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Statistics in focus
103/2008

Service producer price indices (SPPIs): a new European economic indicator

Services are an important part of European economies and contribute substantially to economic output. Until recently there were almost no short-term business statistics (STS) on service activities for the EU as a whole: turnover indices have only been published for a few years for most services activities.

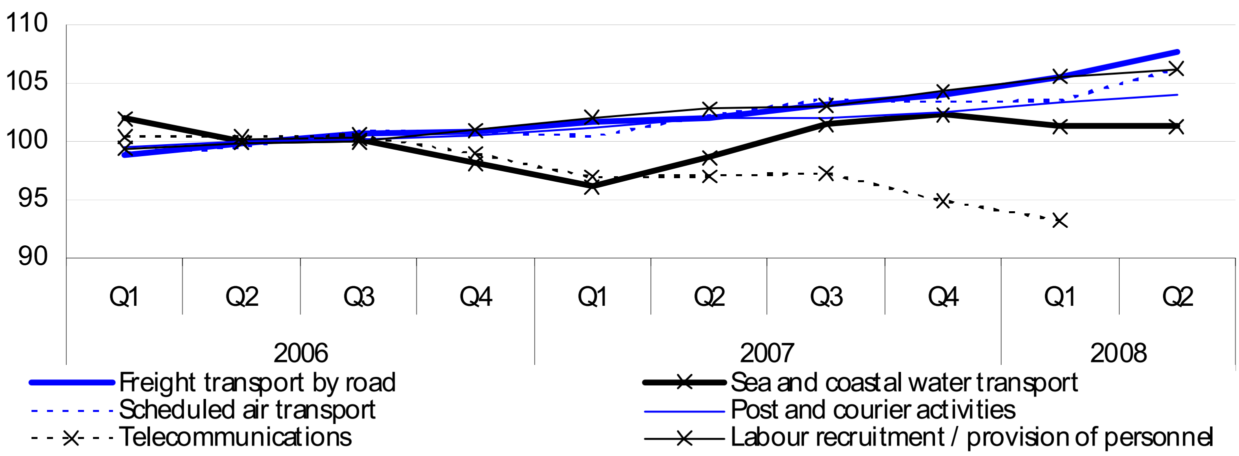
Regulation 1158/2005 of the European Parliament and the Council amended the original STS Regulation and introduced a requirement for producer price indices for a selection of service activities (SPPIs); the SPPI is one of the Principal European Economic Indicators (PEEI) along with the industrial production index for example. These activities were ones that were identified as being probably the most related to the business cycle and for which users, notably policy makers, the European Central Bank and national accountants, felt the greatest need. The services included transport and communications activities, as well as computer services and other services to business: a selection of the available data is presented in this publication.

Under the 2005 amendment of the STS Regulation, the first quarter of 2006 was the first reference period for which SPPIs were required, although many Member States had derogations to start providing data later than this. At the present time, SPPIs for the EU-27 are available for the six activities shown in Figure 1 (for a sufficient number of countries to calculate European totals), while availability for other activities will gradually improve in the course of 2009.

For most of the activities shown, the increase of SPPIs since the beginning of 2006 has followed a relatively regular, stable, upward trend. Telecommunications services showed the opposite movement, with a relatively regular, downward trend bringing to mind the very similar decline seen over many years for the industrial PPI of telecommunications equipment manufacturing.

Sea and coastal water transport, which is mainly international or inter-continental trade, displays a unique development among the available services PPIs: the level of this price index dropped from the beginning of the series through to the first quarter of 2007 after which it rose and then stabilised.

Figure 1: SPPIs, gross, EU-27 (2006=100) (1)



(1) Includes estimates and provisional data.

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Transport services

For freight transport, regardless of whether it is by road or water, prices generally vary according to the nature and weight/volume of the goods, distance/destination, the use of separate or joint cargoes, speed to destination, the inclusion of additional services, the type of customer and in recent past the oil price.

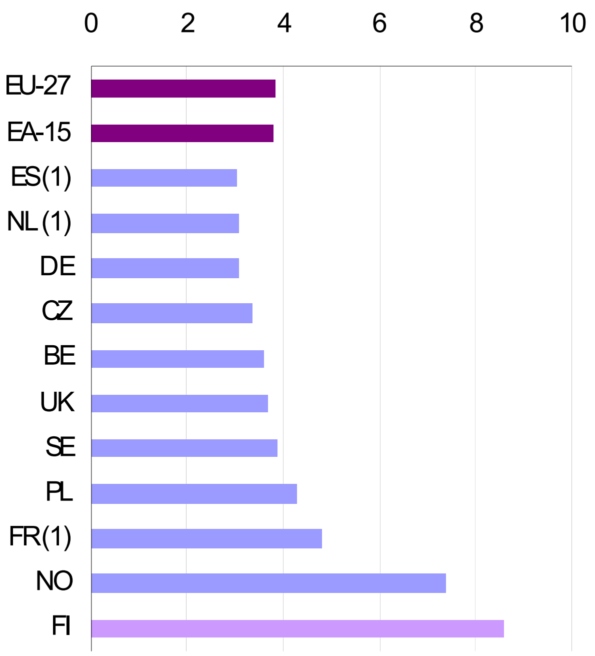
Freight transport by road is the largest component of the freight transport industry, and is essentially a service provided to business customers, with households generally only significant in niche markets such as furniture removal services. Traditionally, the activity provides the transportation of a wide variety of goods from source to destination. Road freight transport includes general as well as specialist haulage, nationally and internationally, with the main distinctions being the type of products transported, and whether or not the work is a spot contract (one-off) or a regular (repeat) contract. Some transporters offer broader logistics services, going beyond the physical transport of goods, providing supply chain management.

Since the beginning of 2006 the road freight transport SPPI increased on average by 3.8 % per annum within the EU, with Finland and France recording the highest average rates of change.

Sea and costal water transport is distinguished from inland water transport. Freight transport is generally the main focus of an output price index for sea and costal water transport, though for some countries passenger transport can also be significant. Sea and coastal water transport is mainly important for countries with a maritime situation or with large inter-continental trade activity, and is particularly important for islands with large external trade flows. Freight may be containerised, bulk, or roll-on/roll-off, the latter normally on road freight vehicles. Shipping services may be line or tramp (no fixed schedule or route) shipping – however, the inclusion of tramp shipping in a price index is difficult because of the problems to identify comparable services over time. Most freight water transport is international, although this may not be the case for countries with long coastlines and relatively underdeveloped land transport infrastructure.

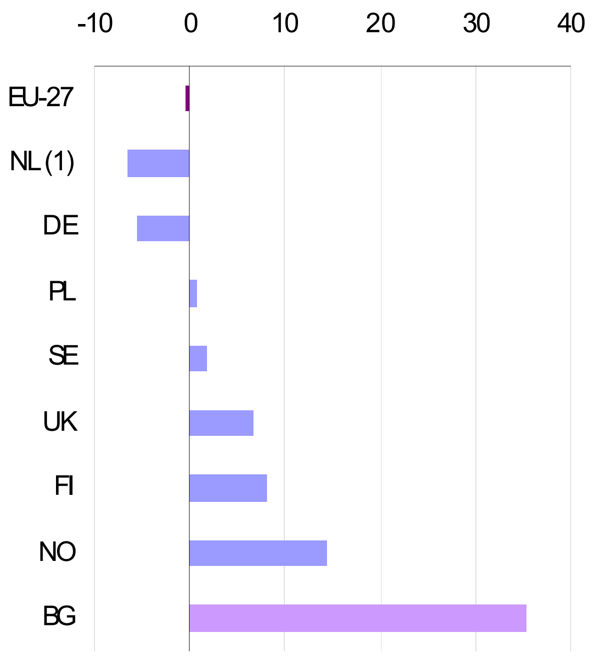
The EU-27's SPPI for sea and coastal water transport fell most quarters from 2006 to the first quarter of 2007 but rebounded through to the end of 2007. More moderate movements in the first half of 2008 left the overall change in the index since 2006 close to 0. The Netherlands and Germany both recorded a fall in the index, while Bulgaria averaged increases of 35 % per annum.

Figure 2: SPPI, freight transport by road (NACE Class 60.24), annual average change Q1-2006 to Q2-2008 (%)



(1) Including provisional data.

Figure 3: SPPI, sea and coastal water transport (NACE Group 61.1), annual average change Q1-2006 to Q2-2008 (%)



(1) Q1-2006 to Q4-2007.

Unlike the road and water transport activities presented above, the air transport SPPI is mainly focused on passenger rather than freight (including air mail) transport. Air transport can be split between scheduled and non-scheduled (including charter) services, as well as space transport (including satellite launches). The information given in Figure 4 focuses on scheduled air transport.

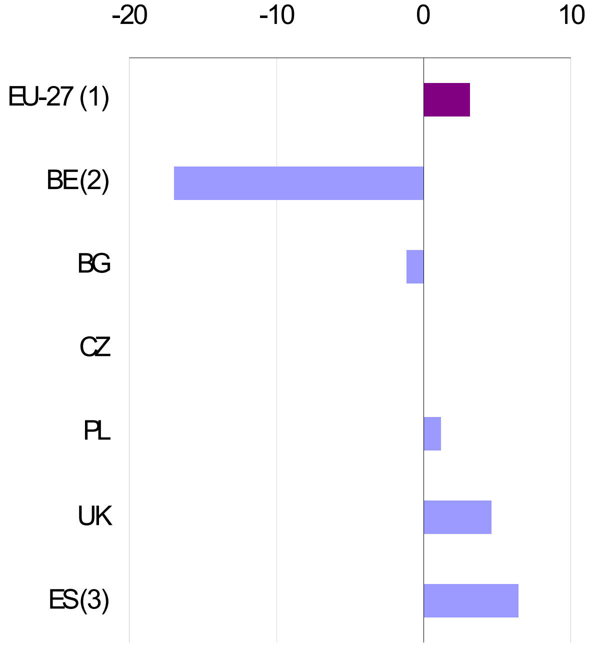
Scheduled air transport has traditionally been dominated by a small number of large enterprises, although in recent years a relatively large number of new entrants have appeared, with only a few of these managing to develop a large market share. The small number of enterprises means that national data may often be confidential.

One of the difficulties for compiling an air transport SPPI is to distinguish the type of client, to be able to separate business customers from households (travelling for leisure); an approximation may be possible from the type of fare. One other issue is to ensure that the service that is being priced remains constant, as changes in conditions (such as reduced baggage allowances, or exclusion of complimentary drinks/meals) should not impact the price index.

The air transport index for the EU grew by an annual average 3.2 % between the beginning of 2006 and the middle of 2008.Spain and the United Kingdom recorded larger average increases.

Figure 5 shows the current price turnover index for the whole of air and water transport alongside the SPPIs for sea and coastal transport and scheduled air transport.

Figure 4: SPPI, scheduled air transport (NACE Group 62.1), annual average change Q1-2006 to Q2-2008 (%)



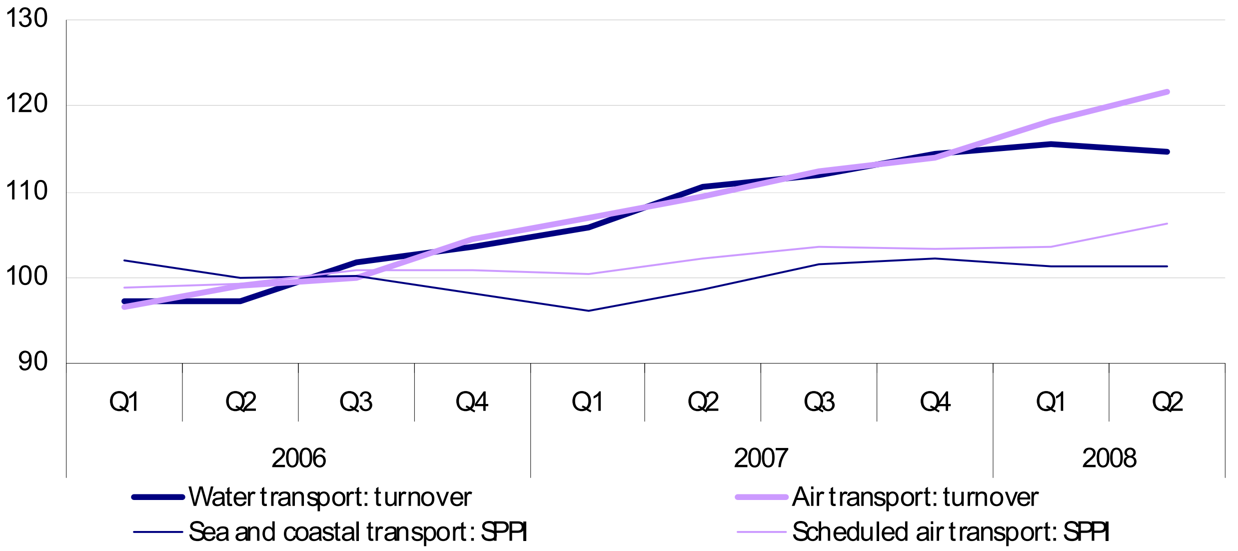
(1) Including provisional Spanish data.

(2) Break in series - data before 2008 are estimates.

(3) Latest periods provisional.

Although the activity coverage of the turnover indices is wider than that for the SPPI, the turnover indices increase considerably faster than the SPPIs, suggesting that price increases play only a relatively small role in the turnover increase over the period observed.

Figure 5: SPPI and turnover index, transport activities, EU-27 (2006=100) (1)



(1) Including provisional data; turnover indices rescaled from 2000=100.

Communication services: post and telecommunications

Postal and courier activities include national post services as well as other activities involving the collection and delivery of letters, documents and parcels. Courier activities generally involve many competitors, whether for local, national or international deliveries, while national post activities have traditionally been supplied by monopoly service providers though this situation has changed in many Member States through the liberalisation of the postal market. Nevertheless, the dominant or monopoly position of one supplier in national post services results in confidentiality issues for most business statistics in this area, including the communications SPPI. Business customers dominate the demand for postal services, particularly for courier activities, however the demand from households is also significant.

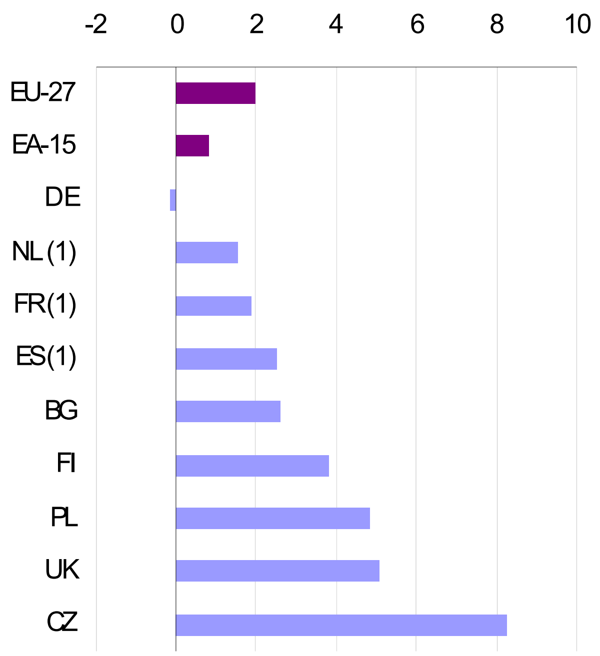
As for freight transport, prices for these activities generally vary according to the nature (letters, documents, parcels, valuable goods), weight and destination of the goods, as well as reflecting extra services (insurance, for example); the speed of delivery, usually guaranteed, is often a crucial factor in determining the quality of the service.

The telecommunications activity poses particular difficulties for developing a SPPI because of the relatively fast development of new products, as well as the integration of telecommunication services and other products, particularly computer and audio-visual services. Many divisions of telecommunications services can be considered, with fixed-line and mobile telephony as two clear components, as well as inter-telecommunications services connecting different networks.

Within different markets, various pricing methods can be used, based on a combination of fixed charges such as one-off connection fees or regular line rental charges, and variable charges linked to actual consumption, for example for different types of phone calls or for messaging. It is common for packages (bundles) of services to be sold with various combinations of charges determined in relation to the level of consumption; different packages are designed for different types of users.

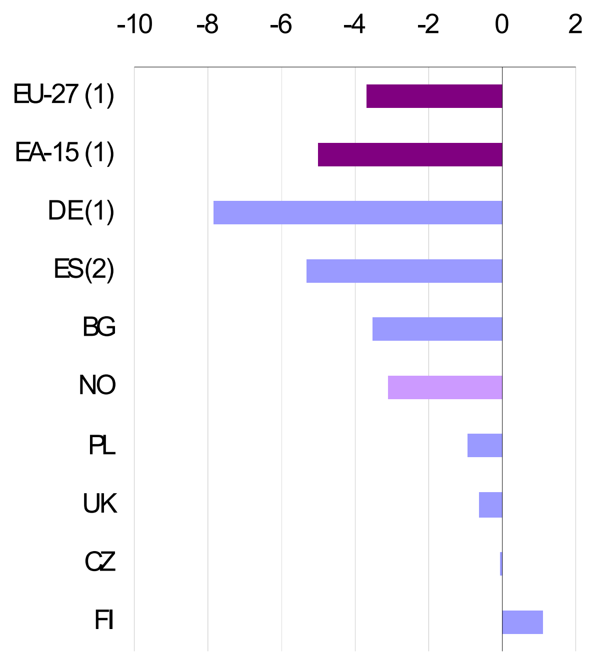
For many telecommunications services business and household customers can be distinguished, with specific bundles of services offered to these different users.

Figure 6: SPPI, postal and courier activities (NACE Group 64.1), annual average change Q1-2006 to Q2-2008 (%)



(1) Including provisional data.

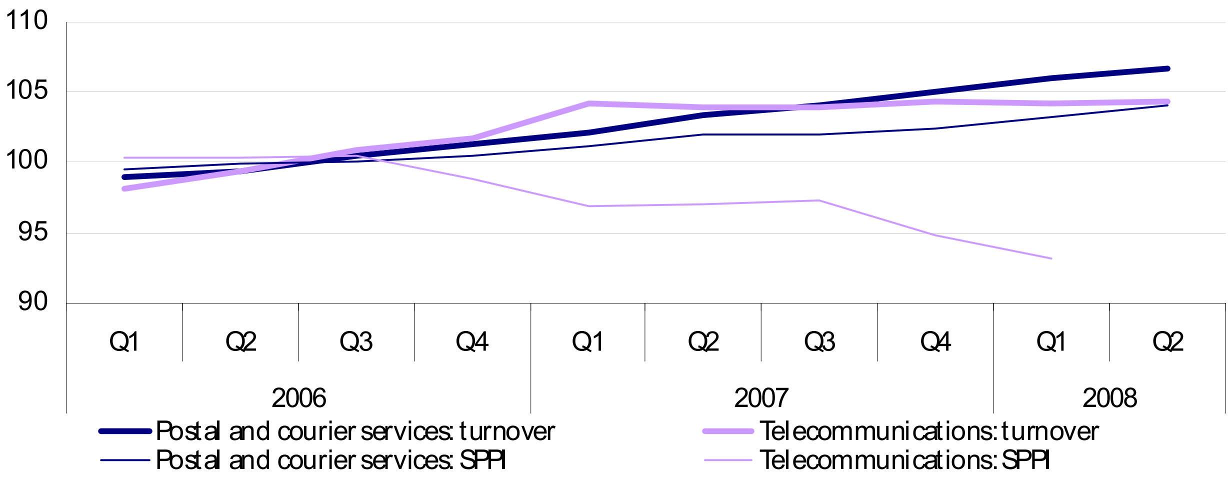
Figure 7: SPPI, telecommunications (NACE Group 64.2), annual average change Q1-2006 to Q2-2008 (%)



(1) Q1-2006 to Q1-2008.

(2) Including provisional data.

Figure 8: SPPI and turnover index, communications activities, EU-27 (2006=100) (1)



(1) Including provisional data; turnover indices rescaled from 2000=100.

Figure 8 shows the turnover and SPPI development for the two types of communications: postal and courier activities; and telecommunications.

The increase in the SPPI for postal and courier activities (2.0 % over the last 2.5 years) was only slightly lower than the increase for this activity's turnover (3.4 %), indicating that a large part of the turnover growth recorded for postal and courier activities was due to price increases rather than an actual increase in the volume of sales. Figure 6 shows that, among the countries with available data, price increases for postal and courier activities were widespread, with only Germany showing a (slight) fall in the SPPI.

In contrast, the telecommunications SPPI shows a downward trend. Among the countries presented in Figure 7, only Finland recorded an increase in prices over this period. Despite this trend of falling prices, the telecommunications sector recorded growth in turnover during 2006 and stability during 2007 and the first half of 2008.

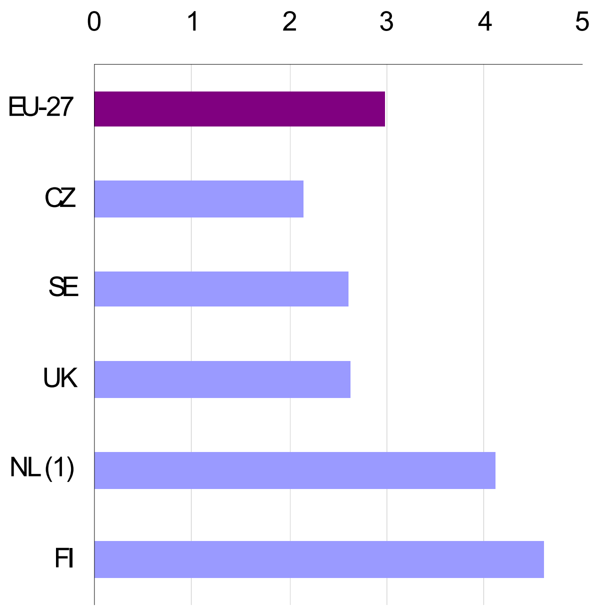
Business services: labour recruitment and provision of personnel services

This activity is mainly made up of two distinct parts. Labour recruitment services relate to the search for and selection of candidates, and may include drawing up job descriptions and assessments of candidates. The provision of personnel consists of all forms of personnel supply including supply of temporary personnel by employment agencies.

For recruitment services, the price paid may be a fixed fee, may be based on a percentage of the wage or salary of the person recruited, or may be based on costs plus a margin. The price for the provision of personnel is the price paid by the client, including effectively the salary paid by the employment agency to the person made available to work for the client. For the provision of personnel the main price criteria are the qualification/ occupation of the personnel to be supplied, the sector to which the personnel is supplied (these may overlap), the duration of the placement, and the type of customer.

The increase in the SPPI for labour services (3 % over the last 2.5 years for the EU-27) varies slightly at the national level, from a minimum of 2.1 % in the Czech Republic to a maximum of 4.6 % in Finland.

Figure 9: SPPI, labour recruitment & provision of personnel (NACE Group 74.5), annual average change Q1-2006 to Q2-2008 (%)



(1) Q1-2006 to Q1-2008; including provisional data.

Computer and related activities

Prices of computer services are particularly difficult to measure on a comparable basis over time because they are often quite complicated and tailored to the specific needs of individual customers. Furthermore, computer services, like many other hi-tech activities, exhibit rapid change. One solution to some of these difficulties is to determine the price of a service based on the average hourly rate charged to customers for work done by developers, consultants or in support of queries. Hourly rates need to be measured for different categories of workers based on skills and level of experience in order to approximate a constant level of service quality. Nevertheless, such indices, which approximate an output price with a measure of labour input cost, can display an upward bias in times of increasing productivity unless they are suitably adjusted.

During the first half of 2008, the computer and related activities SPPI showed an increase for all countries with available data. At the detailed level the situation varied more between Member States and activities.

Table 1: Computer and related activities (NACE Division 72), SPPI

	Index (2006=100)						Rate of change relative to previous quarter (%)					
	2007 Q1	Q2	Q3	Q4	2008 Q1	Q2	2007 Q1	Q2	Q3	Q4	2008 Q1	Q2
BE	101.2	101.5	103.2	103.1	103.4	103.4	1.3	0.3	1.6	-0.1	0.3	0.0
CZ	101.9	102.9	103.1	103.1	105.2	107.5	1.4	1.0	0.2	0.0	2.0	2.2
ES	102.4	102.8	102.6	103.1	105.0	105.2	:	0.5	-0.2	0.5	1.9	0.2
MT	100.4	100.5	100.7	100.7	:	:	0.5	0.1	0.2	0.0	:	:
NL	102.8	104.5	104.4	:	:	:	1.1	1.7	-0.1	:	:	:
FI	101.5	101.7	102.4	103.5	105.6	105.7	1.4	0.1	0.7	1.1	2.0	0.0
SE	100.9	100.8	101.0	103.5	104.0	104.5	1.2	-0.2	0.2	2.4	0.6	0.4

(1) Spain and the Netherlands, latest data provisional.

Table 2: Computer and related activities, SPPI, selected Member States

	Index (2006=100)						Rate of change relative to previous quarter (%)					
	2007 Q1	Q2	Q3	Q4	2008 Q1	Q2	2007 Q1	Q2	Q3	Q4	2008 Q1	Q2
Hardware consultancy												
CZ	:	:	:	:	:	:	:	:	:	:	:	:
ES	100.0	100.8	100.3	100.6	102.5	104.2	:	0.8	-0.5	0.3	1.9	1.6
FR	100.9	101.2	101.8	102.4	101.6	102.2	0.2	0.3	0.5	0.6	-0.7	0.5
Software consultancy and supply												
CZ	102.3	103.6	103.8	103.8	106.3	108.7	1.7	1.2	0.2	0.0	2.4	2.3
ES	102.4	102.8	102.5	102.8	104.8	104.5	:	0.4	-0.3	0.3	1.9	-0.3
FR	100.3	100.6	100.9	101.2	100.7	102.0	0.3	0.3	0.2	0.3	-0.4	1.2
Data processing												
CZ	100.0	100.0	100.0	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
ES	102.2	103.0	102.9	103.8	107.6	110.6	:	0.8	-0.2	0.9	3.7	2.8
FR	99.4	100.4	100.3	100.9	99.3	99.1	-0.9	1.1	-0.1	0.5	-1.6	-0.1
Data base activities												
CZ	:	:	:	:	:	:	:	:	:	:	:	:
ES	102.0	105.3	102.5	107.8	108.1	110.3	:	3.2	-2.6	5.2	0.3	2.1
FR	100.4	100.6	100.4	101.4	103.2	102.9	-0.4	0.2	-0.2	1.0	1.8	-0.3
Maintenance and repair of office, accounting and computing machinery												
CZ	100.9	101.5	101.5	101.5	104.1	106.5	0.8	0.6	0.0	0.0	2.5	2.3
ES	103.0	102.9	104.3	105.2	103.8	105.2	:	0.0	1.3	0.8	-1.3	1.4
FR	100.7	101.2	101.4	100.3	99.6	99.6	1.1	0.5	0.2	-1.1	-0.6	0.0

(1) Spain and France, latest data provisional; SPPIs at the level of detail shown in this Table are only required from larger Member States, based on their share in turnover for computer and related activities.

METHODOLOGICAL NOTES

Source and legal basis

The data presented in this publication comes from Eurostat's short-term business statistics (STS). STS give information on a range of indicators for most activities within the non-financial business economy. The legal basis is Council Regulation No 1165/98 of 19 May 1998 concerning short-term statistics (STS-R) ([1]) amended by Regulation (EC) No 1158/2005 of the European Parliament and of the Council of 6 July 2005 ([2]). The Regulation (EC) No 1502/2006 set up derogations granted to Member States, which give until August 2008, 2009 or 2010 to some countries to deliver the data. However some countries are late and do not comply with all of the SPPI requirements.

Definitions

The definitions of short-term statistics variables are laid down in Commission Regulation (EC) No 1503/2006 of 28 September 2006 ([3]).

It is the objective of the **price index** to measure the development of transaction prices of economic activities. It is essential that all price-determining characteristics of the products are taken into account. The specification must be such that in subsequent reference periods, the observation unit is able uniquely to identify the product and to provide the appropriate price per unit.

For services the following specific points apply.

— Output prices for services show the price development for services delivered to customers that are enterprises or persons representing enterprises, referred to as B2B (business to business) prices - for some activities where sales to households are also significant a B2All price index is also of interest.

— The appropriate price measure is the transaction price. The price should take into account any discounts, rebates, surcharges, etc. that may apply. Taxes on products should be excluded from prices whereas subsidies on products received by the producer, if there are any, should be added.

The price should be recorded at the date of delivery of the service. If the service delivery spans over several time periods, appropriate adjustments have to be made.

More information on SPPIs is available from the *Methodological guide for developing producer price indices for services* (Eurostat product code KS-BG-06-003).

The objective of the services **turnover index** is to show the evolution of the market. Turnover corresponds to market sales of services supplied to third parties. It includes all duties and taxes on the services invoiced by the unit with the exception of the VAT invoiced by the unit vis-à-vis its customer and other similar deductible taxes directly linked to turnover. The turnover index is compiled in current prices, and so reflects volume and price changes.

Classification

The classification of activities used in this publication is NACE Rev. 1.1.

Decomposition - forms of indices

The basic form of an index is its gross (also known as unadjusted) form. To facilitate analysis this may be adjusted in a number of ways. The turnover indices in this publication have been adjusted to account for seasonal effects. Seasonal adjustment aims to take account of the impact of the known seasonal factors observed in the past. If the national statistical office providing the data does the seasonal adjustment, these series are used. If no seasonally adjusted series are supplied, Eurostat perform the seasonal adjustment.

Presentation of indices

The SPPIs are presented with an average of 2006=100; for comparison purposes, the turnover indices in this publication have been rescaled from their normal presentation of 2000=100.

Geographical codes

EU-27	European Union of 27 Member States
EA-15	Euro area of 15 Member States
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DE	Germany
ES	Spain
FR	France
MT	Malta
NL	Netherlands
PL	Poland
FI	Finland
SE	Sweden
UK	United Kingdom
NO	Norway

Abbreviations and symbols

NACE	Statistical classification of economic activities in the European Community
PPI	producer price index
SPPI	service producer price index
STS	Short-term statistics
:	not available (in tables)

For more information:

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([1]) Official Journal No L 162, of 5 June 1998.

([2]) Official Journal No L 191, of 22 July 2005.

([3]) Official Journal No L 291, of 12 October 2006.

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Manuscript completed on: 13.11.200824.10.2008
Data extracted on: 24.10.2008
ISSN 1977-0316
Catalogue number: KS-SF-08-103-EN-N