INFORMATION NOTE

for the revision of the Turnover Indices
for Specific Activities of the Services Sector

Base Year 2015 = 100.0

Piraeus, March 2019

Revision of the Turnover Indices for Specific Activities of the Services Sector

Base Year 2015 = 100.0

General

The Turnover Indices for Specific Activities of the Services Sector are quarterly indices, which were announced in Greece for the first time in 2006, with base year 2005 = 100.0 and the published time-series begins since the first quarter 2000. The index of Division N81 was published for first time in the first quarter 2016 and the published time series begins since the first quarter 2010. The compilation of Turnover Indices for Specific Activities of the Services Sector is based on the requirements of Council Regulation (EC) 1165/98 concerning "Short-Term Statistics", as well as the requirements of Parliament and Council Regulation 1158/05 amending Regulation (EC) Regulation 1165/98.

Revision

The revision of the Turnover Indices for Specific Activities of the Services Sector is done in the framework of implementation of the Council Regulation No 1165/98, according to which the sort-term indices are revised each 5 years, with base year ending in 0 or 5.

Purpose of the Indices-definitions

The Turnover Indices for Specific Activities of the Services Sector are business cycle indices, reflecting the quarterly evolution of the services market. The purpose of these indicators is to measure the activity of the services surveyed in the market, in terms of value based on the measured turnover, which is calculated net of VAT and includes the total amounts invoiced by the enterprise during the reference period (quarter).

The definitions used according to the Commission Regulation (EC) 1503/2006 on the application of Council Regulation (EC) 1165/98 "on short-term statistics" are the following:

Turnover comprises the total amounts invoiced by the observation unit during the reference period, which 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.

According to this definition, the items generally included are:
  ➢ sales of manufactured products,
  ➢ sales of products manufactured by subcontractors,
  ➢ sales of goods purchased for resale in the same condition as received,
  ➢ invoiced services provided,

- ➢ sales of by-products,

- ➢ invoiced charges for packaging and transport,

- ➢ invoiced hours worked to third parties for labour-only subcontracting,

- ➢ invoiced mounting, installations and repairs,

- ➢ invoiced installments (stage payments),

- ➢ invoiced development of software and software licenses,

- ➢ sales of supplied electric power, gas, heat, steam and water,

- ➢ sales of waste and scrap materials,

- ➢ subsidies on products.

Subject to the treatment of income classified as "other operating income, financial income and extraordinary income" in company accounts, the items generally excluded are:

- ➢ VAT and other similar deductible taxes directly linked to turnover all duties and taxes on the goods or services invoiced by the unit,

- ➢ commissions,

- ➢ leases and rentals,

- ➢ leases for own production units and machines if used by third parties,

- ➢ leases of company-owned dwellings,

- ➢ receipts for license-fees,

- ➢ receipts from staff facilities (for example from a factory canteen),

- ➢ the supply of products and services within the observation unit,

- ➢ sales of own land and fixed assets,

- ➢ sales or leases of own properties,

- ➢ sales of shares,

- ➢ interest receipts and dividends,

- ➢ other extraordinary income.

Geographical coverage

The Turnover Indices for Specific Activities of the Services Sector cover the whole country.

Statistical Classification

The statistical classification of economic activities NACE Rev.2 is applied, in accordance with Regulation (EC) 1893/2006 of the Council and the European Parliament.

Coverage of economic activities

The Turnover Indices for Specific Activities of the Services Sector cover the following divisions according to NACE Rev.2:.

- ➢ **H53:** Postal and courier activities. The following 3-digits groups are covered:

  - • 53.1: Postal activities under universal service obligation

- 53.2: Other postal and courier activities

➢ **J58:** Publishing activities. The following 3-digits groups are covered:
- 58.1: Publishing of books, periodicals and other publishing activities
- 58.2: Software publishing

➢ **J61:** Telecommunications. The following 3-digits groups are covered:
- 61.1: Wired telecommunications activities
- 61.2: Wireless telecommunications activities
- 61.3: Satellite telecommunications activities
- 61.9: Other telecommunications activities

➢ **J62**: Computer programming, consultancy and related activities

➢ **J63:** Information service activities. The following 3-digits groups are covered:
- 63.1: Data processing, hosting and related activities; web portals
- 63.9: Other information service activities

➢ **M69:** Legal and accounting activities. The following 3-digits groups are covered:
- 69.1: Legal activities
- 69.2: Accounting, bookkeeping and auditing activities; tax consultancy

➢ **M70.2:** Management consultancy activities. The following 4-digits classes are covered:
- 70.21: Public relations and communication activities
- 70.22: Business and other management consultancy activities

➢ **M71:** Architectural and engineering activities; technical testing and analysis. The following 3-digits groups are covered:
- 71.1: Architectural and engineering activities and related technical consultancy
- 71.2: Technical testing and analysis

➢ **M73:** Advertising and market research. The following 3-digits groups are covered:
- 73.1: Advertising
- 73.2: Market research and public opinion polling

➢ **M74:** Other professional, scientific and technical activities. The following 3-digits groups are covered:
- 74.1: Specialized design activities
- 74.2: Photographic activities
- 74.3: Translation and interpretation activities
- 74.9: Other professional, scientific and technical activities n.e.c.

- **N78:** Employment activities. The following 3-digits groups are covered:
  - 78.1: Activities of employment placement agencies
  - 78.2: Temporary employment agency activities
  - 78.3: Other human resources provision

- **N80:** Security and investigation activities. The following 3-digits groups are covered:
  - 80.1: Private security activities
  - 80.2: Security systems service activities
  - 80.3: Investigation activities

- **N81:** Services to buildings and landscape activities. The following 3-digits groups are covered:
  - 81.1: Combined facilities support activities
  - 81.2: Cleaning activities
  - 81.3: Landscape service activities

  In particular, Turnover Index is compiled and published for 3-digit group 81.2. The following 4-digits classes are covered:
  - 81.21: General cleaning of buildings
  - 81.22: Other building and industrial cleaning activities
  - 81.29: Other cleaning activities

- **N82:** Office administrative, office support and other business support activities. The following 3-digits groups are covered:
  - 82.1: Office administrative and support activities
  - 82.2: Activities of call centers
  - 82.3: Organization of conventions and trade shows
  - 82.9: Business support service activities n.e.c.

Statistical survey

The sampling unit used is the enterprise. The population for the above mentioned divisions of the NACE Rev. 2 statistical classification according to the business register of ELSTAT with reference year 2015 is 12,825 enterprises, according to the Business Registry of ELSTAT. Due to the large number of the population of the enterpsies, a representative sample of 1,076 enterprises was selected, with annual turnover (2015) equal or higher than:
  - 50,000 euro for division M74,
  - 75,000 euro for divisions M69 & M71,
  - 100,000 euro for divisions J63, M70.2, N81 & N81.2

- 300,000 euro for divisions J58, J62, M73, N78 & N82,
- 400,000 euro for division N80,
- 29,500,000 euro for division H53 and
- 315,000,000 euro for division J61.

The total turnover of the above mentioned enterprises exceed 67 – 70 % of the total turnover for each division of the NACE Rev. 2.

Single - stage stratified sampling was used for the selection of the enterprises for the sample. Stratification criteria were applied to the four-digit NACE Rev.2 economic activity class and to the enterprise size class based on its annual turnover.

The tables below show the distribution of the size of the business population and the corresponding sample sizes by the annual turnover of enterprises in the sectors of activity for which the Turnover Indicators in the Services sector are published.

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division J58

Class	Range of class	Size of population	Size of sample
1	300,000 - 574,999	126	17
2	575,000 - 974,999	65	11
3	975,000 - 1,649,999	55	11
4	1,650,000 - 2,724,999	32	10
5	2,725,000 - 4,059,999	29	10
6	4,060,000 - 6,999,999	16	10
7	7,000,000 - 9,999,999	7	7
8	10,000,000 -	11	11
Total		**341**	**87**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division J62

Class	Range of class	Size of population	Size of sample
1	300,000 – 436,999	119	9
2	437,000 – 659,999	112	11
3	660,000 – 964,999	73	7
4	965,000 – 1,414,999	53	8
5	1,415,000 – 2,074,999	43	8
6	2,075,000 – 3,574,999	39	10
7	3,575,000 – 6,257,999	23	6
8	6,258,000 – 19,999,999	27	16
9	20,000,000 -	10	10
Total		**499**	**85**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division J63

Class	Range of class	Size of population	Size of sample
1	100,000 – 164,999	83	10
2	165,000 – 264,999	52	9
3	265,000 – 454,999	39	8
4	455,000 – 774,999	19	7
5	775,000 – 1,2499,99	15	3
6	1,250,000 – 2,499,999	15	4
7	2,500,000 – 4,349,999	13	7
8	4,350,000 -	10	10
	Total	**246**	**58**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division M69

Class	Range of class	Size of population	Size of sample
1	75,000 – 119,999	1,960	51
2	120,000 – 214,999	867	28
3	215,000 – 419,999	379	16
4	420,000 – 869,999	149	8
5	870,000 – 1,559,999	82	8
6	1,560,000 – 3,114,999	37	7
7	3,115,000 – 9,999,999	24	11
8	10,000,000 -	10	10
	Total	**3,508**	**139**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division M70.2

Class	Range of class	Size of population	Size of sample
1	100,000 – 189,999	789	27
2	190,000 – 344,999	486	20
3	345,000 – 634,999	250	13
4	635,000 – 1,119,999	151	10
5	1,120,000 – 1,939,999	72	8
6	1,940,000 – 3,699,999	56	7
7	3,700,000 – 7,759,999	34	8
8	7,760,000 – 19,999,999	21	10
9	20,000,000 -	12	12
	Total	**1,871**	**115**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division M71

Class	Range of class	Size of population	Size of sample
1	75,000 – 107,999	1,449	32
2	108,000 – 179,999	1,135	28
3	180,000 – 319,999	768	23
4	320,000 – 584,999	416	16
5	585,000 – 1,159,999	275	16
6	1,160,000 – 2,639,999	126	15
7	2,640,000 – 9,999,999	71	35
8	10,000,000 -	9	9
	Total	**4,249**	**174**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division M73

Class	Range of class	Size of population	Size of sample
1	300,000 – 544,999	138	10
2	545,000 – 999,999	97	9
3	1,000,000 – 1,649,999	64	8
4	1,650,000 – 2,599,999	37	6
5	2,600,000 – 4,299,999	22	6
6	4,300,000 – 6,799,999	16	7
7	6,800,000 – 9,999,999	16	7
8	10,000,000 – 19,999,999	11	9
9	20,000,000 -	8	8
	Total	**409**	**70**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division M74

Class	Range of class	Size of population	Size of sample
1	50,000 – 93,999	311	17
2	94,000 – 169,999	145	10
3	170,000 – 319,999	90	9
4	320,000 – 629,999	58	13
5	630,000 – 999,999	19	8
6	1,000,000 – 1,559,999	16	7
7	1,560,000 – 2,259,999	10	8
8	2,260,000 -	9	9
	Total	**658**	**81**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division N78

Class	Range of class	Size of population	Size of sample
1	300,000 – 599,999	11	4
2	600,000 – 1,299,999	5	3
3	1,300,000 – 2,699,999	6	5
4	2,700,000 – 5,299,999	7	6
5	5,300,000 – 9,999,999	1	1
6	10,000,000 -	7	7
	Total	**37**	**26**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division N80

Class	Range of class	Size of population	Size of sample
1	400,000 – 609,999	34	6
2	610,000 – 1,019,999	27	4
3	1,020,000 – 1,569,999	23	6
4	1,570,000 – 2,599,999	12	5
5	2,600,000 – 3,659,999	11	4
6	3,660,000 – 4,759,999	6	2
7	4,760,000 – 7,369,999	4	2
8	7,370,000 -	10	10
	Total	**127**	**39**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division N81

Class	Range of class	Size of population	Size of sample
1	100,000 – 157,999	203	15
2	158,000 – 244,999	116	12
3	245,000 – 369,999	81	9
4	370,000 – 634,999	67	10
5	635,000 – 1,019,999	40	10
6	1,020,000 – 1,604,999	34	9
7	1,605,000 – 2,869,999	27	8
8	2,870,000 – 6,999,999	23	12
9	7,000,000 -	11	11
	Total	**602**	**96**

Size distribution of population and size of sample per class of annual turnover (in euro) of enterprises of the Division N82

Class	Range of class	Size of population	Size of sample
1	300,000 – 469,999	70	15
2	470,000 – 709,999	48	12
3	710,000 – 1,174,999	44	12
4	1,175,000 – 2,049,999	39	13
5	2,050,000 – 4,084,999	24	11
6	4,085,000 – 6,664,999	13	8
7	6,665,000 – 12,704,999	13	8
8	12,705,000 -	13	13
Total		**264**	**92**

For Divisions H53 and J61, there is only one size class with threshold 29,500,000 euro and 315,000,000 euro respectively, where all the enterprises are surveyed.

Compilation of the Turnover Indices for Specific Activities of the Services Sector:

The Turnover Indices for Specific Activities of the Services Sector are compiled on the basis of the chain-linking method and are in full compliance with the methods and guidelines stipulated in Eurostat Manual *"Methodology of short – term business statistics- Interpretation and Guidelines, 2006 Edition"*. The source of data is the questionnaires completed by the enterprises, as well as the administrative data.

1. Estimation turnover value

For the compilation of each index that is published, the moving-base index of the current quarter is initially calculated in relation to the previous one, estimating from the data of the enterprises of the sample the turnover value $\widehat{Y}_q$, which is then compared with the corresponding estimate of the previous quarter $\widehat{Y}_{q-1}$.

The turnover estimate for the current quarter is calculated by reduction from the entire set of relevant data provided 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 calculating the total of the partial products. This reduction factor for each turnover stratum h (cross-linking of the division and turnover magnitude for each enterprise) is defined as the quotient obtained by dividing the total number of enterprises N_h, by the number of enterprises in the sample m_h that have responded to the survey.

The reduction factor a_h for each enterprise in the stratum h is given by the formula:

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

where:

N_h is the total number of enterprises in stratum h

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

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

$$\hat{Y}_q = \sum_{h=1}^{h} \sum_{i=1}^{m_h} a_{qhi} * y_{qhi}$$

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

2. Reduction of turnover values to a typical quarter

The first turnover value estimates for the two-digit divisions refers to quarters which do not all have the same number of working days, thus, the compiled indices are not comparable. The quarterly indices for the two-digit divisions are made comparable by appropriate adjustment of the indices to equal duration indices. To this end, the turnover value estimates are multiplied by a special correction factor, which is different for each quarter of the year.

The correction factor is calculated by dividing the mean quarterly number of working days in the year t by the number of full working days in the reference quarter q of the year t, as follows:

$$c = \frac{\bar{x}_t}{x_{tq}}$$

where $\bar{x}_t$ is the mean quarterly number of working days in the year t

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

and x_{tq} is the number of full working days in quarter q of the year t.

3. Indices compilation

Each Turnover Index for Specific Activities in the Services Sector is calculated according to 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 each two-digit division of economic activity for the current quarter q, where q ≥2, is calculated by multiplying the moving-base index by the fixed-base index for the previous quarter.

The following formulas are used:

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

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 with 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.

Backcasting for the period 2000 Q1 – 2018 Q3.

The backdcasting for the quarterly and annual Turnover Indices for Specific Activities of the Services Sector, for the period 2000 Q1– 2018 Q3, was calculated according to the following type:

$$R^{(t)}_{k(2015)} = R^{(t)}_{k(2010)} * b_k$$

where :
$$b_k = \frac{100}{\overline{R}^{(2015)}_{(2010)}}$$

$R^{(t)}_{k(2015)}$: is the individual index of division k in the period (quarter) t with 2015 as base year,

$R^{(t)}_{k(2010)}$: is the individual index of division k in the period (quarter) t with 2005 as base year, and

$\overline{R}^{(2015)}_{(2010)}$: is the average annual index of division k in 2015, with 2005 as base year

Publication of data and References

Turnover Indices for Specific Activities of the Services Sector are announced quarterly, by press release, within a predetermined date, which is available in the ELSTAT press release announcement journal, 75 days after the end of the reporting quarter.

The first announcement after the revision of base year (2015=100.0) concerns the fourth quarter of 2018. The time series of the revised Turnover Indices for Specific Activities of the Services Sector (2015 = 100.0) includes the indices which derive from backcasting (period 2000 Q1 – 2018 Q3) and the indices from 2018 Q4 onwards, which are calculated by the new turnover data and new weights.

More information concerning the compilation methodology of the Turnover Indices for Specific Activities of the Services Sector, as well as back data, is available on the ELSTAT website www.statistics.gr , or directly at the link www.statistics.gr/el/statistics/-/publication/DKT54/-