Statistisches Bundesamt

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Quality Report

Labour Cost Index

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Abstract

1 General information on the statistics

1.1 Name of the statistics (according to EVAS)
Labour cost index (EVAS No 62421)

1.2 Reference period
Reference quarter

1.3 Survey date
The results of compiling the labour cost index are published 70 days after the end of the reference quarter at the latest. The exact dates are included in the release calendar which can be accessed at http://www.destatis.de , path: Press, Preview and release calendar.

1.4 Periodicity and period for which a time series is available without break
Comparable quarterly time series are available from the first quarter of 1996.

1.5 Regional coverage
Territory of the Federal Republic of Germany

1.6 Survey population, principle of allocating the survey units
The index reflects the development of labour costs per hour worked for all Germany-based economic units assigned to Sections B to S of the Classification of Economic Activities, edition 2008 (WZ 2008) or NACE rev. 2.

1.7 Survey units
The labour cost index is compiled on the basis of the data supplied by enterprises.

1.8 Legal bases

1.8.1 EU-Recht
- Regulation (EC) No 450/2003 of the European Parliament and of the Council of 27 February 2003 concerning the labour cost index, and
- Commission Regulation (EC) No 1216/2003 of 7 July 2003 implementing Regulation (EC) No 450/2003 of the European Parliament and of the Council of 27 February 2003 concerning the labour cost index

1.8.2 Federal law
No federal law as a legal basis

1.8.3 Land law
No Land law as a legal basis

1.8.4 Other bases
No other legal bases

1.9 Confidentiality and data protection
The labour cost index is largely calculated on the basis of other statistics whose results were published earlier. In this respect, all relevant confidentiality and data protection principles were observed before. Individual data of these statistics are not used.

2 Purpose and goals of the statistics

2.1 Survey content
The labour cost index is not based on a survey of its own. To compile the index, existing statistics are rather combined in a complex calculation system. The basic parameter of the calculation is “labour costs per hour worked”. The labour cost index reflects the quarterly development of total labour costs for all employees. It provides the opportunity of differentiation: On the one hand, the development of labour costs can be presented in a breakdown by economic sectors and sections. In addition to time series for industry and the services sector, time series are for instance compiled for manufacturing, construction or financial and insurance activities. On the other hand, the index allows a presentation of the development of labour costs in a breakdown by their two main components. To this end, the index of labour costs is broken down by an index of gross wages and salaries and an index of non-wage costs.
In addition to gross wages and salaries incl. extra payments, labour costs encompass employers’ social contributions and taxes paid by and subsidies received by the employer, provided they are incurred in the employment of labour. The term “hours worked” only covers the number of hours actually worked. This means, for instance, that days of sickness, public holidays and vacation days are not included, whereas overtime is covered.

2.2 Purpose of the statistics
The labour cost index provides an insight into the current development of the cost situation of the economy. On the one hand, it thus contributes to the assessment of the international competitiveness of Germany as an industrial location. And, on the other, it indicates risks for monetary stability which may result from an increase in the costs incurred by producers. The labour cost index, which has been ordered by EU regulations, allows the compilation of up-to-date and comparable results reflecting the labour cost trends in all 27 EU Member States on the basis of a harmonised methodology.

2.3 Major users of the statistics
European Central Bank, European Commission, Deutsche Bundesbank, several federal ministries, economic research institutes, enterprises and their interest groups. The labour cost index is part of the envisaged indicator system to improve the information situation as a basis for monetary policies and short-term economic analyses in Europe. Gradually developing the range of indicators needed is a major concern of the European Central Bank.

2.4 User involvement
Specialist committee on Prices and Earnings; co-operation with the Deutsche Bundesbank in the area of seasonal adjustment. In addition to co-operation with institutional bodies, a regular dialogue is maintained with associations, companies, universities and institutes whose requests, which are the result of their practical work, are considered in the futher development of the statistics, too.

3 Survey methodology

3.1 Type of data collection
The main source for index compilation is the four-yearly labour cost survey. On a quarterly basis, the data on gross wages and salaries of that survey are updated based on the information obtained on earnings from the quarterly earnings survey (VVE). VVE earnings and the contribution rates of social insurance funds are in turn used to update the data on employers' compulsory social contributions. The data on company old-age pension schemes needed for index compilation are for instance taken from the mutual pension assurance association. In the context of national accounts, the data on company old-age provisions are used to calculate compensation of employees per employee hour. The labour cost index, in turn, uses those national accounting results.
To determine the development of hours worked, information on hours paid is taken from the VVE and on working time from the working time and volume of work measurements of the Institute for Employment Research.
It often happens that not all data sources are available yet at the time of computation so that the data basis is gradually improved by additional statistics. Initially, some data are therefore estimated or updated based on time series.
As regards the period between the two labour cost surveys in 2000 and 2004, a so-called benchmarking exercise was undertaken. As for NACE sections B, C, D, F, G, I and K, the labour cost components of the labour cost index were adjusted to the four-yearly growth rates of the 2000 and 2004 labour cost surveys. As the proportional Denton approach was used, it was made sure that the revisions of the labour cost index in the period 2000 to 2004 could be kept as minimal as possible. The time series from 2005 were not concerned by that revision.

3.2 Sampling procedure
To compile the labour cost index, existing statistics are combined in a complex calculation system. A separate survey or sampling procedure is not undertaken for the purposes of the labour cost index.

3.2.1 Sampling design
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3.2.2 Sample size, sampling fraction and sampling unit
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3.2.3 Sample stratification
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3.2.4 Expansion
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3.3 Seasonal adjustment method
The quarterly data are adjusted for seasonal and calendar effects using the Berlin method, version 4.1 (BV 4.1) and Census X-12-ARIMA.

3.4 Data collection tools and reporting channel
To compile the labour cost index, existing statistics are combined in a complex calculation system. A separate survey is not conducted for the purposes of the labour cost index.

3.5 Burden on the respondents
As the labour cost index is based on a calculation system which processes results of existing primary and secondary statistics, respondents are not additionally burdened.

3.6 Documentation of the questionnaire
As the labour cost index is based on a calculation system rather than a primary data survey, there is no questionnaire for these statistics.

4 Accuracy

4.1 Overall qualitative assessment of accuracy
Not all of the data required for the compilation of the labour cost index are available at the time of index computation. As the missing data are only gradually included in the calculation, estimates are initially used to compile the labour cost index.

4.2 Sampling errors
Generally, the sampling errors in the basic statistics which are used to compile the labour cost index can be included in the labour cost index results, too.

4.2.1 Standard error
The standard error cannot be quantified with absolute certainty.

4.2.2 Biases due to the data expansion procedure
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4.3 Non-sampling errors

4.3.1 Errors due to coverage
Generally, the non-sampling errors in the basic statistics which are used to compile the labour cost index can be included in the labour cost index results, too. Additional biases may be caused by applying estimated increases or reductions, using other estimation procedures or updating time series. Under these circumstances, a quantification cannot be made with absolute certainty.

4.3.2 Unit non-response
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4.3.3 Item non-response
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4.3.4 Imputation methods
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4.3.5 More detailed analyses of the systematic error
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4.4 Continuous revisions
Revision covers the processes of reviewing and updating results, for instance, by incorporating new data, statistics and/or methods in the calculation system. In this context, a distinction is made between continuous revisions which concern smaller corrections in the data of individual quarters or years and major or “large” revisions. The latter are basic revisions of the time series as a whole.

4.4.1 Extent of revision

Index of total labour costs for NACE sections C to O (NACE Rev. 1) and B to S (NACE Rev. 2) by time of publication (first publication in 2005)
Percentage change on the same quarter of the previous year
Original values

Year	Quarter	First time of quarterly publication															
		2007				2008				2009				2010			
		1. qu	2. qu	3. qu	4. qu	1. qu	2. qu	3. qu	4. qu	1. qu	2. qu	3. qu	4.qu	1. qu	2. qu	3. qu	4. qu
2005	1. qu	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5			
	2. qu	-0.9	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.7			
	3. qu	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4			
	4. qu	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9			
2006	1. qu	-0.9	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.6	-0.6	-0.6	-0.5			
	2. qu	2.3	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
	3. qu	1.7	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0			
	4. qu	1.4	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7			
2007	1. qu	0.9	0.8	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.7	0.7	0.7	0.7			
	2. qu		0.9	1.0	1.1	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0			
	3. qu			1.1	0.9	1.0	0.9	0.9	0.9	1.0	0.8	0.8	0.8	0.7			
	4. qu				1.1	1.2	1.5	1.5	1.5	1.5	1.3	1.3	1.3	1.3			
2008	1. qu					2.6	3.1	2.8	2.9	2.8	3.1	3.1	3.1	3.7			
	2. qu						-0.1	-0.2	-0.1	-0.1	0.1	0.1	0.1	0.6			
	3. qu							1.6	1.8	1.8	1.8	1.8	1.8	1.7			
	4. qu								4.0	3.8	3.8	3.9	3.9	3.6			
2009	1. qu									5.0	4.7	5.2	4.6	3.1			
	2. qu										6.7	7.5	7.2	5.2			
	3. qu											4.8	4.3	2.6			
	4. qu												0.3	-0.8			
2010	1. qu													0.6			
	2. qu																
	3. qu																
	4. qu																

Explanation regarding larger revisions between 2003 and 2008

First time of quarterly publication	Major reasons for revision
1st quarter of 2003	First publication pursuant to Regulations (EC) No 1216/2003 and No 450/2003
2nd quarter of 2003	Using an improved index of gross monthly earnings for NACE sections G und J (NACE Rev.1)
1st quarter of 2004	Introducing calendar adjustment and a chain index formula and using better data sources regarding the - development of marginal part-time work, - development of hours worked
4th quarter of 2004	Establishing a connection with national accounts and, in particular, starting to use: - monthly industry reports to update gross wages and salaries - information on the revenue of social insurance funds and data of the mutual pension assurance association to update the data on employers' social contributions
3rd quarter of 2007	Benchmarking of the labour cost index in relation to the four-yearly growth rates of the 2000 and 2004 labour cost surveys: The labour cost components of the indices LCI_TOT, LCI_WAG and LCI_OTH were adjusted to correspond to the results of the 2000 and 2004 labour cost surveys. As the proportional Denton approach was used, it was made sure that the revisions of the labour cost index in the period 2000 to 2004 could be kept as minimal as possible. The time series from 2005 were not covered by that revision.
1st quarter of 2010	Using the quarterly earnings survey as the main data source from the first quarter of 2007: In the context of that changeover, the time series of the labour cost index was revised as from the first quarter of 2007. In addition, the time series from 2007 was linked to the time series for the period 1996 to 2006. The change rates on the previous quarter were adjusted to the seasonal of the new data source and, as a result, deviate from the values published previously.

The data input for compiling the labour cost index comprised national accounting results regarding compensation of employees per hour worked until the results for the fourth quarter of 2009 were published. In the context of national accounts, regular revisions can as a rule be made in relation to each of the publication dates. In general, the data for the individual quarters of the current year are reviewed each time quarterly data are released. Once a year (in August), the data for the past four years and the associated quarters are revised. Those revisions were reflected in the results of the labour cost index. From the first quarter of 2009, the quarterly earnings survey has been used as the basic data source to calculate the labour cost index. As a result, the need for revision is expected to decline considerably.

The extent of revising the labour cost index is measured in absolute terms. Absolute revision is defined as the absolute value of the difference between the figures published initially and those released next time.

Revision of the index of total labour costs
Rate of change of original values on the same quarter of the previous year
Reference quarters: 1st quarter of 2006 to 4th quarter of 2008

NACE Rev. 1	Absolute revision			Weight in the index for NACE sections C to K (NACE Rev. 1) in 2008
	Mean value	Maximum	Change of sign	
C-K	0.3	0.8	0	100.0 %
C	1.1	2.8	2	0.4 %
D	0.5	1.2	0	37.7 %
E	1.0	3.3	1	2.0 %
F	0.6	2.2	0	6.4 %
G	0.2	0.4	0	17.7 %
H	0.2	0.5	0	2.9 %
I	0.4	1.5	0	8.4 %
J	0.3	0.7	3	6.4 %
K	0.4	1.7	0	18.1 %

Revision of the index of total labour costs
Rate of change of original values on the same quarter of the previous year
Time of publication: 2nd quarter of 2009 to 1st quarter of 2010

NACE Rev. 2	Absolute revision			Weight in the index for NACE sections B to S (NACE Rev. 2) in 2009
	Mean value	Maximum	Change of sign	
B-S	0.7	1.1	1	100.0%
B	4.2	12.7	0	0.3 %
C	2.0	2.7	0	25.1 %
D	2.3	5.5	1	1.3 %
E	0.9	1.9	0	0.6 %
F	1.3	3.2	1	4.6 %
G	0.6	1.5	1	12.5 %
H	0.7	1.3	0	6.1 %
I	1.1	1.6	0	2.2 %
J	0.4	0.9	0	2.4 %
K	0.9	1.8	1	4.6 %
L	1.4	2.3	1	0.8 %
M	0.8	2.2	1	9.2 %
N	0.6	1.3	0	0.2 %
O	0.3	0.5	0	8.6 %
P	0.6	1.8	0	7.6 %
Q	1.3	3.5	0	9.6 %
R	0.1	0.2	0	1.9 %
S	0.7	1.7	0	2.3 %

4.4.2 Reasons for revision

A reason for a major revision is, for instance, the availability of new sources for statistical computation that were not used before. The seasonal adjustment method (Berlin method (BV 4.1)) applied to the labour cost index did not lead to any larger revision. However, minor revisions may be caused by applying the seasonal adjustment method Census X-12-ARIMA (X12). Larger revisions in the labour cost index are mainly due to changes in the original values.

Impact of seasonal adjustment (BV 4.1) on revisions of the labour cost index
Sections B to S of NACE Rev. 2
Change in percent on the same quarter of the previous year
Reference quarters: 1st quarter of 2007 to 4th quarter of 2009

	Original values	Values adjusted for calendar effects	Seasonally and calendar adjusted values
Absolute revision: mean value	0.4	0.3	0.4
Absolute revision: maximum	1.1	1.1	1.2
Change of sign	1	0	0

Impact of seasonal adjustment (Census X-12) on revisions of the labour cost index
Sections B to S of NACE Rev. 2
Change in percent on the same quarter of the previous year
Time of publication: 2nd quarter of 2009 to 1st quarter of 2010

	Original values	Values adjusted for calendar effects	Seasonally and calendar adjusted values
Absolute revision: mean value	0.7	0.6	0.6
Absolute revision: maximum	1.1	1.1	1.1
Change of sign	1	0	0

4.5 Extraordinary sources of error
Extraordinary sources of error include unexpected circumstances which affect considerably the use of preliminary or final results and therefore have to be pointed out in a special form. Such phenomena comprise, for instance, particularly important reports which are inaccurate or delayed and phenomena which lead to a strong modification of the survey object directly after the survey so that the informative value of the statistics is deteriorated. Such circumstances were not observed.

5 Timeliness and punctuality

5.1 Timeliness of preliminary results
Preliminary results are not calculated.

5.2 Timeliness of final results
Final results are published 70 days after the end of the reference quarter at the latest.

5.3 Punctuality

Target and actual dates of transmitting data to Eurostat

Year	Quarter	Target date[1]	Actual date	Delay in days
2003	1st qu.	10 Jun. 2003	6 Jun. 2003	-4
	2nd qu.	10 Sep. 2003	21 Aug. 2003	-20
	3rd qu.	10 Dec. 2003	9 Dec. 2003	-1
	4th qu.	10 Mar. 2004	10 Mar. 2004	0
2004	1st qu.	10 Jun. 2004	9 Jun. 2004	-1
	2nd qu.	10 Sep. 2004	8 Sep. 2004	-2
	3rd qu.	10 Dec. 2004	9 Dec. 2004	-1
	4th qu.	10 Mar. 2005	10 Mar. 2005	0
2005	1st qu.	10 Jun. 2005	9 Jun. 2005	-1
	2nd qu.	10 Sep. 2005	8 Sep. 2005	-2
	3rd qu.	10 Dec. 2005	8 Dec. 2005	-2
	4th qu.	10 Mar. 2006	9 Mar. 2006	-1
2006	1st qu.	9 Jun. 2006	8 Jun. 2006	-1
	2nd qu.	8 Sep. 2006	7 Sep. 2006	-1
	3rd qu.	9 Dec. 2006	7 Dec. 2006	-2
	4th qu.	11 Mar. 2007	8 Mar. 2007	-3
2007	1st qu.	9 Jun. 2007	8 Jun. 2007	-1
	2nd qu.	8 Sep. 2007	7 Sep. 2007	-1
	3rd qu.	9 Dec. 2007	7 Dec. 2007	-2
	4th qu.	11 Mar. 2008	10 Mar. 2008	-1
2008	1st qu.	9 Jun. 2008	9 Jun. 2008	0
	2nd qu.	8 Sep. 2008	8 Sep. 2008	0
	3rd qu.	9 Dec. 2008	9 Dec. 2008	0
	4th qu.	11 Mar. 2009	11 Mar. 2009	0
2009	1st qu.	9 Jun. 2009	9 Jun. 2009	0
	2nd qu.	8 Sep. 2009	8 Sep. 2009	0
	3rd qu.	9 Dec. 2009	9 Dec. 2009	0
	4th qu.	11 Mar. 2010	11 Mar. 2010	0

[1] Regulation (EC) 450/2003 Article 6 (2): "...within 70 days of the end of the reference period": Calculation for the reference quarters of the years 2003, 2004 and 2005 two months and 10 days after the end of the reference quarter; calculation for the first three reference quarters of 2006 70 days after the end of the reference quarter, provided the relevant day was neither a Saturday, nor a Sunday or public holiday; calculation from the fourth reference quarter of 2006 70 days after the end of the reference quarter irrespective of whether the relevant day was a Saturday, Sunday or public holiday.

6 Comparability over time and space

6.1 Qualitative Bewertung der Vergleichbarkeit

The definitions of the cost components which the labour cost index is based on correspond to those used in the context of the labour cost survey. The definitions of the cost components used in the labour cost survey are harmonised with those of the European System of Accounts (ESA). Hence there is consistency between national accounts and the labour cost index. The EU regulations concerning the labour cost index form the basis for obtaining results that are comparable at the

European level. Comparability over time is ensured back to the first quarter of 1996 when the time series of the labour cost index begins.

6.2 Changes affecting comparability over time

As a matter of fact, comparability over time is ensured across the time series of the labour cost index. When the results for the first quarter of 2009 were published for the first time, the time series of the labour cost index were converted from NACE Rev. 1 (WZ 2003) to NACE Rev. 2 (WZ 2008) back to the first quarter of 1996.

7 Connection with other surveys

7.1 Input for other statistics

Together with the results of the labour cost survey, the labour cost index is used to prepare an annual estimate of labour costs.

7.2 Differences regarding other comparable statistics or results

National accounting results were used to compile the quarterly time series of the labour cost index up to the fourth quarter of 2006. Hence there is coherence between the development of labour costs per hour worked on the same quarter a year earlier as indicated by the labour cost index and the development of compensation of employees per hour worked.
From the first quarter of 2007, results of the quarterly earnings survey have been taken to calculate the labour cost index. However, the results of the survey are published in a relation per employee, while those of the labour cost index are published in a relation per hour worked. Consequently, the results published are comparable to a limited extent only.

8 Other information sources

8.1 Publication channels, order address

Detailed results of the labour cost index can be obtained free of charge from the Genesis-Online database (http://www.destatis.de/genesis, Code: 62421).

8.2 Contact information

Federal Statistical Office
Quarterly Earnings Survey, Labour Cost Index
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www.destatis.de/contact

8.3 Further publications

At http://www.destatis.de , path: Verdienste und Arbeitskosten, Publikationen (link on the right side), you can download the German-language press brochure on the labour cost index which is entitled “Wie entwickeln sich die Arbeitskosten?“.