18.5 Data compilation

The revised Indices of Turnover in Industry (2015=100.0) refers to Greece total and are calculated using an equivalent form of the Laspeyres formula.

The method and the procedure of the calculation of the indices are described here. The Turnover Index in Industry, as regards Domestic Market, Eurozone Countries and Non-Eurozone Countries, is calculated initially at the four-digit level of economic activity and subsequently, with the implementation of appropriate weighting coefficients, the index is calculated at higher levels (three-level, two-level and one-level of economic activity) or at the level of Main Industrial Groupings (MIGs).

More specifically, in order to compile the index at the four-digit level k, for each of the above mentioned markets m, the value of turnover of all the surveyed enterprises, for the month t, in the market m, is computed and compared to the average monthly value of turnover of the base year (2015=100.0), as follows:

$$I_{k,m,t} = \frac{y_{k,m,t}}{\bar{y}_{k,m,0}}$$

where:

- $I_{k,m,t}$: the index at the four-digit level k for market m, during the month t.

- $y_{k,m,t}$: the monthly turnover of all the surveyed enterprises at the four-digit level k during the month t, in the market m,

- $\bar{y}_{k,m,0}$: the average monthly turnover value of all the surveyed enterprises at the four-digit level during the base year (2015), in the market m.

The aggregated Turnover Indices in Industry for the Non-Domestic Market (Eurozone and Non-Eurozone countries) and for the Total Market (Domestic and Non-domestic market), at the four-digit level k, are defined from the aggregation of the elementary indices of m markets, as follows:

$$I_{kt} = \sum_{m=1}^{2} w_{k,m} I_{k,m,t}$$

where:

- I_{kt} : the index at the four-digit level k during the month t, for Non-Domestic Market.

- $w_{k,m}$: the weighting coefficient of m market (m=1 Eurozone market and m=2 Non-Eurozone market) at the four-digit level k.

The composite Index of the Total Market (General Index) is calculated on the basis of the above formula as a combination of the previous index (Non-Domestic Market Index) and the Domestic Market Index.

The indices for each four-digit level are converted to <u>typical month</u> indices I'_{kt} where typical month is the month

adjusted, according to the number of working days. The adjustement is made by multiplying the indices of four-digit level I_{kt} with appropriate weighting coefficient (α_t) calculated as follows:

$$\alpha_t = \frac{\bar{x}}{x_t}$$

where:

$\bar{x}$: the average monthly number of working days of current year,

x_t : the number of working days in month t.

These **weighting coefficients** are reviewed annually.

At higher levels (three-level, two-level, categories, etc), for all markets, the unadjusted (I_t) and adjusted (I'_t) for working days index for the month *t* are compiled as follows:

$$I_t = \sum_k w_k I_{kt}$$

$$I'_t = \sum_k w_k I'_{kt}$$

where:

$$w_k = \frac{Y_{k,0}}{\sum_k Y_{k,0}} \qquad \text{(weighting coefficient of the four-digit level k)}$$

- $Y_{k,0}$: the annual turnover value of all the enterprises of the four-digit level, in the base year 2015=100.0, according to the results of the Annual Industrial Survey, the Annual Mining-Quarrying Survey, the Annual External Trade Survey for the year 2015,

- $\sum_k Y_{k,0}$: the annual turnover value of all the four-digit levels k which compose the level for which the index is being compiled (three-digit, two-digit, one-digit level) for the year 2015.

Backcasting of time series

The backcasted monthly and annual indices of sections for the period January 2000 - December 2014, are calculated on the basis of the average annual indices of sections in 2015, according to the formula:

$$R_{k(2015)}^{(t)} = R_{k(2010)}^{(t)} \cdot b_\kappa$$

where:

$$b_\kappa = \frac{100}{\overline{R}_{\kappa(2010)}^{(2015)}}$$

$R_{k(2015)}^{(t)}$: the index of the section k during the current period (month, year) t with base year 2015,

$R_{k(2010)}^{(t)}$: the index of the section k during the current period (month, year) t with base year 2010 and

$\overline{R}_{k(2010)}^{(2015)}$: the average annual index of the section k in the year 2015 with the base year 2010.

Indices from 2015 onwards have been calculated using the new weights and new turnover data.

More information about the methodology concerning the compilation and the calculation of the index is available on the website of ELSTAT, and more specifically, in the methodological note of the index,
http://www.statistics.gr/en/statistics/-/publication/DKT24/-.

18.5.1 Imputation - rate
The percentage of the data that are imputed is about 5%.