revision the data is considered final.

-provisional data is published 70-75 days after the end of the reference quarter,

-revised data is published at t+140-150 days after the end of the reference quarter.

This revision policy is described in footnotes to the relevant tables.

For NACE Branches 55,60,61,62,63 there is no national publication at present. The relative data are only transmitted to Eurostat.

2.1.3 Access by the public

Advance dissemination of release calendar

Release dates are fixed in advance for a calendar year. Precise dates of release are published in a release calendar by NSSG before the end of each year for the forthcoming calendar year.

The calendar is distributed to the press and is available to all interested parties.

This calendar with information on release dates for the whole year is also available on the official website of the NSSG (www.statistics.gr) under the item "Calendar of Press Releases".

Simultaneous release to all interested parties

No users or anyone else outside NSSG have prior access to the data before its general release.

Data is released simultaneously to all interested parties and users by the Turnover Index Telecoms, Computer, Other Business Activities, Motor Trade, Wholesale Trade Press Releases which are released at the official NSSG website (www.statistics.gr) according to the release calendar schedule. These press releases are also available by fax or e-mail to all interested parties. In addition data is transmitted to Eurostat on the pre-announced days of release. According to the release calendar data is transmitted to Eurostat at the same time of national publication.

2.1.4 Integrity

Dissemination of terms and conditions under which official statistics are produced, including confidentiality of individual responses

The National Statistical Service of Greece is a public agency, supervised by the Ministry of Economy and Finance, responsible for the conduct and dissemination of official statistics. Provision has been made in specific articles of the Foundation Law 3627/56 and of the Law 2392/96 so as to assure confidentiality of individual data. These laws govern all individual statistics collected by the NSSG. According to the above laws, individual data is subject to confidentiality and cannot be published or made available to any person or organization.

Principles of methodology as well as data dissemination can be freely determined by the NSSG, taking into account international practices and, in particular, existing Eurostat's recommendations, instructions and norms related to the corresponding statistical item.

Identification of internal government access to data before release

There is no access to data by the government before its release.

Identification of ministerial commentary on the occasion of statistical releases

No ministerial commentary is attached to the released data by the NSSG

Provision of information about revision and advance notice of major changes in methodology

There is a formal revision policy. The indices are revised every five years according to STS requirements. Major changes in methodology of the Services Turnover Indices are provided through a special publication and news releases at the completion of the entire procedure of the revision simultaneously with the first release of the revised data.

The above revision, as it was said, takes place every 5 years accompanying the rebasing of the indices and the readaption of the weighting system. For these major changes in methodology the public is informed in all relevant publications at the time they are introduced.

An advance short notice is given to the public with a special methodological paper, concerning the change of the base year and explaining the sources and the methods used. This information is available on the website of NSSG.

2.1.5 Quality

Dissemination of documentation on methodology and sources used in preparing statistics

A special methodological paper is published containing detailed information on the sources and the methodology used.

Dissemination of information that support statistical cross-checks and provide assurance of reasonableness

No such information is disseminated.

2.1.6 Dissemination

Name of national paper publications

Data is presented in the form of indices and growth rates. The Services Turnover Indices are published in the national paper publication:

— Quarterly Press Release

There are three separate press releases one for NACE Rev.1 branch 64,72,74 one for NACE Rev.1 Branch 50(with separate reference to the specific 3 digits 501, 502,505) and one for NACE Rev.1 branch 51.

For NACE branches 55,60,61,62,63 there is no national publication.

Name of national electronic dissemination

For NACE branches 50,61,64,72,74:

Every quarter 70-75 days after the end of the reference quarter, the Short-term Indicators unit of NSSG draws up a press release on the newly calculated Indices in Greek and English. This is sent free-of-charge and mostly by email to the press and to other interested parties. The indices are available on the official web site of the NSSG (www.statistics.gr).

For NACE branches 55,60,61,62,63 there is no national electronic publication.

Description of standard tables produced

Turnover indices at 2-digit for divisions 50,51,64,72,74. Turnover Indices at 3-digit level for groups 501,502,505.

Data is published in a working day adjusted form.

-Growth rates, period on previous period, and period on the same period of previous year on turnover indices.

For NACE branches 55,60,61,62,63 there is no national publication.

Planned changes in national dissemination methods

None

2.2 Summary methodology

2.2.1 Analytical framework, concepts, definitions and classifications

Type of source

Greece uses direct statistical survey in order to compile the Turnover Indices in Other Services. This statistical survey covers the Groups 50,51,55,60,61,62,63,64,72,74 of NACE Rev 1.

Name of indicator/source

- Turnover Index in Motor Trades (50),
- Turnover Index in Wholesale Trade (51),
- Turnover Indices in Post and Telecommunications (64),
- Turnover in Computer and Related Activities (72)
- Turnover in Other Business Activities (74).

- Turnover Index Hotels and restaurants (55)
- Turnover Index in Land transport (60)
- Turnover Index in Water transport (61)
- Turnover index in Air transport (62)
- Turnover Index in supporting and auxiliary transport activities; activities of travel agencies (63)

Legal basis

1)General NSSG Legislation: Decree 3627/56 and Law 2392/96 governing the organisation of the National Statistical Service of Greece, the obligation of respondents to supply data and the safeguard of the confidentiality of data.

2)Eurostat legislation: The legal basis for the STS indices is Council Regulation No 1165/98 of 19 May 1998 concerning short-term statistics (STS-R) and Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 amending Council Regulation (EC) No 1165/98. The definitions of short-term statistics variables are laid down in Commission Regulation No 588/2001 of 26 March 2001 implementing Council Regulation No 1165/98 of 19 May 1998 and in the Commission Regulation 1503/2006. The derogations of STS-R are laid down in the Commission Regulation 606/2001 and in the Commission Regulation 1502/2006.

Obligation on units to provide data

Law 3627/56 and Law 2392/96. Fines may be imposed on non-respondents but they are not applied in practice.

Date of first use as a source

2005

Year of this report

2007

Register on which the source is based

NSSG Business Register

Planned changes in legal basis, obligation to respond and register used

None

Questionnaires used in the survey

One separate type of precodified questionnaire is used for each one of the NACE Rev.1 Divisions 50,51,55,60,61,62,63,64,72,74.

Planned changes in national questionnaires

The use of web based questionnaires.

List and definition of variables

The Other Services Turnover Indices are business cycle indicators which show the quarterly activity of the services sectors (other than retail trade) in value.

The services turnover indices are indices of the turnover of the enterprise and indicate the performance of the services market.

The purpose of these indices is to measure the market activity of the service divisions under consideration in value terms. Turnover comprises the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties. Turnover also includes all other charges (transport, packaging, etc.) passed on to the customer, even if these charges are listed separately in the invoice.

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 unit.

Reduction in prices, rebates and discounts as well as the value of returned packing must be deducted. 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 is excluded from turnover.

Planned changes in information collected

None

2.2.3 Scope of the data

Activities covered

NACE Rev. 1 Divisions 50,51,55,60,61,62,63,64,72,74. These indices are compiled quarterly, as separate indices, and cover Divisions 50 (Motor trade) 51(Wholesale Trade) 55(Hotels and restaurants), 60(Land Transport), 61(Water transport),62(Air transport) 63(The supporting and auxiliary transport activities;activities of travel agencies, 64 (Post and Telecommunications), 72 (Computer and Related Activities) and 74 (Other Business Activities), as defined by the current Eurostat statistical classification, NACE Rev. 1 (Statistical Classification of Economic Activities in the European Community).

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-wholesale trade and commission trade except of motor vehicles and motorcycles, where it is included the wholesale of agricultural raw materials, live animals, of food beverages and tobacco, of household goods, of machinery equipment and supplies, etc.

The Hotels and restaurants sector (Division 55) covers:

- Hotels
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- Restaurants
- Bars
- Canteens and catering

The Land transport;transport via pipelines sector (Division 60) covers

- Transport via railways
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The Water transport sector (Division 61) covers:

- Sea and coastal water transport

The Air transport sector (Division 62) covers:

- Scheduled air transport
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- Other computer related activities.

The sector of Other Business Activities (Division 74) covers:

- Legal, accounting, book-keeping and auditing activities.
- Tax consultancy, market research and public opinion polling. Business and management consultancy. Holdings.
- Architectural and engineering activities and related technical consultancy.
- Technical testing and analysis (*including measuring related to cleanness of water or air, measuring of radioactivity, testing activities in the field of food hygiene, testing of calculations for building elements, certification of ships, aircraft and motor vehicles, periodic road-safety testing of motor vehicles, etc.*).
- Advertising (*including creation and realization of advertising campaigns, creation and placing of outdoor advertising, media representation, aerial advertising, distribution of advertising material or samples, etc.*).
- Labour recruitment and provision of personnel.
- Investigation and security activities.
- Industrial cleaning of buildings, means of transportation and other premises.
- Miscellaneous business activities (*including photographic, packaging, secretarial and translation activities, call centre activities, activities of interior decorators, activities of fair, exhibition and congress organizers, etc.*).

Geographical area covered

The aforesaid Services Turnover Indices are now being compiled for the first time in Greece and cover the whole of the country.

Size classes covered

Enterprises with an annual turnover below EUR 30 000 are excluded from the survey for NACE Rev.1 branches 50,64,72,74. For NACE Rev.1 branch 51 enterprises with an annual turnover below EUR 100 000 are excluded from the survey. For NACE Rev.1 branch 55 enterprises with an annual turnover below EUR 75 000 are excluded from the survey. For NACE Rev.1 branch 61 enterprises with an annual turnover below EUR 600 000 are excluded from the survey. For NACE Rev.1 branches 60, 62,63 there is no exclusion all size classes are covered.

Other inclusions or exclusions

None

Reporting unit

Enterprise

Observation unit(s)

Enterprise

Planned changes in the population surveyed

None

Nature of the basic data

Data collection media

Postal questionnaires.

Timetable of data collection

Questionnaires are sent to the reporting units at the end of the reference quarter. The deadline for replies is 20 days after the end of the reference quarter. The survey closes and no more replies are treated 140-150 days after the end of the reference quarter.

Sample or census

Sample

Criteria for stratification

Selection of sample of enterprises

The survey for the compilation of the Services Turnover Indices for the aforesaid Divisions 50,51 of the NACE Rev. 1 statistical classification identified a total of 17,448 and 27,942 service enterprises operating in the said divisions 50 and 51 respectively and having an annual turnover equal to or greater than 30,000 euros, for the Division 50 and equal to or greater than 100,000 euros for the Division 51, according to the data in the Register kept by the Ministry of the Economy and Finance (KE.PY.O) for the year 2002.

In addition the survey for the compilation of the Services Turnover Indices for the aforesaid Divisions 64, 72 and 74, of the NACE Rev. 1.1 statistical classification identified a total of 25,572 service enterprises operating in the said divisions and having an annual turnover equal to or greater than 30,000 euros, according to the data in the Register kept by the Ministry of the Economy and Finance (KE.PY.O) for the year 2002.

It was not considered feasible to gather the necessary statistical data from so large a number of enterprises, so a representative sample of 408 enterprises from all parts of the country was selected for 64,72,74 as following: The method employed to select the enterprises for inclusion in the sample to be surveyed was that of single-stage stratified random sampling. In each of the said two-digit divisions of economic activity (Nos 64, 72 and 74) the enterprises covered by the survey were stratified in six turnover brackets according to the magnitude of their annual turnover in 2002.

It should be noted that the enterprises in the highest turnover bracket (6) are surveyed on a census basis. The following table gives a breakdown of the total sample for Divisions 64, 72 and 74 showing the number of enterprises in each class.

Turnover class	Turnover in euros	Number of enterprises in the survey sample for Divisions 64, 72 and 74
1	30,000-499,999	104
2	500,000-1,499,999	29
3	1,500,000-2,999,999	74
4	3,000,000-5,999,999	79
5	6,000,000-14,999,999	63
6	15,000,000 or more	59
		408

A breakdown of the total sample for Divisions 64, 72 and 74, showing the number of enterprises surveyed in each division, is given in the following table.

Division number	Size of the sample surveyed in each two-digit division
64	37
72	48
74	323
Total	408

The following table gives a breakdown of the total sample for Divisions NACE Rev.1 :50
Reporting units are selected according to their turnover of 2002.

	STRATA	REPORTING UNITS
1	30.000-499.999	129
2	500.000-1.499.999	37
3	1.500.000-2.999.999	13
4	3.000.000-5.999.999	8
5	6.000.000-14.999.999	81
6	15.000.000 AND MORE	50
	TOTAL	318

The following table gives a breakdown of the total sample for Division NACE Rev.1: 51
Reporting units are selected according to their turnover of 2002.

Strata (7)	Reporting units
100.000-499.999	49
500.000-1.499.999	55
1.500.000-2.999.999	23
3.000.000-5.999.999	26
6.000.000-14.999.999	54
15.000.000 -99999999	231
100000000 AND MORE	27
TOTAL	465

For Hotels and Restaurants (NACE Division 55) sector the following is applied:

The sampling scheme is the *one-stage stratified sampling*, with surveyed unit the *enterprise* belonging to the sector 55.

The enterprises were selected from the sampling frame that was based on the updated business register of National Statistical Service of Greece. The stratification of the enterprises was carried out on the basis of the following turnover classes, which are defined according to the annual turnover of the enterprises.

Class	Turnover description (amounts in Euros)		
1	75.001	Through	175.000
2	175.001	Through	450.000
3	450.001	Through	1.300.000
4	1.300.001	Through	5.500.000
5	5.500.001	Through	10.000.000
6	10.000.001	Through	Highest

In size classes 1-5, the enterprises were surveyed on a sample basis. The distribution of sampling units in each stratum was conducted by applying the optimal allocation. The enterprises that belong to the 6th turnover class were surveyed exhaustively.

The following table gives a breakdown of the total sample for Division NACE Rev 1:55

Class	Sample Size
1	14
2	13
3	26
4	24
5	33
6	37
Total	137

For Water Transport Sector(NACE Rev.1 Division 61) the following is applied:

The sampling scheme is the *one-stage stratified sampling*, with surveyed unit the *enterprise* belonging to maritime transport sector. (Nace Rev.1 Code 61)

The enterprises were selected from the sampling frame that was based on the updated business register of National Statistical Service of Greece. The stratification of the enterprises was carried out on the basis of the following turnover classes defined according to the annual turnover of the enterprises

Class	Turnover description (amounts in thousands of Euros)		
1	600	Through	1.999,9
2	2.000	Through	4.999,9
3	5.000	Through	9.999,9
4	10.000	Through	Highest

In size classes 1-3, the enterprises were surveyed on a sample basis. The distribution of sampling units in each stratum was conducted by applying the optimal allocation. The enterprises that belong to the 4th turnover class were surveyed exhaustively. The following table gives a breakdown of the total sample size for Division NACE Rev1:61

Class	Sample Size
1	6
2	4
3	2
4	11
Total	23

For NACE Rev.1 Divisions 60,62,63(land transport,air transport,travel agencies) the following is applied:

The sampling scheme is the *one-stage stratified sampling*, with surveyed unit the *enterprise* belonging to the sectors 60,62,63.

The enterprises were selected from the sampling frame that was based on NACE Rev1 codes, 60, 62, 63. The stratification of the enterprises was carried out on the basis of the following turnover classes, which are defined according to the annual turnover of the enterprises.

Class	Turnover description (amounts in Euros)		
1	0	Through	500.000
2	500.001	Through	1.500.000
3	1.500.001	Through	3.000.000
4	3.000.001	Through	6.000.000
5	6.000.001	Through	15.000.000
6	15.000.001	Through	Highest

Additionally,

Code 60: There is one more class (7th) for annual turnover higher than 70.000.000

Code 63: There is one more class (7th) for annual turnover higher than 30.000.000

In size classes 1-5, the enterprises were surveyed on a sample basis. The distribution of sampling units in each stratum was conducted by applying the optimal allocation.

The enterprises that belong to the 6th turnover class were surveyed exhaustively with the exception of codes 60 62 and 63 where only the 7th turnover class was surveyed exhaustively.

The following table gives a breakdown of the total sample size for Divisions of NACE Rev 1:60

Class	Sample Size
1	7
2	5
3	3
4	9
5	18
6	8
7	5
Total	55

The following table gives a breakdown of the total sample for Division NACE Rev 1:62

Class	Sample Size
1	1
2	2
Total	3

The following table gives a breakdown of the total sample for Division NACE Rev1:63

Class	Sample Size
1	13
2	12
3	10
4	13
5	14
6	12
7	6
Total	80

Frequency of updating the sample

Every 5 years simultaneously with the change of the base year

Response rate

The first indicator is compiled 70-75 days after the end of the reference quarter. At that time the response rate is about 75-80%. When the survey is closed (140-150 days after the end of the reference quarter the response rate is about 99%.

Actions to speed up or increase the rate of response

Telephone contacts and field visits.

Frequency of data collection

Quarterly

Planned changes in data collection methodology

None

2.2.5 Compilation practices

Estimates for non-response

Not applicable

Estimates for grossing-up

Not applicable

Confrontation with other data sets

None

Type of index

The indices are calculated as simple chained indices. The Turnover Indices in Other Services are chained indices.

I. Compilation of the indices: For each of the NACE Rev. 1 Divisions 50,51,64,72,74 separate indices are calculated as following:

i. Estimating turnover value

The first step to be taken in compiling the indices is for the enterprises in the sample to estimate 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 index).

The turnover estimate for the current quarter is derived by extrapolation in the population of the relevant data supplied by the enterprises in the sample. This is achieved by multiplying the quarterly turnover value of each enterprise by an appropriate extrapolation factor and then finding the total of the partial products. The above extrapolation factor for each stratum h (crosslinking the class of economic activity and the size class of turnover) is defined as the quotient obtained by dividing the total number of enterprises N_h by the number of enterprises in the sample n_h .

The extrapolation factor a_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

and

n_h is the number of enterprises in stratum h included in the sample.

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

$$\hat{Y}_q = \sum_{h=1}^6 \sum_{i=1}^{n_h} \alpha_h * y_{qhi}$$

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

ii. Reduction of turnover values to a typical quarter

The initial turnover value estimates for the two-digit classes refer to calendar quarters which do not all have the same number of working days, so the indices as initially compiled are not comparable. The quarterly indices for the two-digit classes are made comparable by adjusting the indices to make them into indices of equal duration.

To achieve 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 as it is described below in the calculations part.

iii. Calculating the indices

The Other Services Turnover Indices are calculated by the chaining method.

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

The fixed-base index for each of the two-digit classes of economic activity for the current quarter, q , where $q \geq 2$, is derived by multiplying the moving-base index by the fixed-base index for the previous quarter

The above is the result 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:

$I_{q,q-1}$ 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 quarter, respectively.

It should be noted that, in calculating the first fixed-base index of the base year, that is the index for the first quarter 2005($q=1$), 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 2005, and

\hat{Y}_0 is the estimate of the average quarterly turnover for the year 2005.

The fixed-base index for a kind-of-activity category is calculated as follows:

i. By taking as the numerator and denominator of the equation $I_{q,q-1} = \frac{\hat{Y}_q}{\hat{Y}_{q-1}}$ the

total of the separate turnover values composing the kind-of-activity category under consideration for the current and previous quarter respectively (moving index), and

ii. by multiplying the said moving index for a kind-of-activity category by the same category's fixed-base index for the previous quarter.

If the fixed-base index for a given quarter is compared with the fixed-base index for the same quarter of the previous year, the rates of change (+ or -) are calculated. Thus we have:

$$\left[\frac{I^t_{Yq}}{I^{t-1}_{Yq}} - 1 \right] * 100 ,$$

where:

I^t_{Yq} , I^{t-1}_{Yq} are the fixed-base indices for the quarter q of the current and previous years respectively.

II. Compilation of the indices: For each of the NACE Rev. 1 Divisions 55,60,61,62,63 separate indices are calculated. The estimation of the indices is as follows:

Estimation of the indices

a. Symbols

In each stratum let be:

y_{qhi} : the value of the turnover of the enterprise of order i belonging to the stratum h in the quarter q

N_h : the total number of enterprises belonging to the stratum h

n_h : the number of the respondent enterprises

$\alpha_h = \frac{N_h}{n_h}$: the extrapolation factor

Y_{qh} : the total of the turnover for all enterprises in stratum h for the quarter q

Y_q : the total of the turnover for all enterprises in all strata for the quarter q that is

$$Y_q = \sum_h Y_{qh}$$

b. Estimation of the turnover

The estimation of Y_{qh} and Y_q is given by the following formulas:

$$\hat{Y}_{qh} = \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{qhi} = \alpha_h \sum_{i=1}^{n_h} y_{qhi}$$

$$\hat{Y}_q = \sum_h \hat{Y}_{qh}$$

Calculation of the index

The base year of the index is the year 2005.(2005=100)

The index I_q in one quarter q is calculated as follows:

$$I_q = \frac{\hat{Y}_q}{\hat{Y}_0} * 100,$$

$$\text{where } \hat{Y}_0 = \frac{\sum^q \hat{Y}_{q0}}{4} \text{ and}$$

\hat{Y}_{q0} is the estimated turnover for the quarter q of the base year 2005.

Calculations made

- Greece does not apply any seasonal adjustment method to the collected data.
- Greece applies working day adjustment to the collected data based on the proportional method.

The Input data/series for the working day adjustment are the turnover data collected from the sampled units and the working days of each quarter.

Method used for WDA:Proportional method is used as follows:

At the beginning of each year, NSSG calculates the typical quarter of this year by applying the following procedure:

Let x_t is the sum of the working days at year t

The number of days of the typical quarter of year t is calculated by:

$$\bar{x}_t = \frac{\sum_{q=1}^4 x_{tq}}{4}$$

Using the typical quarter, NSSG calculates the correction factor of each quarter q of year t as follows:

$$C_{tq} = \frac{\bar{x}_t}{x_{tq}} \text{ where :}$$

\bar{x}_t : The quarterly average number of working days of year t

c_{tq} : The correction factor for the quarter q of year t

x_{tq} The number of regular working days of the quarter q of year t

The adjustment of the index of each quarter to typical quarter is done by multiplying the estimated values of turnover of the current quarter q multiplied by the corresponding correction factor C_{tq} .

Base year

The base period used for the above indices, as already mentioned, is the year 2005=100.0, and the indices shall be updated, pursuant to Regulation 1165/98, every five years in years ending in 0 or 5.

The time series of these indices are stated at the two-digit level and cover the period starting in 2005.

Method of weighting

The indices are produced at two-digit level, applying the extrapolation factor in each separate stratum for the estimation of the turnover (extrapolation factor=inverse of probability selection *inverse of response rate). Aggregated indices are not compiled in services so that the weighting is not applied.

In addition to what is said above for the calculation of the Turnover Index in Other Services for branches 50,51 ,64,72,74, the total turnover of each two digit NACE Rev.1 branch the current quarter q is estimated by:

$$\widehat{Y}_q = \sum_{h=1}^6 \sum_{i=1}^{n_h} a_h * y_{qhi}$$

Where

- y_{qhi} : The turnover of the current quarter q of enterprise i which belongs to stratum h
- a_h : The extrapolation factor for the enterprises belonging to stratum h

The a_h is calculated as follows:

$$a_h = \frac{N_h}{n_h},$$

Where:

- N_h : total number of enterprises belonging in stratum h.
- n_h : sample size in stratum h.

Planned changes in production methods

None

2.2.6 Other aspects

Summary description of quality criteria calculated for national purposes

Not available.

Costs of data collection

According the results of the 2006 cost and burden survey it is estimated that there are needed 6826 human hours of work for the permanent staff for the Other Services indices of STS regulation for one year for the NSSG.

Treatment of confidential data

For branches 51,64,72,74 data is published at 2-digit level. Below that level data is considered confidential. For NACE Rev.1 branch 50 data are also published for 501, 502,505. Below that level data is considered confidential.

There is no national publication of data for branches 55,60,61,62,63 at present.

Transmission to Eurostat and further use of the statistics

The data is transmitted to Eurostat by GESMES/CB coding at the time of national publication.

Data is transmitted to Eurostat at the time of national publication, that 70-75 days after the reference quarter, using the GESMES coding system via e-Damis.

The level of detail is as follows:

50,51,55,60,61,62,63,64,72,74 gross data and working day adjusted data.