Spanish National Accounts 2000 Base

Mobile base for prices and chain-linked volume measurements (*Chain-linking Methodology)*

Implementation of a new price adjustment method

The Spanish National Accounts, 2000 base (SNA-2000) introduce a relevant change as regards the presentation of annual and quarterly accounts, concerning the measurement of the growth of the accounting aggregates in real terms, or to be more precise, in volume In the SNA-2000, growth does not refer to a fixed base year, as occurred in the 1995 base and in previous years used in Spanish National Accounts, but instead refers to the previous year (mobile base). Consequently, each period's growth is linked to those of the previous accounting years, thereby forming a time series of chain-linked volume measures, which will be presented as index numbers *(chain-linked index).*

As of 2005, European Union Member States will progressively implement this modification in their annual and quarterly accounts, in compliance with Commission Decision 98/715[1]. This methodology has already been implemented in the US, Canada, Australia and Japan, and will therefore allow the complete comparability of European results and those of these other economies.

The essential reason for this methodological modification is that it allows the continuous updating of the structures of the different supply and demand aggregates that compose the GDP. Consequently, the measurement of the growth of said aggregates is as reliable and precise as possible.

Methodology using a mobile base for prices with chain-linked indices

The SNA 1995 Base and accounts prior to this year performed the measurement of the evolution in volume of an aggregate between two moments in time, t-1 and t, by valuing the aggregate in both periods with the price levels for one same year (constant prices), which usually coincided with the national accounts' base year. Consequently, this procedure eliminated the component price of the value of the different aggregates in both periods (t-1 and t) and the resulting comparison offered the growth estimate in real terms or in volume.

The drawback of this method is that the structure of the base year becomes progressively less relevant over time, and therefore in a dynamic price scenario, the values of the macro-magnitudes for the base year lose their relevance very quickly.

[1] This Decision only governs the case of annual accounts. There is no legal requirement establishing the implementation of this technique in quarterly accounts, although to maintain consistency, all European Union Member States will adopt this methodology both in annual and quarterly accounts.

The use of the methodology supporting chain-linked volume measurement means that the estimate of growth in volume of an aggregate between t-1 and t will be performed by valuing said aggregate using the price levels for t-1 (mobile base). Consequently, the price structures will be completely updated in each accounting year, thus providing a more precise growth estimate This estimate will constitute the link of a chain which -after repeating the same procedure for all the years will determine a time series in the form of *chain-linked index numbers*[2].

Mobile base and quarterly accounts

As regards quarterly accounts, the estimate of volume chain-linked indices is substantially more complicated. In principle, estimating the links follows the same procedure as the annual case, but chaining-linking all the information without losing the coherence between the annual and quarterly data is more complicated. There are three different techniques that can be used to perform this operation. The Quarterly Spanish National Accounts has selected the process known as annual overlap*2*, which takes average values for the four quarters of the previous year as references for the quarterly estimates in volume.

Pros and cons of the new method

As aforementioned, the most important advantage of the methodology used to deflate national accounts at prices from the previous year is the fact that it facilitates obtaining more updated and specific, and therefore more reliable, aggregated growth estimates.

It is important for users to be aware of the main drawback of the methodology. Specifically, this refers to the *additivity* of the data, which can only be guaranteed for estimates for periods t-1 and t. Therefore, the estimates for the GDP aggregate for periods t-2, t-3 and previous years, for example, do not coincide with the addition of the estimates of the aggregates that compose said GDP from the supply and demand perspective. Likewise, spatial additivity is not fulfilled in said periods, and therefore the sum of the EU Member States' GDP will not add up to the same amount as the EU's GDP, published by EUROSTAT, in t-2 and previous periods. Non-additivity appears solely due to the strict technical application of the *chain-linking* methodology. Consequently, discrepancies should not be interpreted as indications of lack of quality in the results.

[2] The in-depth analysis of the main characteristics of the implementation of the methodology in the Spanish National Accounts, 2000 Base, appears in specific documents: *Chain-linked indices in Spanish National Accounts* and *Chain-linked indices in Quarterly National Accounts* which are both available on the INE web site.

A more detailed explanation of the characteristics of this methodology and its effects can be found in the document *Introduction to chain-linked volume measurements in Spanish National Accounts,* available on the INE website.

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