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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

**on the implementation of Regulation (EC) No 450/2003 of the European Parliament and
of the Council concerning the labour cost index (LCI)**

I. INTRODUCTION

The labour cost index (LCI) measures quarterly changes in total hourly labour costs borne by employers, making it possible to monitor developments in the cost pressure arising from the production factor ‘labour’. The LCI belongs to the family of principal European economic indicators / euro-indicators¹, which provide information on economic developments in the euro area.

The LCI is used in particular by the European System of Central Banks to assess possible inflationary pressure caused by developments in the labour market. It is also important for social partners involved in wage negotiations and for the European Commission itself to monitor short-term developments in labour costs. Finally, LCI data are used for the indexation of prices in some large commercial contracts that span several years.

On its website, Eurostat publishes a quarterly news release on the LCI², which contains a large set of data broken down by economic activity and by the components of labour costs (wage and non-wage costs). The website also includes both quarter-on-quarter and year-on-year growth rates.

Regulation (EC) No 450/2003 of the European Parliament and of the Council of 27 February 2003 concerning the labour cost index³ (the ‘LCI Regulation’) sets a common framework for Member States to produce comparable indices and provide them to the Commission.

Article 13 of Regulation (EC) No 450/2003 requires the Commission to report to the European Parliament and the Council every 2 years. The purpose of the report is to assess the quality of the statistics provided by Member States and of the EU aggregates, and to identify areas where improvements could be made.

This is the ninth LCI report of the Commission to the European Parliament and the Council⁴. It focuses on the LCI data received since the previous edition, for the reference quarters ranging from the second quarter of 2020 (2020Q2) to the first quarter of 2022 (2022Q1). It reflects the observations made by Eurostat when collecting and validating LCI data for these reference quarters and builds on the documentation provided by Member States in their annual quality reports.

This edition does not cover LCI data from the United Kingdom as this country left the EU on 1 February 2020 and stopped transmitting LCI data from 2020Q1 onwards.

¹ Communication of the Commission to the European Parliament and the Council on eurozone statistics *Towards improved methodologies for eurozone statistics and indicators* (COM(2002) 661 final).

² The quarterly news release is published on the dates set in the release calendar; both can be found on the Eurostat website (<http://ec.europa.eu/eurostat/web/main> – available in English, French and German).

³ OJ L 69, 13.3.2003, p. 1.

⁴ See previous report ([COM\(2020\) 819 final](#) of 22.12.2020).

In Annex I to Regulation (EC) No 1216/2003⁵, the quality of the LCI is defined using the following criteria: relevance, accuracy, punctuality of delivery of data, accessibility and clarity, comparability, coherence and completeness. As accessibility and clarity were considered satisfactory in the previous LCI report, the focus in this report is on relevance, completeness, punctuality, accuracy, comparability and coherence.

In this edition, we also report on the main impact of the COVID-19 crisis on LCI data collection.

II. GENERAL PROGRESS SINCE THE LAST REPORT

From a legislative point of view, no changes have been made since the previous report. The next paragraphs detail the improvements made in producing the report.

2.1 Standards for data collection

The latest version of the Statistical Data and Metadata eXchange (SDMX)⁶ data structures and internationally agreed code lists (available online through a dedicated registry⁷) continues to be used successfully for receiving Member State data and producing the LCI but also for transmitting LCI data to the European Central Bank.

For (flash and final) data from 2021Q3 onwards, Member States have started using an updated version (2.3) of the SDMX data structure definition, which incorporates the latest changes agreed at international level.

2.2 Data validation

The data have been systematically validated by means of a new tool, which checks whether the codes and data structures used meet the agreed standards for data transmissions (SDMX). This simplifies the production process and reduces the risk of errors arising from flaws in the coding. When the file transmitted does not meet the SDMX standards in force, it is automatically rejected. Member States receive a success / failure notification by email and they may access the validation report through a web service.

Since the last report, Eurostat has adapted the production process to make it possible to process all types of SDMX formats, be they compact or generic.

Moreover, Eurostat carries out credibility checks on each quarterly transmission by comparing data over time and across NACE Revision 2 (NACE Rev. 2) economic activities. If there are significant quarter-on-quarter changes, Eurostat asks Member States to confirm the data or transmit a corrected data file. If large revisions or sudden changes are detected in

⁵ Commission Regulation (EC) No 1216/2003 of 7 July 2003 implementing Regulation (EC) No 450/2003 of the European Parliament and of the Council concerning the labour cost index.

⁶ <http://sdmx.org/> (available only in English).

⁷ <https://webgate.ec.europa.eu/sdmxregistry/> (available only in English).

any particular NACE section, they are systematically followed up with the countries concerned.

2.3 Hourly labour cost levels

Eurostat has continued publishing with success the annual estimates of hourly labour costs by NACE Rev. 2 section since the first release issued in April 2016. These estimates are based on the levels obtained from the four-yearly labour cost survey, which are extrapolated with the labour cost indices. They are produced 3 months after the end of the reference period and cover all NACE sections with the exception of NACE Rev. 2 section 'L' (real estate activities).

2.4 Quality reports

The quality reports submitted by Member States were timely processed using the latest version of the European Statistical System Metadata Handler and made available to all users⁸.

2.5 Seasonal and calendar adjustments

Eurostat analysed the seasonally (SA) and calendar (CA) adjusted series transmitted by Member States, and presented a cross-country comparison to its expert group on labour market statistics in October 2021.

Eurostat also improved the seasonal adjustment annex attached to the national quality reports. This annex details in particular the seasonal adjustment models used, the outliers detected, the size of the adjustments, and the volatility of the results.

Eurostat publishes SA data for EU aggregates in the database and in the Statistics Explained article on LCI, alongside not-seasonally adjusted (NSA) data. SA results for the totals are now derived from SA data for the wage and non-wage components, which ensures consistency.

III. DATA QUALITY

3.1 Relevance and completeness

Relevance

User demand continued not only for information on quarterly percentage changes in labour costs, as measured by the LCI, but also, increasingly, for information on labour costs in absolute terms (euro per hour). Eurostat continued publishing, in April each year, estimates of hourly labour costs in euro and in national currencies (labour cost levels) with a NACE Rev. 2 breakdown. The annual growth rate of hourly labour cost levels and the share of non-wage

⁸ https://ec.europa.eu/eurostat/cache/metadata/EN/lci_esqrs.htm (available only in English).

costs in total labour costs⁹ were included. The feedback received on the publication of these estimates is positive, and Eurostat will continue to produce the annual labour costs with the NACE Rev. 2 breakdown.

Completeness

This part reviews whether the LCI data and metadata transmitted meet the legal requirements in terms of completeness. Comments refer to indices, weights and quality reports.

a) Indices

In general, the availability and completeness of the LCI was satisfactory over the whole reference period. Eurostat received CA data as well as CA and SA data from all Member States for all quarters except in two instances (Greece for 2020Q4 and 2021Q2). Member States also delivered NSA data, except Denmark and Sweden, which have been granted derogations¹⁰.

Regarding other European Economic Area (EEA) countries¹¹, both Iceland and Norway transmitted LCI data for all quarters of the reference period. Iceland currently provides only CA as well as CA and SA series whereas Norway only transmits CA data.

Despite the improved coverage of SA data, headline figures are still based on the year-on-year (Q/Q-4) changes in CA data, which show lower volatility. However, all data, including SA estimates, are available on the relevant page¹² of the Eurostat database. All countries covered all NACE sections, taking into account the above derogations.

b) Weights

Pursuant to the LCI Regulation, Member States and other EEA countries are expected to transmit the annual labour costs for the wage / non-wage components of each NACE section (the ‘weights’) every year. Keeping these data up to date is important as they affect Eurostat’s calculation of NACE aggregates and the derivation of totals from the wage and non-wage components.

By 30 June 2022, all Member States and other EEA countries had transmitted the weights for the reference year 2020. The weights for the reference year 2021 were also available except for Czechia, Croatia, Ireland and the Netherlands.

⁹ See the dataset *lc_lci_lev* in the dissemination database of Eurostat (<https://ec.europa.eu/eurostat/data/database>, available in English, French and German).

¹⁰ Pursuant to Regulation (EC) No 1216/2003, Denmark, Germany, France and Sweden are not bound to deliver NSA data. Germany and France provide them anyway.

¹¹ Regulation (EC) No 450/2003 does not apply to Liechtenstein.

¹² <https://ec.europa.eu/eurostat/data/database>

c) Quality reports

All Member States except for Croatia provided national quality reports for the reference year 2020. These reports have been validated and published on Eurostat's corresponding webpage¹³.

3.2 Punctuality

Pursuant to the LCI Regulation, Member States and other EEA countries must deliver labour cost indices within 70 days after the reference quarter.

Since the previous report, 9 countries have missed deadlines for transmitting their data:

- the Netherlands (2021Q1 data received 1 calendar day after the deadline);
- Ireland (2021Q1 and 2022Q1 data received 4 calendar days after the deadline);
- Denmark (2021Q2 and 2022Q1 data received 1 calendar day after the deadline);
- Hungary (2021Q2 data received 1 calendar day after the deadline);
- France (2021Q2 and 2021Q3 data received 1 calendar day after the deadline whereas 2021Q4 data were received 3 calendar days after the deadline);
- Finland (2021Q3 data received 1 calendar day after the deadline);
- Latvia (2021Q2 data received 2 calendar days after the deadline);
- Croatia(2021Q2 data received 2 calendar days after the deadline); and
- Greece (2021Q3 data received 4 calendar days after the deadline and 2021Q4 data received 3 calendar days after the deadline).

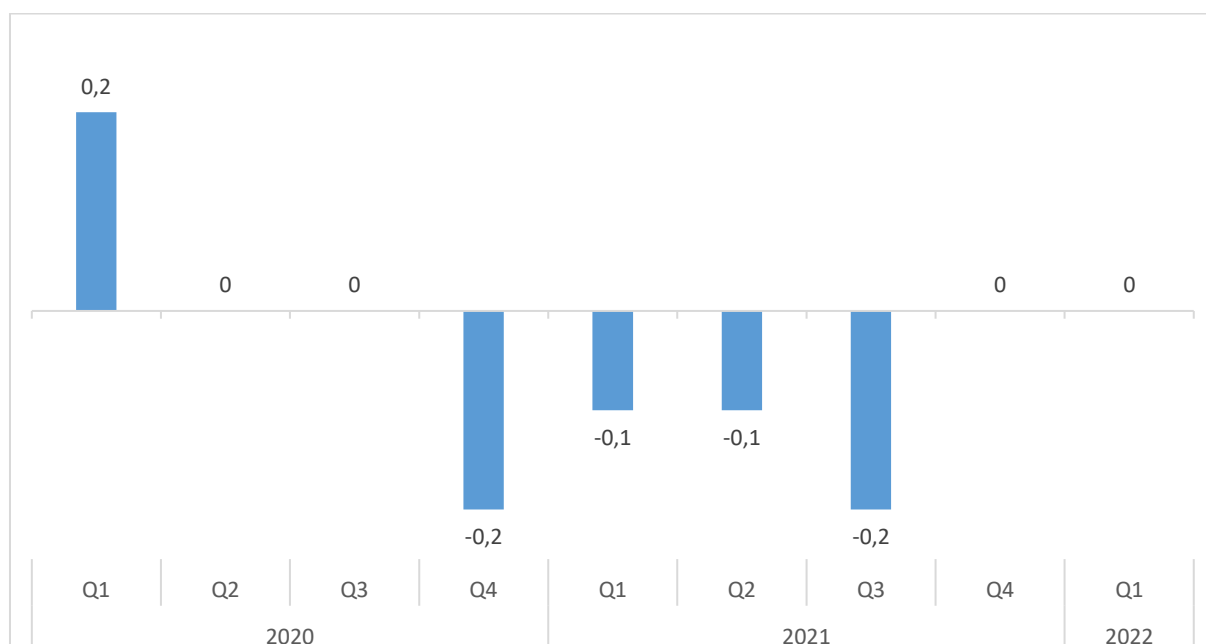
Regarding other EEA countries, Norway transmitted LCI data on time, as did Iceland.

3.3 Accuracy

The LCI is made up of a number of different variables (e.g. labour costs and hours worked), which may be taken from several sources. This means that revisions may occur at any time, affecting the last quarter, several quarters or whole years. If adjustments relate to the reference year, the whole series has to be revised. Revisions of the EU headline figure (year-on-year growth rate) never exceeded 0.2 percentage points (pp) (see Figure 1). The revisions were due to the COVID-19 crisis and governmental support measures mostly reported in the non-wage components of the LCI.

¹³ https://ec.europa.eu/eurostat/cache/metadata/EN/lci_esqrs.htm (available only in English).

Figure 1: Changes to the annual growth rate between the first and final LCI releases
(EU-27, NACE Rev. 2 Sections B to S aggregate, total labour costs, in pp, [2020Q1 to 2022Q1])



Source:

- For final data: Eurostat dataset lc_lci_r2_q [variable: 'Labour cost for LCI (compensation of employees plus taxes minus subsidies)'].
- For first estimates: production database of Eurostat.

Data were extracted on 24.6.2022.

3.4 Coherence and comparability

Coherence with national accounts figures

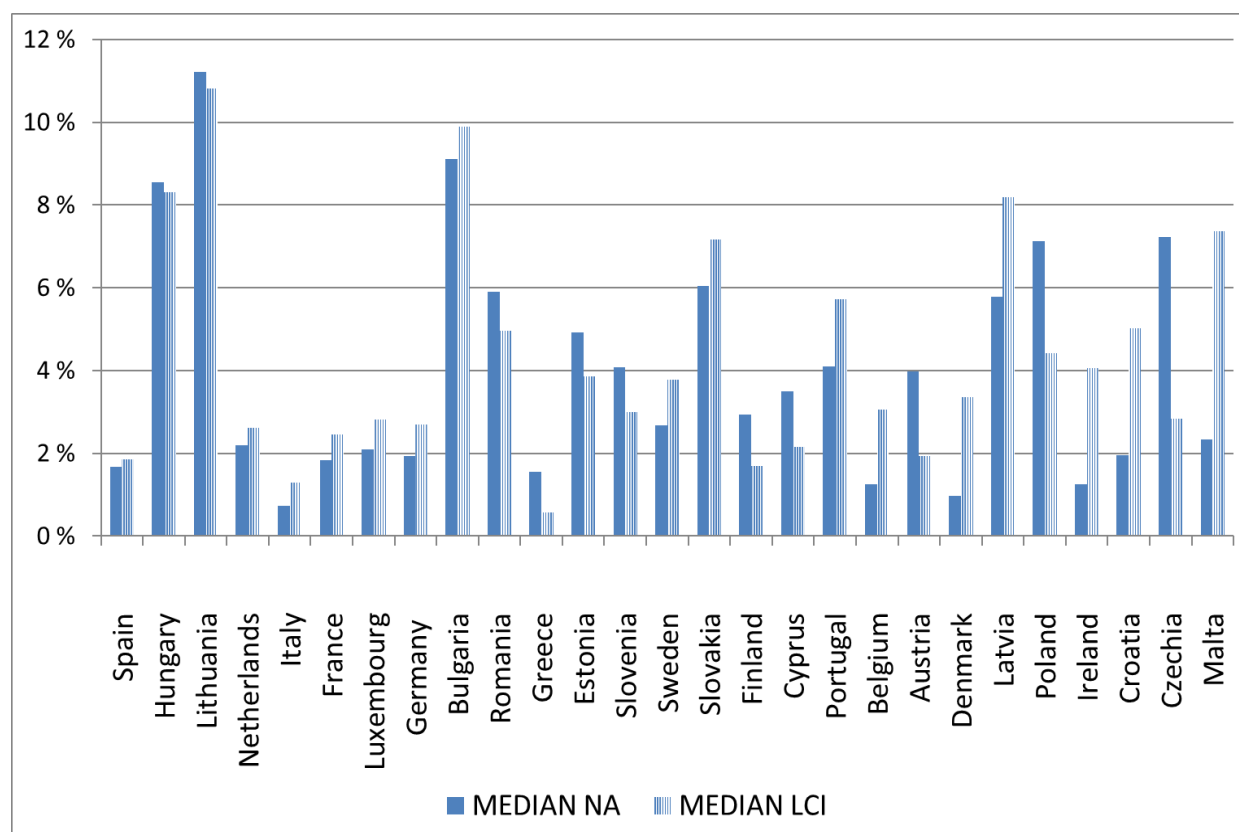
One of the areas that continues to receive attention is the coherence of the LCI with other statistics on labour costs, in particular with the quarterly national accounts data.

For the annual quality report, Member States are asked to compare the growth rate of the LCI with that of employees' hourly compensation found in the national accounts (ESA 2010 definition¹⁴). The datasets are not expected to perfectly match: even if almost identical definitions of labour cost are used, statistical sources and treatments may differ. Furthermore, collecting data on hours worked is particularly difficult for both the LCI and the national accounts. Despite these differences in methodology, it is informative to analyse the level of discrepancies between both sources. When the levels are above a given relative threshold, this may indicate quality issues in either dataset.

¹⁴ Regulation (EU) No 549/2013 of the European Parliament and of the Council of 21 May 2013 on the European system of national and regional accounts in the European Union (OJ L 174, 26.6.2013, p. 1).

For quality assessment, Eurostat continued to monitor the NACE Rev. 2 Sections B to S aggregates of each Member State. For this comparison, NSA LCI data were used, except for Denmark and Sweden for which CA data were available. The median annual growth rate of the LCI was compared with that of the hourly compensation of employees, over 8 quarters, and variations of more than 2 pp were considered to warrant further analysis (see Figure 2).

*Figure 2: Median annual growth rates of the LCI versus hourly compensation of employees
(NACE Rev. 2 Sections B to S aggregate, total labour costs, reference period: 2020Q2-2022Q1*)*



* For Denmark and Sweden, the NSA data were not available at the time of drafting; CA data were used instead.

Source:

- For the national accounts: Eurostat datasets *namq_10_a10* [variable: 'Compensation of employees'] and *namq_10_a10_e* [variable: 'Employees domestic concept, in thousands hours worked'].
- For the LCI: Eurostat dataset *lc_lci_r2_q* [variable: 'Labour cost for LCI (compensation of employees plus taxes minus subsidies)'].

Data were extracted on 24.6.2022.

Countries with a gap of more than 2 pp were: Malta (5 pp), Czechia (4.4 pp), Croatia (3.1 pp), Ireland (2.8 pp), Poland (2.7 pp) as well as Latvia and Denmark (both 2.4 pp) (see Figure 2, with countries ranked by increasing order of the gap in absolute value).

The results of the above analysis are followed up with Member States, in particular with respect to data on hours worked.

In addition to the medians, Eurostat compared the standard deviation of the annual growth rates of both the LCI and the national accounts series, as an indicator of volatility. Compared with the last report, the volatility of both series has increased substantially because of high variations in the number of hours worked. This was particularly the case for the economic activities most impacted by the COVID-19 crisis, namely NACE Rev. 2 Sections I ('Accommodation and food service activities') and R ('Arts, entertainment and recreation').

Comparability

Comparability between countries is ensured through the detailed definitions and methodology included in the LCI legislation. Member States fulfil the EU requirements with the data sources available at national level. Most of them use either surveys or a combination of surveys and administrative data, whereas 2 Member States exclusively rely on administrative sources.

In order to publish comparable LCI data over time, it is important to correct for calendar and seasonal effects. The headline figures are adjusted for calendar effects while offsetting seasonality by comparing the same quarters over 2 consecutive years.

Pursuant to Article 1 of Regulation (EC) No 1216/2003, LCI figures must be provided in NSA, CA as well as CA and SA form.

Regulation (EC) No 450/2003 does not explicitly state whether calendar and seasonal adjustments have to be made using the direct or the indirect approach. An indirect adjustment means that the basic series are adjusted and then used to construct higher-level aggregates, whereas a direct adjustment means that every single series, including higher-level aggregates, is adjusted individually.

For the LCI, Eurostat recommends using the indirect approach to avoid inconsistencies between total labour costs and components.

Eurostat systematically checks for inconsistencies between the annual growth rates of totals and components, and reports all inconsistencies that exceed 0.1 pp (after rounding) to the countries concerned. The total LCI is then recalculated on the basis of the wage and non-wage components (indirect approach). This harmonised approach also ensures improved comparability across countries.

IV. IMPACT OF THE COVID-19 CRISIS

4.1 Survey of Member States

In March 2020, Eurostat launched a survey enabling countries to report the main issues they had faced in collecting LCI data since the start of the pandemic. The most frequent issue reported in the EU survey, as well as in the metadata files for 2020Q1 and 2020Q2, was a lower response rate from businesses surveyed due to temporary business closures and new working arrangements (short time work, teleworking, etc.).

4.2 Methodological guidance and reporting

To ensure a harmonised recording of COVID-19 measures in labour cost statistics, in particular in the quarterly LCI, Eurostat posted a guidance note on recording government schemes related to the COVID-19 crisis in labour cost statistics¹⁵ in April 2020.

The support measures introduced by EU governments varied in scope, intensity and time span, depending on how the COVID-19 pandemic affected each national economy. To help users analyse developments in the LCI during the pandemic, Eurostat collected information on the main schemes with an impact on labour cost statistics. This was done in full cooperation with the national statistical institutes, and the results have been added to the LCI metadata in the dissemination database of Eurostat¹⁶.

4.3 Impact on LCI data

Despite the hindrances caused by the COVID-19 outbreak, Member States managed to deliver 2020Q1 data on time. In 2020Q2, most countries recorded large year-on-year increases in the wage component of the LCI. This was caused by reductions in the number of hours worked while wages were generally preserved. Conversely, the non-wage component decreased reflecting higher subsidies (recorded with a negative sign) paid by governments to compensate firms for limiting wage cuts. However, this was not always the case, as some EU governments opted for paying subsidies directly to employees, in which case they were not recorded in wage statistics.

¹⁵ https://ec.europa.eu/eurostat/documents/10186/10693286/Labour-costs_Guidance_note.pdf

¹⁶ [Labour cost index \(lci\) \(europa.eu\)](#), item 15.2.

V. CONCLUSIONS

Overall, the quality of the labour cost indices of the Member States and of the EU aggregates has remained good, despite the impact of the COVID-19 crisis. In particular, EU aggregates recorded low revisions, as was the case before the crisis. Eurostat also issued a detailed guidance note to preserve cross-country comparability throughout the reference period.

The quality reports submitted by Member States were processed using the latest version of the European Statistical System Metadata Handler and made available to all users. Eurostat added a comprehensive annex on seasonal adjustment practices and results across Member States. Moreover, Member States reported on the main schemes introduced by their governments to subsidise labour costs during the COVID-19 crisis. This information has been added to the reference metadata on quality.

Since 2017, Eurostat has been publishing annual estimates of the hourly labour cost levels by NACE Rev. 2 sections, based on both labour cost survey levels and LCI trends. The related *Statistics Explained* articles recorded a high number of hits, confirming users' interest.

The Commission will continue to monitor compliance and data quality on a regular basis, using the data delivered and other national documentation, including quality reports.

In close cooperation with the national statistical institutes, Eurostat has also carried out a general review of EU legislation on labour market statistics on businesses. This review aims to evaluate and modernise all EU legislation in the field of labour market statistics on businesses.

As regards the LCI, Eurostat envisages to propose the following improvements:

- collecting a flash LCI estimate at t+45 days, from the larger EU countries, with a view to publishing euro area and EU totals at around t+50 days;
- collecting final LCI data at t+65 days instead of t+70 days, with a view to publishing the results at t+72 days, against t+77 days currently; and
- introducing precision targets for the wage component of the LCI.