

Annex I. Calculation of aggregate indices

With the formula for calculating the base year 2021 SSPI (chain-linked Laspeyres), the indices referring to the *fourth quarter of the year (t-1)* start from a value equal to 100 in the last quarter of that year. Given that it is necessary to give continuity to the SSPI series published, the indices must be chained to obtain other indices that give continuity to those already published in previous periods.

Thus, the chained index (the one that will be published) in quarter *m* of year *t*, in base year 2021, is obtained by multiplying the index of the *fourth quarter of (t-1)*, in base year 2021, by the index of quarter *m* of year *t* referring to the *fourth quarter of (t-1)*, divided by 100:

$${}_{21}I_{i}^{mt} = {}_{21}I_{i}^{4T(t-1)} * \left(\frac{{}_{4T(t-1)}I_{i}^{mt}}{100} \right)$$

The chained indices are not additive, in other words, from the published indices it is not possible to calculate the indices of the functional aggregations. These aggregations are calculated using the indices referring to the fourth quarter of the previous year (the non-chained ones), which are additive.

The steps to obtain the index in base year 2021 of an aggregate *A*, from the published indices, in base year 2021, of its *A1* and *A2* components, are described below:

1. The indices referring to the fourth quarter of the previous year must be obtained for each *A1* and *A2* component. This is done by dividing the published index of quarter *m* of year *t*, by the published index of the fourth quarter of the previous year:

$${}_{4T(t-1)}I_i^{mt} = \left(\frac{{}_{21}I_i^{mt}}{{}_{21}I_i^{4T(t-1)}} \right) * 100 \quad i = A1 \text{ y } A2$$

2. The indices obtained in the previous step are aggregated using the weightings in force in the reference period of the index (*m,t*). In this way, the index of aggregate *A* is obtained, referenced to the fourth quarter of (*t-1*):

$${}_{4T(t-1)}I_A^{mt} = \frac{{}_{4T(t-1)}I_1^{mt} \times {}_{4T(t-1)}W_1 + {}_{4T(t-1)}I_2^{mt} \times {}_{4T(t-1)}W_2}{{}_{4T(t-1)}W_1 + {}_{4T(t-1)}W_2}$$

3. The index in base year 2021 of aggregate *A* is calculated as the product of the published index of the fourth quarter of the previous year by the ratio of the aggregate index obtained in step 2 to 100:

$${}_{21}I_A^{mt} = {}_{21}I_A^{4T(t-1)} * \left(\frac{{}_{4T(t-1)}I_A^{mt}}{100} \right)$$