Quarterly turnover indices in section
'Accommodation and food service activities'

1. Purpose and economic importance

The turnover index is a main indicator for valuation of the current status and short-term trends in the development of the section 'Accommodation and food service activities'. The index follows the dynamics in the supply and demand of accommodation and food services, also records the influence of the ongoing economic processes in the country.

The indices reflect the turnover variation between two compared periods. This are generally the reported quarter, referred to the previous one or to the same quarter 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 indices calculation are collected quarterly by a form 'Report on the activity of the enterprises', 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 'Accommodation and food service activities' includes all enterprises, classified to a section I of NACE.BG 2008 - about 22 000, which have submitted an annual report (compiling and non-compiling balance sheets) for the last reported year. From it is generated a sample with about 2000 enterprises. The sample forms about 70% of the turnover and it is representative on division level by NACE.BG 2008.

The sample is planned at a national level by the stratified random sample method. It is formed by two criteria - divisions by NACE.BG 2008, defined in Regulation (EC) 1893/2006 as for each division by the turnover amount, distribute into a fixed number of stratums (intervals), when there is insured representativeness of the results for all observed divisions. Each combination between a division and a stratum defines a single cell. The large enterprises, located in the stratum with the highest turnover for all defined divisions are exhaustively observed. The completeness limit is a function of a criterion for representativeness and varies both between observed divisions within a year as well as between different years for the same division. 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 prices are calculated quarterly for the enterprises of the sector 'Accommodation and food service activities' for all divisions, defined in Regulation (EC) 1893/2006 by the new classification of economic activities NACE.BG 2008.

4.1. Calculation of the basic turnover index

4.1.1. Calculation of the basic turnover index at the lowest level (division)

The turnover index at current prices for the lowest level (division) is given by the formula:

$$I_t^L = \frac{Q_t^L}{\sum Q_0^L / 4}$$

where

I_t^L - the turnover index for a division **L** during the current quarter **t**

Q_t^L - a turnover for a division **L** during the current quarter **t**

$\sum Q_0^L / 4$ - an average quarterly turnover for a division **L** during the base year

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

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

The turnover index at current prices for the higher aggregation levels is given by the formula:

$$I_t^K = \frac{\sum_{L=1}^{n} Q_t^L}{\sum_{L=1}^{n} Q_0^L / 4}$$

where

I_t^K - the turnover index for an aggregation level **K** during the current quarter **t**

$\sum_{L=1}^{n} Q_t^L$ - a turnover for an aggregation level **K** during the current quarter **t**

$\sum_{L=1}^{n} Q_0^L / 4$ - an average quarterly turnover for an aggregation level **K** during the base year

L=1…..n - a number of divisions, formed an aggregation level **К**

4.2. Calculation of the turnover basic indices for different periods

This method allows to be calculated indices for different periods. The indices for a period could be estimated like a simple arithmetic average from the basic quarterly indices, as the sum from the basic quarterly indices for a relevant aggregation level being divided to the number of the quarters from the beginning of the period.

For example:
The turnover index at current 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 of the beginning of the year for a division **L**

I_t^L - the turnover index for a division **L** during the current quarter **t**

n - a number of quarters from the beginning of the year

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

From the obtained basic indices could be calculated the turnover indices at current prices to a different base (for example - a quarter to the previous or to the same quarter 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 current prices to a different index base are calculated by the formulas:

$$I_{t/t-1}^L = \frac{I_t^L}{I_{t-1}^L} * 100 \qquad\qquad I_{t/t-4}^L = \frac{I_t^L}{I_{t-4}^L} * 100$$

where

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

$I_{t/t-4}^L$ - the turnover index to a corresponding quarter of the previous year for a division **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 the development of that enterprise and the smoothed trends of reported units from the same cell. In the sampling stratums 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 'Accommodation and food service activities' totally and by divisions are published 55 days after the end of the reported quarter on the website of NSI, also in a quarterly publication of NSI - 'Main short-term indicators' accompanied with a short analytical comment at Bulgarian and English language versions.

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