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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

Regulation (EC) No 450/2003 of the European Parliament and of the Council of 27 February 2003 concerning the labour cost index (LCI)¹ sets a common framework for Member States to produce comparable indices and provide them to the Commission.

The labour cost index 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 euro-indicators that provide information on economic developments in the euro area. Eurostat publishes a quarterly news release on the hourly labour cost index on its website², which contains a complete data set 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.

Pursuant to Article 13 of Regulation (EC) No 450/2003, the Commission has to submit a report every 2 years to the European Parliament and the Council. As back series were analysed in previous reports, this report examines the quality of the labour cost index data received afterwards: from second quarter 2018 (2018Q2) to the first quarter of 2020 (2020Q1). As the United Kingdom was a member of the European Union until 31 January 2020, the LCI data transmitted by this country have also been included in the present report.

In July 2003, the Commission adopted Regulation (EC) No 1216/2003³, setting out in greater detail the procedures that Member States must follow when sending their indices to the Commission, the calendar and seasonal adjustments to be made to the indices as well as the content of the national quality reports. In March 2007, the Commission adopted Regulation (EC) No 224/2007⁴. It amends Regulation (EC) No 1216/2003 and extends the scope of the labour cost index to cover the economic activities defined in NACE Revision 1 Sections L, M, N and O. The latter sections mainly include non-market services, which may have different dynamics to market services. Moreover, in August 2007, the Commission adopted Regulation (EC) No 973/2007⁵ amending a number of legal acts on specific statistical domains, including the labour cost index, in order to implement the statistical classification of economic activities set out in NACE Revision 2.

¹ OJ L 69, 13.3.2003, p. 1.

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 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 (OJ L 169, 8.7.2003, p. 37).

⁴ Commission Regulation (EC) No 224/2007 of 1 March 2007 amending Regulation (EC) No 1216/2003 as regards the economic activities covered by the labour cost index (OJ L 64, 2.3.2007, p. 23).

⁵ Commission Regulation (EC) No 973/2007 of 20 August 2007 amending certain EC Regulations on specific statistical domains implementing the statistical classification of economic activities NACE Revision 2 (OJ L 216, 21.8.2007, p. 10).

In Annex I of Regulation (EC) No 1216/2003, the quality of the labour cost index 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 report⁶, we will focus on relevance, completeness, punctuality, accuracy, comparability and coherence.

II. GENERAL PROGRESS SINCE THE LAST REPORT

From a legislative point of view, no changes have been made since the previous report was adopted. However, the United Kingdom's withdrawal from the European Union had an impact on EU aggregates. In particular, from 2020Q1 onwards, LCI releases reflect the new composition of the EU-27.

LCI data continued to be collected using SDMX standards for improved data transmissions, and the annual quality reports were updated on schedule, before the end of the year following the reference period.

LCI data were rebased to the new reference year (2016) for which new benchmark data obtained from the latest Labour Cost Survey (LCS2016) became available in 2019.

Hourly labour cost levels data were updated within 3 months after the reference year, based on LCI data for 2019.

Finally, the Labour Market Statistics Working Group (LAMAS) endorsed a new template designed by Eurostat to collect information on the seasonal adjustment models used by Member States in the LCI context.

Details on these developments are presented in the next paragraphs.

2.1 Improved standards for data collection

The latest version of the Statistical Data and Metadata eXchange (SDMX)⁷ data structures 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.

The automatic validation tool (STRUVAL) was used to notify Member States of the IT issues detected in their LCI transmissions.

2.2 LCI rebasing

Labour cost indices data are presented in the form of index numbers, expressed in relation to a given base year where their value is 100 by definition. As a result, index numbers provide the cumulated increase in labour costs back to the base year.

⁶ COM(2017) 71.

⁷ <http://sdmx.org/>(available only in English).

The base year is chosen to coincide with the latest 4-yearly Labour Cost Survey (LCS) that provides benchmark figures for labour cost levels. This way, LCI data expressed in that base year can be directly combined (multiplied) with LCS data to derive labour cost-level estimates for the most recent year for which LCI data are available.

After the new vintage of LCS data was published, for reference year 2016, the LCI domain was rebased accordingly. Since June 2019, LCI data are expressed in the new base year 2016 = 100.

2.3 Hourly labour cost levels

Eurostat 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 both labour cost levels and labour cost index trends and are produced 3 months after the end of the reference period. The coverage included all NACE sections with the exception of NACE Revision 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 did a country comparison of the results that were presented at the Labour Market Statistics Working Group (LAMAS-LMI) of October 2019.

Eurostat also presented a new template that Member States will use from 2020 onwards to report on the procedures and models used for the seasonal adjustment of their LCI series. In parallel, a special programme was developed as an add-on to the JDemetra+ software so that the template can be filled out in a harmonised and automated manner.

III. DATA QUALITY

3.1 Relevance

To assess possible inflationary pressure caused by developments in the labour market, the Commission and the European Central Bank use an index of labour costs per hour worked which shows the short-term evolution of labour costs. Shortly after the data becomes available, the index needs to be calculated for each Member State, for the EU as a whole and for the euro area. The labour cost index is also important for social partners involved in wage negotiations and for the Commission itself for monitoring short-term developments in labour

⁸ https://ec.europa.eu/eurostat/cache/metadata/en/lci_esms.htm

costs. The labour cost index is one of the principal European economic indicators⁹. Finally, LCI data are used for the indexation of prices in some large commercial contracts that last several years.

User demand continued not only for information on quarterly percentage changes in labour costs, as measured by the labour cost index, but also, increasingly, for information on labour costs in absolute terms (euros per hour). Eurostat continued publishing, in April each year, estimates of hourly labour costs in euros and in national currencies with a NACE Revision 2 breakdown. The annual growth rate of hourly labour cost levels as well as the share of non-wage costs in total labour costs¹⁰ 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 Revision 2 breakdown.

3.2 Completeness

In general, the availability and completeness of the labour cost index was satisfactory over the whole reference period. Eurostat received calendar-adjusted data as well as calendar and seasonally adjusted data from all Member States for all quarters except in one instance (Greece, for 2019Q3). Member States also delivered non-seasonally adjusted data, except Denmark and Sweden, which have been granted derogations¹¹.

In the case of Denmark, all LCI data for reference quarter 2019Q4 were transmitted to Eurostat in time but published with a delay of 5 weeks, pending a decision on the recording of the new system of social contributions.

Regarding European Economic Area (EEA) countries¹², both Iceland and Norway transmitted LCI data for all quarters of the reference period.

Switzerland does not collect quarterly LCI data.

Despite the improved coverage of seasonally adjusted data, headline figures are still based on the year-on-year (Q/Q-4) changes in calendar-adjusted data that show lower volatility. However, all data, including seasonally adjusted estimates, are available on the relevant page of the Eurostat database, thus ensuring clarity and coherence with other price statistics (e.g. in particular the harmonised index of consumer prices).¹³

⁹ COM(2002) 661, Communication of the Commission to the European Parliament and the Council, *Towards improved methodologies for Eurozone statistics and indicators*.

¹⁰ See the dataset *lc_lci_lev* in Eurobase (<http://ec.europa.eu/eurostat/data/database>, available in English, French and German).

¹¹ Pursuant to Regulation (EC) No 1216/2003, Denmark, Germany, France and Sweden are not bound to deliver non-seasonally adjusted data.

¹² Regulation (EC) No 450/2003 does not apply to Liechtenstein.

¹³ See the dataset *lc_lci_r2_q* in Eurobase (<http://ec.europa.eu/eurostat/data/database>, available in English, French and German).

All Member States provided national quality reports for the reference year 2018. These reports have been validated and published on Eurostat’s corresponding webpage¹⁴.

3.3 Punctuality

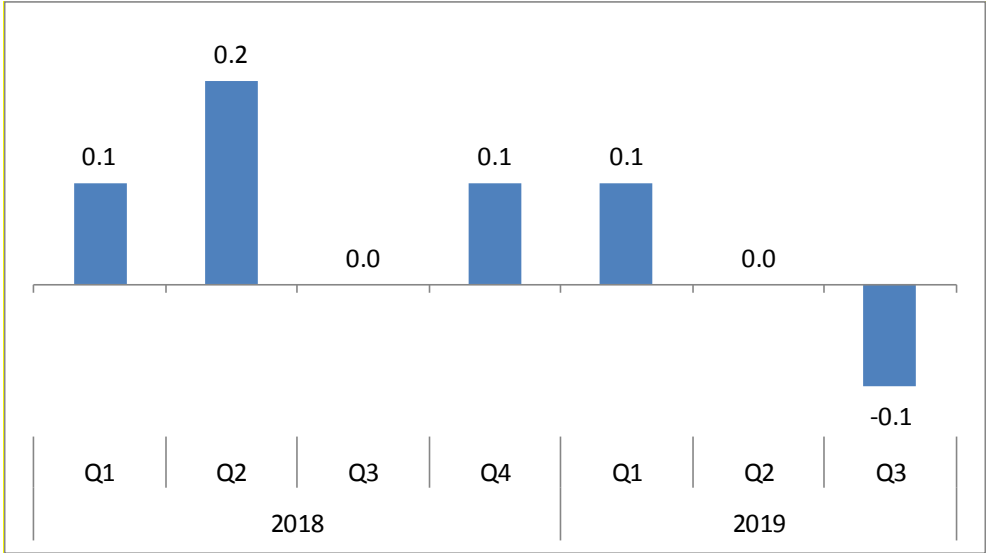
Member States’ punctuality in sending data to the Commission since the previous report was good, and all data were transmitted on time except for Greece for 2019Q3; its data were transmitted with a delay of 8 days.

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

3.4 Accuracy

The labour cost index 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) have only once exceeded 0.1 percentage points since the first quarter of 2018 (0.2 revision for 2018Q2, see Figure 1). This represents an improvement in accuracy compared with the previous report.

Figure 1: Changes to the year-on-year growth rate between the first and the latest (2020Q1) LCI releases (EU-28, NACE Revision 2 Sections B to S aggregate, total labour costs, in percentage points)



¹⁴ http://ec.europa.eu/eurostat/cache/metadata/EN/lci_esqrs.htm (available only in English).

3.5 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 two Member States exclusively rely on administrative sources.

In order to publish comparable labour cost index 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 Commission Regulation (EC) No 1216/2003, labour cost index figures must be provided in non-seasonally adjusted, calendar-adjusted as well as calendar and seasonally adjusted 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.

In the case of LCI, Eurostat recommends using the indirect approach to avoid inconsistencies between total labour costs and components. Such inconsistencies are also easily detected by users and may raise doubts on the overall quality of the LCI.

Eurostat systematically detects inconsistencies between totals and components of 0.1 percentage point or more (after rounding) and reports them to the country concerned through a validation report. 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.

At the LAMAS-LMI meeting held in 2019, Eurostat informed Member States of its assessment of the seasonally (SA) and calendar-adjusted (CA) series transmitted for the labour cost index. SA and CA data were analysed separately and checked for the presence of residual seasonality or calendar effects respectively. A standard template was proposed and accepted by countries in order to document their seasonal and calendar adjustment procedures. Countries showing residual seasonality or calendar effects in their series were asked to check their adjustment procedures and report their findings.

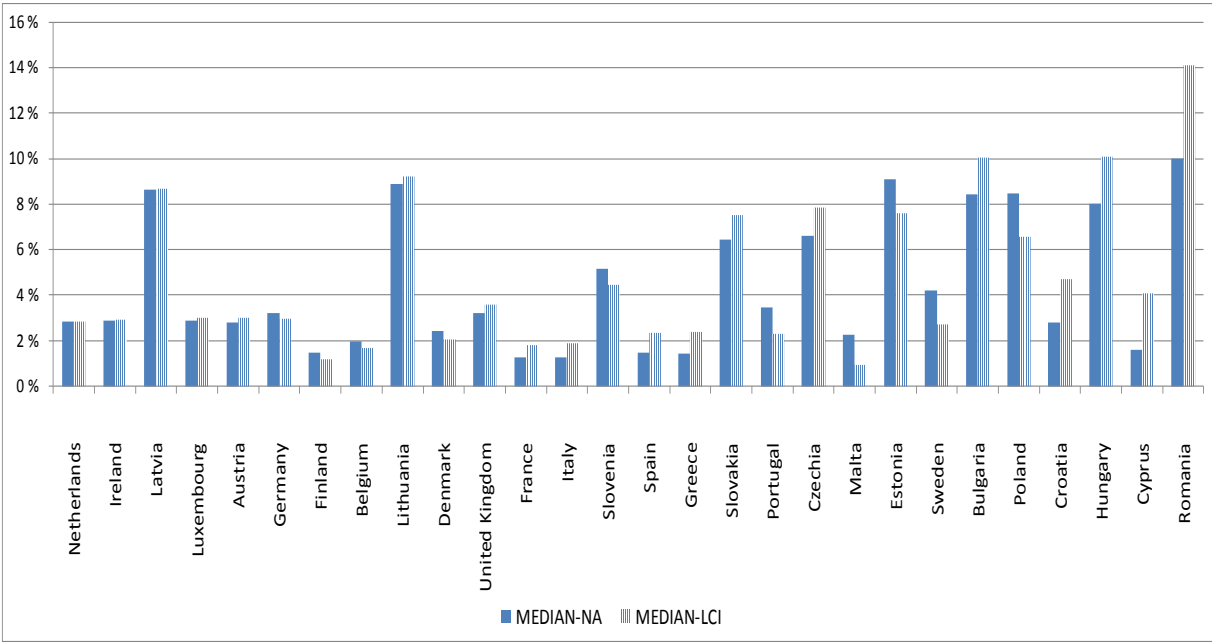
3.6 Coherence with national accounts figures

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 (NA) data.

For the annual quality report, Member States are asked to compare the growth rate of the labour cost index with that of employees’ hourly compensation found in the national accounts (ESA 2010 definition¹⁵). 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 labour cost index 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.

For quality assessment, Eurostat continued to monitor the NACE Revision 2 Sections B to S aggregates of each Member State. For this comparison, non-seasonally adjusted LCI data were used, except for Denmark and Sweden for which calendar-adjusted data were available. The median annual growth rate of the labour cost index was compared with that of the hourly compensation of employees, over 10 quarters, and variations of more than two percentage points (pp) were considered to warrant further analysis. This was the case for Hungary (2.1 pp), Cyprus (2.5 pp) and Romania (4.1 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.

Figure 2: Median annual growth rates of the labour cost index (LCI) versus hourly compensation of employees (NA) (NACE Revision 2 Sections B to S aggregate, total labour costs, reference period: 2017Q4-2020Q1, in %)*



*Except Belgium and Denmark: 2017Q4-2019Q4. NA data for 2020Q1 were not available at the time of drafting.

¹⁵ 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).

In addition to the medians, Eurostat compared the standard deviation of the annual growth rates of both the LCI and NA series, as an indicator of volatility.

In two cases, for Austrian and Estonian data, the standard deviation of the LCI series differed by 2 percentage points from the NA series. Both countries have been asked to investigate the sources of these differences and to inform Eurostat of the results.

IV. CONCLUSIONS

Overall, the quality of the labour cost indices of the Member States and of the EU aggregates has continued to improve since the previous report. This is the case in particular for the size of revisions.

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.

Among other changes since the previous report, the LCI domain has been rebased to the new base year (2016) and a new template was agreed for a better reporting of Member States practices in the seasonal adjustment field. Since the first quarter of 2020, LCI aggregates reflect the new composition of the European Union without the United Kingdom.

Since 2017, Eurostat has been publishing annual estimates of the hourly labour costs levels by NACE Revision 2 sections, based on both labour cost survey levels and labour cost index trends. Positive feedback was received from users, in particular institutional users who use these data to monitor wage convergence within the European Union.

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. Where no or insufficient improvement is seen, the Commission will closely follow up with the competent national statistical authorities.