**UNIT WAGE INDEX IN INDUSTRY – METADATA**

**Objective and Definitions**

**Objective:** Unit wage index is often seen as a measure of (international) price competitiveness. It is defined as the average labor cost per unit of output produced. It is expressed as the ratio of total labor cost per hour worked to output per hour worked (labor productivity).

**Definitions:** Unit wage index in industry consists of five main statistics.

**Hours worked:** It is the time actually worked at the workplace, regardless of the normal working period, which is the subject of the base wage and salary of the wage-earners. While paid and non-paid overtime and overtime working periods are included in the hours worked, periods such as annual leave and public holidays that are paid but not worked are excluded from the hours worked.

**Hourly labor productivity:** It is the ratio of the quantity index of gross output to the quantity index of labor input (hours worked).

**Hourly labor cost:** It covers the earnings and non-earnings labor cost incurred by the employer in relation to the employment of wage workers. It does not cover other labor cost items such as vocational training, hiring, and work clothes costs.

**Nominal Unit Wage Index:** It is the ratio of hourly labor cost index to hourly labor productivity index.

**Reel Unit Wage Index:** It is the index obtained by dividing the nominal unit wage index by Consumer Price Index (CPI), Dolar index or Euro index.

**Scope**

**Sectoral Coverage**

While calculating the unit wage index in industry, the following letter-level sectors are covered according to NACE Rev.2:

B - Mining and quarrying

C - Manufacturing

E – Water supply; sewerage, waste management and remediation activities

**Time Coverage**

Quarterly statistics are calculated on a quarterly basis starting from the first quarter of 2009.

**Geographical Coverage**

It covers the whole of Turkey in terms of geographical coverage.

**Data compilation Method**

Administrative records of ‘monthly industrial production index’, ‘quarterly hours worked in industry index’ and ‘consumer price index’ produced by TURKSTAT are used.

In addition, Euro and Dolar exchange rates produced by the CBRT are used.

**Variables used**

**Industrial production index:** As the output variable, “2015-based monthly industrial production index” data calculated by TURKSTAT is used.

**Hours worked index:** As the variable of hours worked, the data of “quarterly hours worked in industry index based on 2015” calculated by TURKSTAT.

**Hourly labor cost:** As a variable of labor cost, the data of “hourly labor cost index (quarterly) in industry based on 2015”, which covers the earnings and non-earning labor costs incurred by the employer in relation to the employment of wage earners, calculated by TURKSTAT is used.

**CPI:** The data on the "monthly consumer price index based on 2003," calculated by TURKSTAT for the realization of the nominal variables, are used by converting them to the year 2015 basis.

**Foreign Exchange Rates**: Dollar and Euro foreign currency purchase values published by the CBRT are used by converting them into 2015-based series in order to realize the nominal variables.

**Formulations used**

The following formulations are utilized to calculate statistics:

Hourly Labor Productivity ($LP\_{t}$) $=\left[\frac{Q\_{t}}{L\_{t}}\right]\*\left[\frac{100}{LP\_{2015}^{avg}}\right]$

Nominal Unit Wage Index ($NULC\_{t}$) $=\left[\frac{LC\_{t}}{LP\_{t}}\right]\*\left[\frac{100}{NULC\_{2015}^{avg}}\right]$

Reel Unit Wage Index-TL ($ULC\_{t}$) $=\left[\frac{NULC\_{t}}{TUFE\_{t}}\right]\*\left[\frac{100}{ULC\_{2015}^{avg}}\right]$

Reel Unit Wage Index-Dolar ($ULC\_{t}$) $=\left[\frac{NULC\_{t}}{USD\_{t}}\right]\*\left[\frac{100}{ULC\_{2015}^{avg}}\right]$

Reel Unit Wage Index-Euro ($ULC\_{t}$) $=\left[\frac{NULC\_{t}}{EURO\_{t}}\right]\*\left[\frac{100}{ULC\_{2015}^{avg}}\right]$

$Q\_{t}$: industrial production index for period *t* (It is obtained by taking the arithmetic average of the "2015-based monthly industrial production index" data calculated by TURKSTAT for the three months in the period t.)$L\_{t}$: “the quarterly index of hours worked in industry based on 2015” calculated by TURKSTAT for period *t*

$LC\_{t}$: The "hourly labor cost in industry index (quarterly) based on 2015" data, which covers the earnings and non-earning labor costs incurred by the employer in relation to the employment of wage earners, calculated by TURKSTAT for period t is used.

**Source of Data**

TURKSTAT obtains the data used in the calculation of the Industrial Production Index from the data obtained from the Monthly Industrial Production Questionnaire and the turnover information calculated from the data of the Revenue Administration. In the calculations of hours worked, the actual working hours data of registered wage earners obtained from the Household Labor Force Survey conducted by TURKSTAT and paid employee data based on administrative records are used.

US Dollar and Euro data are obtained from the CBRT.

**Reasons and method of revision**

Revisions are made in the data obtained from TURKSTAT, due to late response surveys that do not reach the index calculation period, and corrections of errors in the data source.

Revisions are also made due to the updating of the base year, the change in the statistical method, concept, definition and classification.

In the series;

1. While the current period indices are published, the previous period indices are revised.

2. At the end of the year, the last two years are revised.

**Period**

Statistics are calculated on a quarterly basis.

**Revision Policy**

The seasonal adjustment procedure applied by TURKSTAT is subject to revisions over time due to the re-estimation of the seasonal component when new observations are added to the series. These revisions are applied to the last three years' data excluding the current year for the industrial production index and to the last one-year data for the labor input indices.

**Publication**

Unit wage index in industry is published by Presidency of Turkey, Presidency of Strategy and Budget within the scope of “Official Statistics Program”.

**Publication Time**

**Reference periods**

Statistics are calculated on a quarterly basis specified below.

First period: January 1 – March 31 Publication Date: June 15

Second period: April 1 – June 30 Publication Date: September 15

Third period: July 1 – September 30 Publication Date: December 15

Fourth period: October 1 – December 31 Publication Date: March 15