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Main characteristics
of the Services Prices Index
(IPS), base 2010

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MAIN FEATURES OF THE SSPI, BASE 2010

Background

Council Regulation (EC) No. 1165/98 regarding short-term statistics sets out a common production framework for community statistics for all European Community Member States and for a set of short-term indicators for industry, construction and services, in order to analyse the evolution of the economic cycle.

One of the rules included in this regulation sets out that member states undertake to change the base of their short-term indicators every five years. In order to fulfil this community requirement, since the first quarter of 2013 the Services Prices Index in base 2010 has been implemented

Operating a base change consists, essentially, of reviewing and updating each methodological element, as well as procedures for calculating the SSPI and determining the best options for attaining representative and accurate indicators that adapt to economic trends.

Until the coming into force of base 2010, the SSPI based its calculation on what is called a fixed-base system (with the exception of *Telecommunications* and *Advertising and market studies activities)*, whose main characteristic is that, both the composition of the shopping basket and its weightings are unaltered for the entire time that the base is used.

With the SSPI base 2010, there begins a new calculation system based on chain-linking indices, whose most important features are their dynamism and current nature. It is a more current SSPI, given that it permanently revises its methodological system, for the purpose of improving it. To this end, direct contact is established with the different academic forums and national and international producing bodies.

It is also a more dynamic SSPI than its predecessors in that it revises the weightings annually for certain functional breakdown levels, and includes in the shortest possible timeframe any change detected in the industrial sector, whether it be the appearance of new products, changes in productive activity or in the sample of establishments.

I. General methodology

I.1 BASE PERIOD OR INDEX REFERENCE PERIOD

The **base period** for the SSPI, for which the arithmetic average of the monthly indices is equal to 100, is the **year 2010**.

I.2   REFERENCE PERIOD OF THE PRICES

The reference period of the prices is the period with whose prices compare with current prices, in other words, the period chosen for calculating simple indices.

With the fixed-base Laspeyres formula (used in systems prior to 2006) this period coincided with the base period. Nevertheless, with the chain-linked Laspeyres calculation formula, used since base 2010 was implemented, the reference period of the prices varies each year.

In the SSPI base 2010, the **reference period of the prices** is the **last quarter of the year immediately prior**.

I.3   REFERENCE PERIOD OF THE WEIGHTING STRUCTURE

Is the period to which the weightings used as the System's structure refer.

The weighting structure for base 2010 is compiled by taking information from the Industrial Companies Survey, referring to year 2010, which provides information regarding turnover by branch of activity and product, and for some activities, by product, and of the SSPI. This structure was subsequently updated to the year 2012, using SSPI information.

Thus, the **reference period of the weightings** will be the last quarter of 2012, during the first year, and **the last quarter of the year immediately prior** in subsequent ones, since weightings will be updated annually, using the latest information available from the Annual Services Survey and the SSPI.

I.4   INDEX POPULATION OR REFERENCE STRATUM

This is the population group whose income structure is used as a base for selecting representative services and calculation of the weightings for these.

In the SSPI 2010, the reference stratum for the index includes all **companies** that **provide services** both in the **domestic market** and in the **foreign market**, whose main activity pertains to one of the sectors covered in the regulation.

I.5   CLASSIFICATION USED

The classifications used in the SSPI are the National Classification of Economic Activities for 2009 (CNAE-2009) for the branches of activity and the Classification of Products by Activities (CPA) for products.

I.6 BREAKDOWN OF THE INDICES

In the SSPI base 2010, indices are calculated at different functional breakdown levels for Spain. The majority of activities are published on a division (2 digits CNAE-09) or group level (3 digits CNAE-09), as covered in the regulation.

I.7 GENERAL CALCULATION FORMULA

Until the coming into force of base 2010, the SSPI based its calculation on what is called a fixed-base Laspeyres type index, with the exception of *Telecommunications* and *Advertising and market studies*. The main advantage of an index of this type is that it enables comparing the same structure of products and weightings throughout the time that the base is in effect; however, there is also the drawback that the weighting structure loses relevance as time elapses and productive activity changes.

The SSPI, base 2010, will use the **chain-linked Laspeyres** formula, which consists of referring the prices from the current period to the prices from the year immediately prior. Moreover, each year the weightings will be updated for the branches with information taken from the Annual Services Survey and other sources.

Basically, the calculation process is the same as for a Laspeyres: weighted averages are calculated for indices of articles that make up each one of the functional groups for which indices are obtained. They are compared with those calculated the previous quarter. In this case the weightings used do not stay fixed during the period the system is in force.

Use of the chain-linked indices formula avoids the self-weighting of the branches of SSPI via the level of the indices, in other words, the branches will not gain/lose weight in the basket as their indices reach greater/lesser magnitudes.

On the other hand, annual updating of weightings has the following advantages:

- The SSPI adapts to changes in the activities sector in a very short period of time;

- The appearance of new products may be detected, as may the disappearance of ones considered to be of little significance, as well as changes in production activity or in the sample of respondent units for inclusion in the SSPI for the following year, where this occurs, whereas in previous bases it was necessary to await the base change in order to incorporate these changes.

Another important new feature in the new base is the used of the **geometric mean** for calculating average prices of products included in the basket, which are involved in compiling the monthly index.

II. Sample selection

One of the most important aspects of the base change process is the updating of the sample. Therefore a complete study is conducted into service activities covered by the SSPI, basket of products, weightings and the sample of respondent units, in order to update the structure thereof and improve representation.

As a result of this sample update, in the SSPI base 2010, approximately 6,800 prices are collected each quarter, for 197 products, in a sample of approximately 800 companies.

II.2 SELECTION OF PRODUCTS AND COMPANIES

For each activity, units forming part of the sample are selected in such a way that between 60% and 70% of turnover for said activity is covered.

Information for selecting units is obtained from the Annual Services Survey, referring to year 2010.

II.3 OBTAINING OF WEIGHTINGS

The weighting structure of the SSPI, base 2010, has two fundamental sources of information:

- Annual Services Survey, which provides data regarding turnover of services companies, by branch of activity, and by certain activities, regarding turnover by product.

- The actual survey, which provides information regarding the distribution of turnover of the company among the services it provides.

As of the first one, companies that form part of the sample are selected for each activity, and the weight of each company is calculated within the branch.

Subsequently, taking the information on regarding the distribution of turnover of the company among the services provided, requested from each company in the SSPI questionnaire, turnover is distributed among said services, in order to obtain product weightings.

The weightings structure is calculated using the data from the Annual Services Survey referring to the year 2010 (base year) and the distribution of turnover of the company among the products for the year 2012.

Moreover, since the SSPI base 2010 uses the calculation formula for chain-linked indices, this structure must be updated to the year 2012, for which information has been used regarding price evolution, provided by the actual SSPI.

As has already been mentioned, the weight or importance of the aggregates making up this indicator will be updated annually, which will make it possible to adapt the indicator to changes occurring in the services sector activities.

II.5 DETERMINING THE NUMBER OF OBSERVATIONS

The number of observations for each product is determined by the sub-varieties reported by companies.

Each company is asked to submit information regarding the price of sub-varieties of services most sold.

Thus, in base 2010, prices of approximately 6,800 varieties are collected.

III. Linked series

The implementation of any system of price indices implies a break in the continuity of the series, and more so when, in addition to changing the composition of the representative products and their corresponding weightings, a change occurs in the calculation methodology used to compile the indices, as in the case of the SSPI, base 2010.

For the purpose of having continued series available, at least for certain breakdown levels, and which enable calculating variation rates between different periods, and allowing users to perform studies and predictions relating to price evolution, the INE has prepared a link, and publishes the indices in base 2010, as of the first quarter of 2007, in order to thus provide the continuity of the information published until now.

It is important to highlight that, as the new SSPI has taken the year 2010 as its base, the series have been recalculated in the new base, using the new calculation formula and the new weightings, as of the first quarter of 2010. Therefore, the variation rates of the SSPI, base 2010, for the years 2010, 2011 and 2012, will be different from those calculated using the indices in base 2006.

Using this base, the indices are published to three decimal points, and the variation rates to one decimal point, though they are calculated with all of the decimal points available in the index.

The data will be final one year following its first publication