

Methodological changes to the calculation of the volume production in construction index

From the 3rd March 2023 release, the construction output index has undergone two important changes, firstly in the data involved in the computation of the indices, and secondly in the classification used.

The use of DSN as data source

The construction output index is now calculated using data on hourly volume from nominative social declarations (DSN) – a monthly administrative survey in which employers report, for each of their employees, the time worked and the wages paid – instead of the monthly production surveys in the building and public works sector (EMBTP). An experiment was conducted over several years to validate the switch to this new source. The series have been backcast to January 1990, with the use of the DSN source since 2019 (not available or not robust enough for this purpose before).

The switch to NAF rev. 2 classification

In line with the new European regulation on business statistics (EBS), the classification used for the construction production index is now NAF rev.2, in line with other economic series such as the industrial production index. Until then, the former European regulation on short-term statistics was based on a specific classification, by type of construction (CC). The new series by division (F41, F42, F43) start in 2005. The series on total construction (raw, SWDA, WDA) remain available from 1990 (date unchanged).

Backcasting

The calculation of stabilized data on construction from the DSN and in the new classification can only be done from January 2019. It is therefore necessary to carry out a backcasting procedure in the new classification on the past (divisions 41/42/43, the aggregation on the total construction being carried out from these divisions).

Backcasting is performed at the NAF divisional level. First, the old series calculated from the EMBTP surveys are converted into the new classification. To do this, a matrix structure is used that links the two classifications. It is calculated from individual data available for the year 2019 in both classifications. For each month of the year 2019, a matrix is obtained for the transition between the old and the new classification. The infra-annual seasonality of the structural distribution of the construction sector is thus taking into account. From these matrices, the volumes of hours worked from the old classification are distributed to the new and the indices are recalculated.

After this step, to take into account the seasonality discrepancies, backcasting before 2019 using the EMBTP indexes is done with the year-to-year shifts of the old series, not the monthly changes. At the elementary levels, the formula is for each month $m \leq \text{December 2018}$

$$I_m^{DSN} = I_{m+12}^{DSN} \times \frac{I_m^{EMBTP}}{I_{m+12}^{EMBTP}}$$

Revisions

Two main factors may cause revisions to the construction production index:

- (i) the change in the source data over the 2019-2022 period;
- (ii) adapting the raw profile of the series before 2019 to the seasonal profile resulting from the use of the DSN source.

Indeed, the backcasting process implies a substantial revision of the raw data for the past, due to the different seasonal nature of DSN and EMBTP. This revision is essential in order to maintain homogeneity over the entire period: keeping old raw profiles alongside the current ones would have led to a statistical break that is not relevant from an economic point of view. It would also have made the management of breaks in the SA-WDA series more delicate. These revisions do not, however, call into question the main features of sub-annual seasonality.

However, revisions to the SA-WDA series before 2019 are marginal, as the revisions to the annual averages before 2009 (raw or WDA). The chart below shows the profile of the new construction production index series ("nouvelle" curve) compared to the old series ("ancienne" curve). For years 2021 and 2022, the series calculated from the DSN source is more dynamic. This is mainly due to a better inclusion of business creations and an almost exhaustive coverage of small companies. For large enterprises, the two sources give similar results.

