

Monthly turnover indices in section 'Wholesale and retail trade; repair of motor vehicles and motorcycles'

1. Purpose and economic importance

The turnover index is a main indicator for valuation of the current situation and short-term trends in the development of the section 'Wholesale and retail trade; repair of motor vehicles and motorcycles'. The index follows the dynamics in the supply and demand of goods and commercial services, also records the influence of the ongoing economic processes in the country.

The indices reflect the short-term changes in the turnover between two compared periods. These are generally the reported month, referred to the preceding or to the same month of the previous year, but the data series give a possibility to be compared each randomly selected period from the row to any other.

The information is up-to-date and is purposed for the management authorities of all levels, international organizations, business representatives and other interested bodies and could be used for economic analyses, assessments and short-term forecasts.

2. Indicator definition and information sources

The turnover includes a value of the net receipts from sales (of products, goods and services) invoiced during the reported period, including accrued excises and the receipts from sold raw materials and materials. In this is not included the value of the receipts, classified as financial or extraordinary, as well as the sales revenue of own Fixed assets. In the turnover value are not included the accrued taxes of Value Added Tax (VAT) type, which are at final user expense.

The necessary data for indicators calculation are collected monthly by a form 'Main short-term indicators', which is sent to the National Statistical Institute (NSI) structures for processing.

3. Survey coverage, model and volume of the sample

The Population for the section 'Wholesale and retail trade; repair of motor vehicles and motorcycles' includes all enterprises, classified in section G of NACE.BG 2008 - about 140 000, which have submitted an annual report (compiling and non-compiling balance sheets) for the last reported year. From it are excluded the enterprises with an annual turnover below BGN 10 000 is produced the so-called Target population, which is a base for generation of the sample and for calculation of the indicators. This is appropriate, as the excluded enterprises cover over 40% from the enterprises in the Population, but only about 1% from the realized turnover. The sample contains 5400 enterprises, which form about 65% of the turnover and up to 6% of a number of the enterprises in the Target population and it is representative for all trade activity groups, defined in Regulation (EC) 1893/2006.

The sample is planned at a national level by the stratified random sample method. The sample is formed by two criterions - activity groups by NACE.BG 2008, defined in Regulation (EC) 1893/2006 as for each group by the turnover amount, distributed into a fixed number of stratum (intervals), when there is representativeness insured of the results for all observed groups. Each combination between a group and a stratum defines a single cell. The large enterprises, located in the stratum with the highest turnover for all defined groups are exhaustively observed. The

completeness limit is a function of a criterion for representativeness and varies both between observed groups within a year as well as between different years for the same group. For all of the rest of enterprises from the Target population a random sample is made.

4. Calculation of the indices

The turnover indices at current and constant prices are calculated monthly for the enterprises of a trade sector for all groups, defined in Regulation (EC) 1893/2006 by the new classification of economic activities NACE.BG 2008.

An influence of prices is eliminated through using deflators, obtained by regrouping of the products of the Consumer basket in accordance with a content of defined in Regulation (EC) 1893/2006 groups and calculated on a basis of the annual average prices of the base year (2015).

4.1. Calculation of the basic turnover index

4.1.1. Calculation of the basic turnover index on the lowest level (group)

The method foresees direct deflation of a monthly turnover of each from the observed groups with the regrouped indices of the consumer prices for a relevant group during a current month, calculated at the annual average prices of the base year. The volume indices for these groups are estimated through referral of the constant monthly volumes toward the relevant average monthly volume during the year, adopted as a base. Thus are provided automatically weighted index valuations and their average arithmetic for the twelve months of the base year amounted to 100.

The turnover index by constant prices for the lowest level (group) is given by the formula:

$$I_t^L = \frac{Q_t^L}{\sum Q_0^L / 12} \cdot Ip_t^L$$

where

I_t^L - the turnover index for a group **L** through the current month **t**

Q_t^L - a turnover for a group **L** through the current month **t**

Ip_t^L - a price index for a group **L** through the current month **t** at the annual average prices of the base year

$\sum Q_0^L / 12$ - an average monthly turnover for a group **L** during the base year

4.1.2. Calculation of the basic turnover indices for the higher aggregation levels (division, section).

The aggregation of the indices is done in ascending order, from lower to higher classification levels. That is achieved by summing of the constant volumes of the groups, which formed a relevant level and the referral of this sum to an analogical sum from their average monthly volumes during the base year.

The turnover index at constant prices for the higher aggregation levels is calculated by the formula:

$$I_t^K = \frac{\sum_{L=1}^n \frac{Q_t^L}{I p_t^L}}{\sum_{L=1}^n Q_0^L / 12}$$

where

I_t^K - the turnover index for an aggregation level **K** through the current month **t**

$\sum_{L=1}^n \frac{Q_t^L}{I p_t^L}$ - a turnover for an aggregation level **K** during the current month **t** at annual average prices of the base year

$\sum_{L=1}^n Q_0^L / 12$ - an average monthly turnover for an aggregation level **K** during the base year

$L=1 \dots n$ - a number of groups, forming an aggregation level **K**

4.2. Calculation of the basic turnover indices for different periods

This method allows to be calculated indices for different periods at annual average prices of the base year. The indices for a period could be estimated like a simple average arithmetic from the basic monthly indices, as the sum from the basic monthly indices for a relevant aggregation level being divided to the number of the months from the beginning of the period.

For example:

The turnover index at constant prices for a period from the beginning of the year is given by the formula:

$$I_T^L = \frac{\sum_{t=1}^n I_t^L}{n}$$

where

I_T^L - the turnover index for a period from the beginning of the year for a group **L**

I_t^L - the turnover index for a group **L** through the current month **t**

n - number of months since the beginning of the year

4.3. Calculation of the turnover indices for a month and a period upon a different base.

From the obtained basic indices could be calculated the turnover indices at constant prices to a different base (for example - a month to the previous or to the same month of the past year; a period from the beginning of the current year to the same period of the previous year and other).

The turnover indices at constant prices to different index base are calculated by the formulas:

$$I_{t/t-1}^L = \frac{I_t^L}{I_{t-1}^L} * 100 \qquad I_{t/t-12}^L = \frac{I_t^L}{I_{t-12}^L} * 100$$

where

$I_{t/t-1}^L$ - the turnover index to the previous month for a group **L**

$I_{t/t-12}^L$ - the turnover index to a corresponding month of the previous year for a group **L**

5. Non-response valuation

The enterprises which have not responded are assessed according to the stratum in which they are registered. In the exhaustive stratum an evaluation is made individually for each enterprise, using available information for the trends in development of that enterprise and the smoothed trends of reported units from the same cell. In the sampling stratum for each cell a total evaluation is made of the no responded through using extrapolated coefficients, calculated from the data of the reported enterprises in the cell after elimination of the extreme values. In these cases it is assumed that there are no essential differences in the behavior between the enterprises which have responded or no responded.

6. Dissemination of information

The turnover indices for the section 'Wholesale and retail trade; repair of motor vehicles and motorcycles' totally and by main groups of the component activities are published 40 days after the end of the reported month on the website of NSI, accompanied with a short analytical comment at Bulgarian and English language versions. The information is disseminated also by the quarterly publication of NSI - 'Main short-term indicators'.

All indices by Regulation (EC) 1893/2006 are provided to Eurostat within the terms, defined in Regulation (EC) 1158/2005.