

LABOUR COST INDEX METHODOLOGY

1. Purpose, nature and use

Labour Cost Index is a short-term indicator aiming to measure quarterly development of hourly labour costs incurred by the employers as a result of engaging the labour work force. Indices are based on Regulation (EC) No 450/2003 of the European Parliament and of the Council concerning the European Union Labour Cost Index. According to requirements of this Regulation indexes should be available for total labour costs and its main components wages and salaries, and labour costs other than wages and salaries (non-wage costs).

2. Definition and sources of information

2.1. Main definitions

Labour Cost Index (LCI) is defined as Laspeyres index of labour costs per hour worked with base year 2016=100. It is calculated broken-down by economic activity at NACE Rev.2 section level.

Total Labour Cost (TOT) includes wages and salaries paid by the employer in cash or in kind, employers' actual and imputed social contribution plus taxes regarded as labour costs;

Wage and salary costs (WAG) covers wages and salaries paid in cash or in kind;

Labour costs other than wages and salaries (OTH – non-wage costs) include the employers' actual and imputed social contribution plus taxes regarded as labour costs;

Hours Worked covers the total number of normal and overtime hours actually worked by all (full-time and part-time) employees under labour contract.

2.2. Sources of information

The Quarterly Survey on Employees, Hours worked, Wages and Salaries, and Other expenditures paid by the employer (QLCS)¹ is the main source used for the labour cost index data calculation. It provides monthly and quarterly information for the following variables needed for the index:

a) Hours worked;

WAG – Wages and salaries

b) Wages and salaries in cash;

c) Wages and salaries in kind;

OTH – non-wage costs

d) Employers' actual social contributions;

e) Employers' imputed social contributions;

f) Taxes regarded as labour costs.

3. Calculation of the Labour Cost Index

The formula used for the calculation of the LCI in quarter t of year j with base year k (2016) can be presented as follows:

¹ For more information about the survey methodology see: http://www.nsi.bg/Labour_e/Labour_e.htm, section "Quarterly survey"

$$LCI_{ij(k)} = \frac{\sum_i w_i^{tj} h_i^k}{\sum_i \omega_i^k h_i^k} = \frac{\sum_i (w_i^{tj} / \omega_i^k) \omega_i^k h_i^k}{\sum_i W_i^k} = \frac{\sum_i (w_i^{tj} / \omega_i^k) W_i^k}{\sum_i W_i^k}$$

$$1 \leq t \leq 4$$

where:

w_i^{tj} = labour costs per hour worked of employees in quarter t in economic activity i in year j ;

ω_i^k = labour costs per hour worked of employees in year k in economic activity i ;

W_i^k = labour costs of employees in economic activity i in year k ;

h_i^k = hour worked by employees in economic activity i in year k .

4. Revisions

Revisions of Labour Cost Index occur when the data from Quarterly Survey on Employees, Hours worked, Wages and Salaries, and other expenditures paid by the employer (QLCS) are revised. The main reason for the revisions of QLCS data is improving comparability between quarterly (based on sample survey) and annual (census type) information on number of employees and wages and salaries.

Revisions of working day adjusted and in seasonally and working day adjusted data in previous quarters occur also when new observation (quarter) is included in the time span.

5. Estimation of missing labour costs components in back data

Regular statistics on all major labour costs components is produced annually since 2000 and quarterly since 2001. To maintain correspondence between the coverage of the back data and that of the current data the missing labour costs information has been estimated by the following way:

- Employers' actual social contributions, wages and salaries in kind, and taxes regarded as labour costs in 1st, 2nd, 3rd and 4th quarter of year 2000 are estimated on base on the annual information for these components in 2000.

6. Coverage of economic activities

Mining and quarrying (B), Manufacturing (C), Electricity, gas, steam and air conditioning supply (D), Water supply, sewerage, waste management and remediation activities (E), Construction (F), Wholesale and retail trade; repair of motor vehicles and motorcycles (G), Transportation and storage (H), Accommodation and food service activities (I), Information and communication (J), Financial and insurance activities (K), Real estate activities (L), Professional, scientific and technical activities (M), Administrative and support service activities (N), Public administration and defense; compulsory social security (O), Education (P), Human health and social work activities (Q), Arts, entertainment and recreation (R), Other service activities (S).

7. Publicity and transparency

National Statistical Institute is publishing Labour Cost Indices 80 days after the end of the reference period as the back data starts from the first quarter of 2000.

Indices are published in the following three forms:

- Unadjusted;
- Working day adjusted - excluding the effect of varying number of working days in the same quarters in different years as well moving holydays and leap-years;
- Seasonally and working day adjusted – seasonal adjustment is carried out on working day adjusted series. Seasonal adjustment is a process where the seasonal component is removed from the time series in order to better identify short-term developments.

Source: National Statistical Institute

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