

ECONOMIC AND SHORT-TERM INDICES DIVISION
Wholesale Prices and Price Indices Section

INFORMATION NOTE ON THE REVISION

**OF SERVICES PRODUCER PRICE INDICES (SPPI) AND THE
COMPILATION OF NEW BRANCHES OF ECONOMICAL ACTIVITY**

Base year 2010 = 100.0

Piraeus, December 2014

Revision of the Services Producer Price Indices and compilation of the price indices in new branches of economic activity

(2010=100.0)

General notes

Services Producer Price Indices (SPPI) are quarterly indices, where the calculation and publishing in its current form for first time in Greece was with base year 2006=100.0, while the recent revision was with base year 2010=100.0.

Producer price indices for services are compiled in compliance with the Council Regulation (EEC) No. 1165/98 “concerning short-term statistics”, as amended and is in force regulation (EEC) No.1158/05 of the European Parliament and of the Council. Moreover, these indices are compiled in compliance with the regulation (EEC) No.1893/2006, as well as by the regulation (EEC) No.451/2008 of the European Parliament and of the Council. The Price indices in new branches of services belong in Group D-“other services” of STS requirements, in accordance with Regulation (EC) of the Council No 1165/98.

Like the other short-term indicators, revision happens every five years and specifically in base year ending in 0 or 5, in accordance with article 11 of regulation 1165/98.

The first compilation and publication of producer price indices for services, in its current form, was with base year 2006 = 100.0, while the recent rebasing exists with base year 2010=100.0.

The methodology of compilation of producer price indices for services is based on the referenced Regulations 1165/98 and 1158/05 of the EU for short-term statistics, as well as in Eurostat's methodological manuals.

Purpose of the indices

The purpose of these indices is to measure the quarterly rates of change in the producer prices of services and to record the prices evolution that reflect the supply and demand conditions in the service markets, for the analysis of the real changes in the economy and in monitoring inflationary pressures.

The Services Producer Price Indices are output price indices for the production of services from domestic producers and show the evolution of prices for the services that are provided to customers which are enterprises or persons that represent enterprises, in other words, they refer to services that are used as intermediate use (Business to Business-B2B), without differing significantly from the overall index (Business to All-B2All). Particularly in the group of indices of: the air transport index and the sea and short sea shipping index (of the new branches of services) have already been compiled as overall index (B2All) and the two indices for postal and courier services and the telecommunication services (of the new branches of services), which are compiled as overall indices (B2All) and as sub-indices for businesses (B2B) and for consumers (B2C).

Particularly important is the usefulness of SPPI, because on the one hand it allows the monitoring of price developments of different groups of services, and secondly, as a deflator, enables the calculation of change in the volume of services to national accounts statistics, after deduction of the price change.

Base period - Compiled indices – Revised indices

As a base period for the compilation and calculation of the revised producer price indices for services, was used the year 2010.

The revised SPPI are compiled with new base year 2010 = 100.0, for the following following activities of sections H, M και N of the statistical classification NACE Rev. 2 of Eurostat at 2-digit, 3-digit and 4-digit level:

- Freight transport services by road and removal services (industry 494)
- Scheduled air transport services (industry 51)
- Warehousing and storage services (industry 5210)
- Cargo handling services (industry 5224)
- Postal and courier services (industry 53)
- Accounting, bookkeeping, auditing and tax consulting services (industry 692)
- Technical testing and analysis services (industry 712)
- Media representation services (industry 7312)
- Market research and public opinion polling services (industry 732)
- Security and investigation services (industry 80)
- Cleaning services (industry 812)

Data in new branches of services are announced with first reference quarter, the 3rd quarter 2014 and retrospectively for the 1st and 2nd quarters of 2014, for the following activities of the H, J, M, N sections:

- Sea and coastal passenger and freight water transport services (industry 50: 501 & 502)
- Total telecommunications services (industry 61)
- Computer programming, consultancy and related services (industry 62)
- Information service on computers and related services (industry 63)
- Legal services (industry 691)
- Management consulting services (industry 702)
- Architectural and engineering services, related technical consulting services (industry 711)
- Services provided by advertising agencies (industry 7311)
- Employment services (industry 78)

Statistical classifications-product selection

From the previous revision of the indices with base year 2006=100.0, the new statistical classification of economic activities by Eurostat, NACE Rev. 2, have been used (in accordance with regulation 1893/2006 of the European Parliament and of the Council), as well as the new product-service classification CPA 2008, (in accordance with regulation 451/2008 of the European Parliament and of the Council).

Criteria for the selection of products and services of CPA 2008, in the 2010=100 revision, were the size of the value within the economic activity, as well as the ability of concentration values for these products over time.

Weighting coefficients sources-Price collection sources

For the compilation of services producer price indices a special statistical survey is conducted, which provide results for the turnover business during the base year 2010 at six-6-digit level of CPA 2008 analysis, from a sample of 517 companies, selected from the year's 2010 business register of ELSTAT. From the results of this survey are derived weights, which are used for the calculation of the indices in the corresponding branches of economic activity of services.

The data are collected from a sample that contains 355 enterprises, while the total number of observations (prices) is approximately 2500. The selection of the enterprises of the sample was done with the application of purposive sampling in a way that: a) to produce the services that were selected and b) their turnover, according to the produced enterprises exceeds the 70% of the total turnover of the corresponding branch of economic activity, according to the data of the structural survey in the services sector.

Price collection - Geographical coverage

The SPPI measure the prices of transactions that reflect the price that the producer receives for services that are sold really to purchasers, including discounts, rebates or other surcharges. The collected prices are the basic prices for services sold. i.e. prices excluding VAT and other similar deductible taxes directly linked to turnover and also excluding all other taxes on products, but including any subsidies on products.

Primarily, the information of collected prices referred to the mid of the quarter, in a quarterly periodicity, so in this way, to ensure the comparison of the average price level of the current period (quarter), compared to the level of prices in the corresponding base period (quarter). The collection of prices is done with personal visits of price-collectors, by phone, by fax or by electronic mail (email).

The coverage of the index refers to all over the country as a whole, as the choice of business-units where prices are collected, done with basic criterion the turnover made by the companies in the year 2010, without taking into consideration where the office of the companies is.

More specific issues

The features of each product-service, which has been selected in the sample for collected prices of the index, are defined and identified fully and precisely (in cases like: kind of research, kind of transport, postal expenses by weight, packaging, destination type, etc), as well as those characteristics associated with the transaction of the service (like: the usual amount, discounts in payment, etc).

In cases where in certain services are not available prices, because of the absence of transactions, the method which consists in "repeating of the last prices", for the period of missing that price is used. When the certain product-service or the variations are no longer representative or when the characteristics that define it has changed or when they are no longer present in transactions, new products-services or their variations are used, replacing the older ones. In those cases, the special method of changing the base prices of substitute products is applied; where for calculation of their prices in the base year is done using price indices of the group to which they belong.

Calculation of the SPPI

The SPPI indices in any industry are calculated using a variation of the Laspeyres formula, as follows:

$$I^{(t)} = \sum_{i=1}^n R_i^{(t)} * w_i$$

where :

$I^{(t)}$, is the general index of the current period (quarter) t , at the highest level of aggregation,

$R_i^{(t)}$, is the total index of grouping level i during the current period (quarter) t ,

$$w_i = \frac{p_i^{(0)} q_i^{(0)}}{\sum_{i=1}^n p_i^{(0)} q_i^{(0)}}, \quad \sum_{i=1}^n w_i = 1$$

w_i = the weighting coefficient of grouping level i ,
(from the turnover of every level i during the base period 0),
 $i = 1, 2, \dots, n$, grouping level
 t = current period (quarter or year)

where: p_i^0 and q_i^0 are the price and quantity of the product-service (of businesses involved in weighting) in the lowest grouping level i in base period 0, respectively,

with: $p_i^0 \times q_i^0$ = the turnover of each subcategory i , in base period 0.

and the: $\sum_{i=1}^n p_i^0 \times q_i^0$ = the turnover in the total level of completion of each subcategory i , in base period 0.

The successive phases of grouping from the lower to the higher level classifications are: products-services, sub-categories (6-digit level), categories (5-digit level), activities or classes (4-digit level), groups (3-digit level), divisions (2-digit level), B2B and B2C indicators, overall index.

It is also possible to have a split of some 6-digit levels in 7-digit levels, due mainly to the destination of services in domestic and external markets.

The total index of each subcategory i , is calculated as weighted mean:

$$R_i^{(t)} = \sum_{j=1}^k w_{ij} R_{ij}^{(t)}, \quad \text{where: } \sum_{j=1}^k w_{ij} = 1,$$

w_{ij} = is the j company's turnover in the subcategory i and $R_{ij}^{(t)}$ is the index of company j in the subcategory i , with $j = 1, 2, \dots, k$, companies.

The calculation of the index $R_{ij}^{(t)}$, is done using the arithmetic mean of the relative prices of the m varieties of each product-service r , in the subcategory i , in j companies.

Then:

$$R_{ij}^{(t)} = \frac{1}{N_r} \sum_{m=1}^{N_r} \left(\frac{p_{rm}^{(t)}}{p_{rm}^{(0)}} * 100 \right),$$

where: N_r , is the number of varieties m (when exist in j companies), of the product-service r , from all sources of price collection, $m=1, 2, 3, \dots, N_r$,

$p_{rm}^{(t)}$, is the number of m variety of the product-service r , the current period t ,

$p_{rm}^{(0)}$, is the price of m variety of the product-service r , in the base period 0.

The calculation of the annual SPPI is done using the arithmetic mean of quarterly SPPI in every sort of industry of NACE Rev. 2.

Announcement of the revised SPPI and transmission of them to Eurostat

The revised services producer price indices with base year 2010=100.0 will be released on 27th of June 2014, with 1st quarter 2014 as first reference quarter, while the announcement of price indices to new branches with base year 2010 = 100.0, will take place on 30th of December 2014 having as reference the 3rd quarter 2014, included in a joint press release together with all the SPPI indices.

The SPPI indices are released quarterly, in accordance with the amending regulation (EEC) No. 1158/05 of the European Parliament and of the Council, 90 days (t+90) after the end of the reference quarter of the data, and then, transmitted to Eurostat in the analysis (industry of NACE Rev. 2 classification) using the GESMES coding system through e-Damis.

Back casting of time series

The back casting calculation of indices is a simple reduction in the base year 2010=100.0, without recalculation of the indices with new weights 2010=100.0.

Backdated calculations for the quarterly SPPI in the period January 2007–December 2013 (and annual since 2006), were calculated using the mean individual annual price index of every product-service in year 2010, according to the following type:

$$R_{i(2010)}^{(t)} = R_{i(2006)}^{(t)} * \frac{100}{\overline{R}_{i(2006)}^{(2010)}}$$

where:

$R_{i(2010)}^{(t)}$: is the individual index of product-service i in the current period (quarter, year) t with 2010 as base year,

$R_{i(2006)}^{(t)}$: is the individual index of product-service i in the current period (quarter, year) t with 2006 as base year and

$\overline{R}_{i(2006)}^{(2010)}$: is the mean individual annual index of product-service i in 2010, with 2006 as base year.

The indices from March 2014_onwards have been calculated with the new data on prices of services and with new weights of the revision 2010=100.

In the following annex, tables with the quarterly revised SPPI for the period 2007-2013 (till 4th quarter of 2013 and the annual since 2006), with base year 2010=100.0 are presented, as well as table with price indices in new branches of services for the 1st and 2nd quarters 2014, with base year 2010 = 100.0.

The methodological issue that includes a set of guidelines for the preparation of short-term statistics is available:

[Methodology of short-term business statistics - Interpretation and Guidelines](#)

While the methodological manual on Services Producers Price Indices (SPPI) by Eurostat, is available:

[Services producer price index \(2010\)](#)

Tables 1: Evolution of Services Producer Price Indices (SPPI), 2006-2013

Base year: 2010=100.0

Nace Rev. 2 code	Services categories	2006	2007				
		Annual Average	Q1	Q2	Q3	Q4	Annual Average
494	Freight transport services by road and removal services	93.7	97.6	97.6	97.6	97.6	97.6
51	Air transport services	104.0	97.4	103.8	104.4	99.0	101.2
5210	Warehousing and storage services	92.4	95.2	95.2	95.2	95.2	95.2
5224	Cargo handling services	94.5	94.7	96.5	96.5	96.5	96.0
53	Postal and courier services	88.2	89.5	89.6	89.8	92.1	90.2
531	Postal services under universal service obligation	87.1	88.8	88.8	88.8	92.0	89.6
532	Other postal and courier services	90.0	90.6	91.0	91.4	92.2	91.3
692	Accounting, bookkeeping, auditing and tax consulting services	89.0	91.3	91.3	91.3	91.3	91.3
712	Technical testing and analysis services	87.3	100.4	100.4	97.7	97.1	98.9
7312	Media representation services	91.5	90.1	87.6	77.2	100.7	88.9
732	Market research and public opinion services	92.2	95.7	95.7	95.7	96.0	95.8
80	Security and investigation services	82.5	88.3	88.5	88.5	88.9	88.5
812	Cleaning services	93.0	95.5	95.9	96.3	96.1	95.9

Base year: 2010=100.0

Nace Rev. 2 code	Services categories	2008					2009				
		Q1	Q2	Q3	Q4	Annual Average	Q1	Q2	Q3	Q4	Annual Average
494	Freight transport services by road and removal services	99.5	102.2	104.8	104.5	102.7	104.5	102.7	102.7	102.7	103.1
51	Air transport services	97.0	102.2	107.4	101.9	102.1	95.4	95.5	96.6	95.5	95.8
5210	Warehousing and storage services	101.2	101.2	101.2	101.2	101.2	104.0	104.2	104.5	104.5	104.3
5224	Cargo handling services	100.8	100.8	100.8	100.8	100.8	100.9	100.9	100.1	100.1	100.5
53	Postal and courier services	93.1	93.9	96.5	96.7	95.0	96.3	96.1	96.4	97.8	96.6
531	Postal services under universal service obligation	92.6	93.2	96.7	97.1	94.9	97.1	97.1	97.1	98.9	97.5
532	Other postal and courier services	94.1	95.1	96.1	96.0	95.3	94.9	94.5	95.3	95.9	95.2
692	Accounting, bookkeeping, auditing and tax consulting services	96.1	96.1	96.1	96.1	96.1	98.3	98.3	98.3	98.3	98.3
712	Technical testing and analysis services	98.4	98.4	98.4	98.4	98.4	98.4	100.2	100.2	100.7	99.9
7312	Media representation services	94.6	105.3	86.0	104.4	97.6	90.8	95.7	87.5	106.4	95.1
732	Market research and public opinion services	99.8	99.8	99.8	99.8	99.8	100.6	100.6	100.6	100.0	100.4
80	Security and investigation services	91.4	91.6	92.0	93.0	92.0	95.8	96.4	97.3	97.3	96.7
812	Cleaning services	98.3	98.4	98.6	98.6	98.5	98.7	98.9	99.8	100.0	99.4

Base year: 2010=100.0

Nace Rev. 2 code	Services categories	2010					2011				
		Q1	Q2	Q3	Q4	Annual Average	Q1	Q2	Q3	Q4	Annual Average
494	Freight transport services by road and removal services	99.9	100.0	100.0	100.0	100.0	99.0	99.0	99.0	99.0	99.0
51	Air transport services	91.6	97.5	103.7	107.2	100.0	106.6	111.2	114.0	114.6	111.6
5210	Warehousing and storage services	99.9	100.0	100.0	100.0	100.0	98.8	98.8	98.8	98.8	98.8
5224	Cargo handling services	100.3	100.0	100.1	99.6	100.0	99.9	100.1	100.1	99.8	100.0
53	Postal and courier services	99.3	100.3	100.2	100.3	100.0	103.8	104.8	104.8	104.8	104.6
531	Postal services under universal service obligation	100.0	100.0	100.0	100.0	100.0	104.5	105.5	105.5	105.5	105.3
532	Other postal and courier services	98.0	100.8	100.5	100.7	100.0	102.7	103.6	103.6	103.5	103.3
692	Accounting, bookkeeping, auditing and tax consulting services	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
712	Technical testing and analysis services	100.9	100.0	99.6	99.6	100.0	100.2	100.2	100.3	100.3	100.2
7312	Media representation services	92.8	105.1	90.7	111.5	100.0	101.6	105.3	90.2	108.7	101.5
732	Market research and public opinion services	99.9	99.9	100.3	100.0	100.0	94.6	94.6	94.6	94.5	94.6
80	Security and investigation services	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.4	100.4	100.2
812	Cleaning services	100.0	100.0	100.0	100.0	100.0	100.0	100.4	100.4	100.4	100.3

Base year: 2010=100.0

Nace Rev. 2 code	Services categories	2012					2013				
		Q1	Q2	Q3	Q4	Annual Average	Q1	Q2	Q3	Q4	Annual Average
494	Freight transport services by road and removal services	94.5	94.7	95.0	94.6	94.7	93.7	93.7	93.6	93.6	93.7
51	Air transport services	111.4	111.0	115.6	107.4	111.3	107.3	119.7	133.4	114.9	118.8
5210	Warehousing and storage services	93.8	93.8	93.8	93.8	93.8	90.8	90.8	90.9	91.8	91.1
5224	Cargo handling services	104.7	105.2	105.2	104.6	105.0	104.6	104.6	104.8	104.5	104.6
53	Postal and courier services	104.3	105.9	106.1	106.3	105.7	106.5	106.3	111.7	112.0	109.1
531	Postal services under universal service obligation	105.5	107.8	108.4	108.4	107.6	108.4	108.4	117.2	117.2	112.8
532	Other postal and courier services	102.3	102.7	102.1	102.6	102.4	103.1	102.8	102.4	103.1	102.9
692	Accounting, bookkeeping, auditing and tax consulting services	96.5	96.6	95.9	95.6	96.1	92.7	95.9	96.1	95.9	95.1
712	Technical testing and analysis services	100.3	100.2	101.0	100.5	100.5	100.4	101.1	100.9	101.8	101.1
7312	Media representation services	101.2	99.9	85.3	100.7	96.8	99.7	104.2	90.5	107.3	100.4
732	Market research and public opinion services	89.6	88.9	88.1	84.3	87.7	83.1	82.3	82.2	82.1	82.4
80	Security and investigation services	100.4	101.0	102.3	102.3	101.5	102.6	102.6	103.1	103.1	102.9
812	Cleaning services	100.4	100.6	100.6	97.9	99.9	97.5	98.6	98.5	97.8	98.1

Table 2 : Services Producer Price Indices in new branches in 1st and 2nd quarters 2014

Base year: 2010=100.0

Codes Nace Rev.2	Services categories	A-14	B-14
50 (501_502)	Sea and coastal passenger and freight water transport services	128.2	135.8
61	Total telecommunications services	100.0	99.2
61(01)	Telecommunications services for Business	100.0	97.7
62	Computer programming, consultancy and related services	82.3	82.3
63	Information service on computers and related services	83.3	83.3
691	Legal services	101.9	101.6
702	Management consulting services	111.5	99.8
(69_702)	Legal, accounting and management consultancy activities	104.7	99.8
711	Architectural and engineering services, related technical consulting services	85.1	84.1
71 (711_712)	Architectural and engineering services; technical testing and analysis services	90.2	89.4
7311	Services provided by advertising agencies	121.6	121.6
73 (731_732)	Advertising and market research	117.5	118.3
78	Employment services	106.0	103.9