



METHODOLOGICAL CHANGES IN CAPACITY UTILIZATION RATE OF THE MANUFACTURING INDUSTRY

**DATA GOVERNANCE AND STATISTICS DEPARTMENT
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January 2010 Revisions

Data on the Capacity Utilization Rate of Manufacturing Industry were compiled and disseminated by the Turkish Statistical Institute (TurkStat) based on the results of the "Tendencies in Manufacturing Industry TMI" survey between 1991 and 2009. The results of the survey carried out by the TurkStat for the local units operating in the manufacturing industry within the scope of the industrial production index were announced prior to the industrial production data of the related period. Thus, the data on capacity utilization rates were closely monitored as leading indicators.

The BTS is a tendency survey, which has been conducted since 1987 in order to generate indicators that reflect short-term tendencies in the manufacturing industry. The question on capacity utilization rate was added during the improvement studies carried out in 2007. Moreover, some amendments in scope and methodology of the BTS have been introduced within the context of the Official Statistics Program implementation. Thereby, the scope of the questions was fully harmonized with the European Union's "Industry Survey", and the results were calculated and announced in a way to represent Türkiye as a whole. Moreover, the BTS has been carried out under the joint financing of the European Commission and the CBRT within the scope of "Joint Harmonized European Union Programme of Business and Consumer Surveys" since May 2007.

During the studies on Official Statistics Program, which was launched in 2007, it was noted that the said tendency surveys performed by the CBRT and the TurkStat had similar questions and addressed the same survey units. Considering this inconvenience, the monthly data on capacity utilization rates published by the TurkStat within the context of TMI survey were agreed to be produced and announced by the CBRT as of January 2010 based on the results of the BTS and a protocol was signed between these two institutions on **December 10, 2009**.

Differences in Methodology and Application Between TurkStat and CBRT Capacity Utilization Rate Series

There are differences between capacity utilization rates calculated by the TurkStat and by the CBRT in terms of methodology and application. Therefore, the user should take these differences into account while evaluating the results. The differences between surveys are briefly mentioned below:

Scope of Survey Units

The **TMI** survey was applied to approximately 1000 large-scale establishments specified in 1991. Data on capacity utilization rates are available since that date. The number of local units included in the **TMI** survey was increased gradually to 5618 as of December 2009. While approximately 1600 local units were included in the **BTS** in 2007, the scope of the survey units was updated respectively in 2008 and 2010, and starting from July 2010 the results of the survey have been calculated depending on the responses of the 2328 local units and enterprises.

Representation

- The establishments in the survey frame of the **TMI** survey represent 72 percent of overall value added in the manufacturing industry according to NACE Rev. 1.1 classification.
- Whereas, the local units in the **BTS** represent approximately 80 percent of the production value of Short-term Business Statistics Manufacturing Industry according to NACE Rev. 1.1 classification.

Information Regarding the Question on the Capacity Utilization Rate

While the **TMI** survey queries the average capacity utilization rate realized as a percentage of full capacity in the "month mentioned", the **BTS** queries "currently" realized capacity utilization rate as a percentage of full capacity. The aim of this wording is to gather the manager's assessments and perceptions pertaining to the current business environment and the manager is expected to make a capacity utilization rate assessment based on his/her own knowledge instead of making a calculation based on a formula by using the currently available data of the establishment. Therefore, an exact overlapping should not be expected between the capacity utilization rate indicated in the BTS and the capacity utilization rate of the establishment covering the whole month that the survey was conducted. However, as the BTS answers reflect the manager's assessments and evaluations pertaining to the current business environment, it is believed that they could reflect the tendencies in capacity utilization rate realizations and become a leading indicator with respect to production developments.

Weighting

While weighting of the **TMI** survey data is performed by using the production values of the previous year, weighting of the **BTS** is performed in three stages. At the first stage, the answers received from the establishments are weighted with the average number of employees of the establishments in the previous year and totaled up to three-digit level classification of the business activities. At the second stage, the data totaled up in three-digit level classification are weighted with these sectors' production values in the overall Turkish manufacturing sector and thus totaled up to two-digit level classification. At the final stage, the data totaled up in two-digit level classification are weighted with the value-added figures in the overall Turkish manufacturing sector and indicators pertaining to overall manufacturing industry are obtained. The difference in employment and production weights of local units in the sector may have different effects on the aggregated results of the **BTS** and **TMI** survey. This should be considered as a factor that could lead to discrepancies between the aggregated results of the two surveys with respect to level and tendency.

Survey and Publication Periods

The **TMI** data were used to be compiled between the 15th of the surveyed month and the 7th of the following month and the survey results were used to be published within the first 10 working days of the month following the surveyed month. The **BTS** data are compiled between the 1st and 21st of the surveyed month and the survey results are published within the same month.

September 2010 Revisions

NACE Rev.2 was started to be used in sector classification of enterprises included in the scope of the survey.

April 2017 Revisions

While the number of employees working in the production process, the production values and the value added figures have been used respectively for the first, second and final stages of the weighting procedure in aggregating the **BTS** responses, production values of the local units in the previous year have been utilized for each stage of the weighting procedure starting from April 2017. The aggregated results are revised for the period January 2007 - April 2017 and released at the web page of the CBRT under the menu "Statistics/Statistical Data (EDDS)/Production, Employment and Wages Statistics".