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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)**

1. 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 Commission (Eurostat) publishes a quarterly news release on the hourly labour cost index on its website ⁽²⁾ which contains a complete data set, broken down by economic activity and by the components of labour costs. The website also includes both quarter-on-quarter and year-on-year growth rates.

In July 2003, the Commission adopted Regulation (EC) No 1216/2003 ⁽³⁾, setting out in greater detail the procedures that Member States must follow when sending their indices to the Commission, the seasonal adjustments to be made to the indices and the content of the national quality reports. In March 2007, the Commission adopted Regulation (EC) No 224/2007 ⁽⁴⁾. 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. This extension means that non-market services are also covered. Non-market services account for the largest proportion of the economic activities specified in these sections and may have different dynamics to market services. In August 2007, the Commission adopted Regulation (EC) No 973/2007 ⁽⁵⁾. This amended a number of regulations 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.

Under Article 13 of Regulation (EC) No 450/2003, the Commission shall submit a report every two years to the European Parliament and the Council. As back series were analysed in previous reports, the present report examines the quality of the labour cost index data for the reference quarters ranging from third quarter 2014 (2014Q3) to second quarter 2016 (2016Q2).

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, consistency and completeness.

The previous report ⁽⁶⁾ addressed progress on accessibility and clarity and considered them satisfactory. This report will therefore focus on improvements made in relevance,

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 Eurostat's website (<http://ec.europa.eu/eurostat> - 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).

⁶ COM(2015) 42 (<http://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-42-EN-F1-1.PDF>).

completeness, punctuality, accuracy, comparability and will review the consistency between the labour cost index data and the national accounts.

Particular attention is given to the problem of data not being provided by Member States within the deadlines set, and the consequences for the quality of the published European aggregates.

2. GENERAL PROGRESS SINCE THE LAST REPORT

From a legislative point of view, no changes have been made since the publication of the last report in 2015.

Over the current reporting period, Eurostat has worked on simplifying and harmonising the standards relating to both data and metadata (quality reports) sent by Member States to the Commission. The use of the Statistical Data and Metadata eXchange (SDMX) ⁽⁷⁾ standard (worldwide reference for sharing statistical information) for nomenclatures and variables used in the labour cost index data has been extended to all Member States. Eurostat has started updating the SDMX data structure definition to a new version in order to allow more optional variables to be collected and to harmonise the LCI data collection with other statistical domains. Tests to implement the updated standards have been carried out with 12 Member States and the implementation of the update in production is envisaged, after further testing, for the next reference quarter (2016Q3). Also on the output side, the LCI data transmission in SDMX format to the European central Bank (ECB) has been tested successfully. Both initiatives have helped to simplify the production process.

The quality reports submitted by Member States have been migrated to a new version of the European Statistical System Metadata Handler (v2.13), the IT tool that allows each Member State to load their quality reports remotely and to update the parts that have changed during the previous year without having to re-submit them in full. In addition, this IT tool allows the national quality reports to be placed on Eurostat's reference database, thus making them available to all users.

One of the areas that continues to receive attention is the consistency of the LCI with other statistics on labour costs, in particular with the quarterly national accounts data (see § 3.6). This has been analysed from both a theoretical and an empirical point of view.

Eurostat organised in May 2015 a workshop with Member States to discuss the quality of statistics on labour costs. Topics such as data collection (sources and sampling techniques), methodological issues, plausibility and consistency, statistical processes (working-day adjustment), user needs and future developments were evaluated and proposals for improvement agreed.

During the Labour Market Statistics (LAMAS) working group in January 2016, Eurostat presented the results of new plausibility checks for labour cost index data. LAMAS fully supported these new quality checks and agreed to implement them at national level as much

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

as possible. Countries not using the indirect method for seasonal adjustment (wages / non-wages and NACE aggregates) agreed during the LAMAS working group in October 2016 to implement this procedure within the next two quarters.

Eurostat has also started publishing annual estimates of hourly labour costs with a NACE breakdown in a news release which was first issued in April 2016. These estimates are based on both labour costs levels and labour cost index trends and are produced 3 months after the end of the reference period already. The coverage includes NACE breakdown with the exception of NACE section 'L' (real estate activities).

While the Member States have implemented and maintained the necessary infrastructure for producing the labour cost index, Eurostat is continuously improving the system for receiving, verifying, processing, storing and disseminating the data. These processes, which became fully operational in 2005, are continuously being reviewed and updated.

3. EVALUATION OF THE QUALITY OF THE DATA AND ITS EFFECT ON EUROPEAN AGGREGATES

3.1 RELEVANCE

The indicator 'changes in labour costs per hour worked' is important for analysing short and medium-term economic developments. The Commission and the ECB use an index of labour costs per hour worked, which shows the short-term evolution of labour costs, to assess possible inflationary pressure caused by developments in the labour market. The index needs to be calculated shortly after the data becomes available, for each Member State, for the whole European Union (EU) and for the euro area (EA). 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 costs. The labour cost index is one of the Principal European Economic Indicators⁽⁸⁾.

There is demand 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). In April 2012, Eurostat had published early estimates of hourly labour costs in euros and in national currencies for the first time. Eurostat added the NACE breakdown for its annual estimates disseminated in a news release in April 2016 and via the online database.

The publication of estimates of annual labour costs with NACE breakdown based on the labour cost index increased the already strong user demand for comprehensive and timely information on the level of hourly labour costs. The Commission has received positive feedback on the publication of these estimates and will continue to produce the annual labour costs with a NACE breakdown.

⁸ COM(2002) 661, Communication of the Commission to the European Parliament and the Council, *Towards improved methodologies for Eurozone statistics and indicators*.

3.2 COMPLETENESS

In general, the availability and quality of the labour cost index has continued to improve compared with the previous reporting period. Eurostat received working-day adjusted data and seasonally and working-day adjusted data from all Member States. All Member States delivered also non-seasonally adjusted data, excepting Denmark and Sweden - countries which were granted derogations from delivering non-seasonally adjusted data ⁽⁹⁾.

Regarding European Economic Area (EEA) States ⁽¹⁰⁾, Iceland did not send any labour cost index data for the reference period while Norway sent data for all quarters concerned.

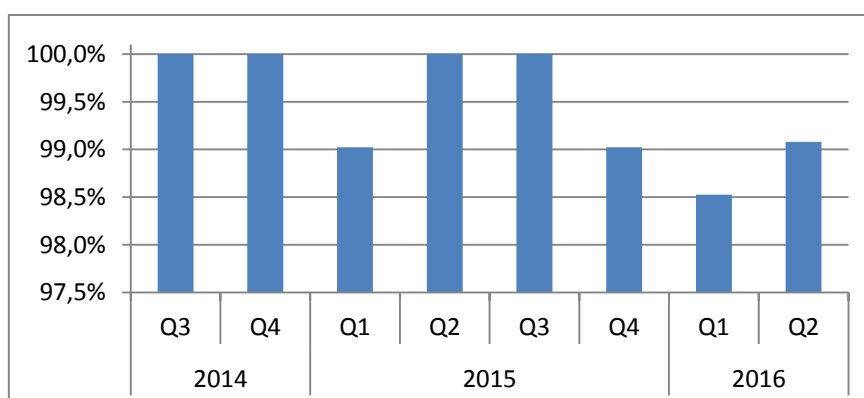
Despite the improved coverage of seasonally adjusted data, it was decided, after careful analysis of data quality and user needs, to continue publishing working-day adjusted data as headline figures. This, in particular, ensures clarity and consistency with other price statistics (e.g. the consumer price index). However, all data, including seasonally adjusted estimates, are available online in Eurostat's database.

National quality reports for the reference year 2015 were provided by all Member States and are being validated before being made available to the public.

3.3 PUNCTUALITY

Member States' punctuality in sending data to the Commission has improved since the previous report published in 2015. With the exception of Greece and Croatia, only minor delays have been encountered. Providing data on time is of the utmost importance for producing the LCI, as delays in data delivery mean that estimates have to be used for EU and euro area aggregates. This can result in unnecessarily large revisions at a later date. Figure 1 shows the proportion of total EU labour costs in euros for which data were available for each quarter at the time of the news release.

Figure 1: Available labour cost index data at time of publishing, percentage of total EU labour costs in euros



⁹ Regulation (EC) No 1216/2003 - Denmark, Germany, France and Sweden are not bound to deliver non-seasonally adjusted data.

¹⁰ Decision of the EEA Joint Committee No 134/2003 - Regulation (EC) No 450/2003 does not apply to Liechtenstein.

LCI coverage was complete except during four quarters in which Greece (2015 Q1 and Q4, 2016 Q1 and Q2) or Croatia (2016 Q1) did not send their data on time.

On average, timeliness has improved compared to the last reporting period, ensuring European Union coverage at or above 99 % for all quarters except one (2016Q1).

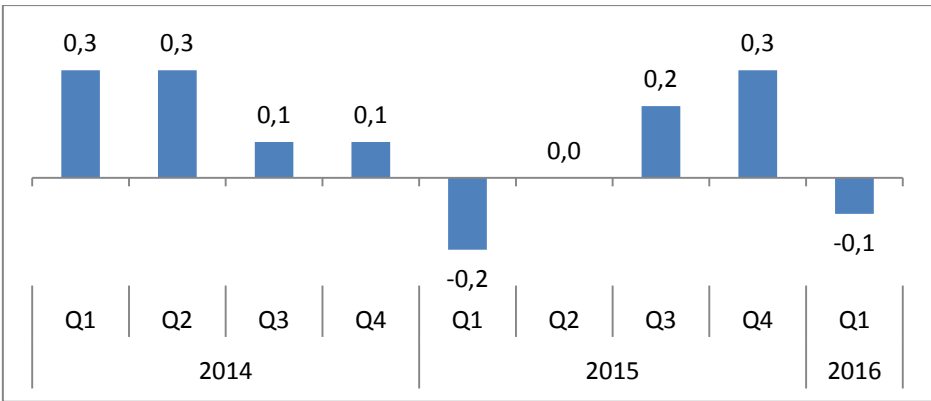
Regarding timeliness, since the last reporting period Greece twice had a delay of more than two days for labour cost index data. Despite such delays, it was still possible to include data for Greece in the news release. Since 2016Q1, Croatia has resumed its timely transmission of labour cost index data.

Regarding EEA States, Iceland did not send any labour cost index data for the period concerned while Norway submitted data in time with only one exception (2015Q4).

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 of data. If adjustments to data relate to the reference year, the whole series has to be revised. Revisions of the EU headline figure ⁽¹¹⁾ (year-on-year growth rate) have exceeded 0.2 percentage points three times since the first quarter of 2014. In most quarters, the estimates have been revised upwards. Contrary to the previous reporting period, revisions of EU aggregates did not exceed 0.3 percentage points.

Figure 2: Changes to data between the first figure published and the 2016Q2 release
 - EU28, NACE Revision 2 sections B to S aggregate, in percentage points -



Throughout the reference period, only the labour cost index data from Greece had quality issues. Eurostat held a bilateral meeting with the Greek statistical office in May 2016, during which a roadmap for tackling these structural issues was agreed. Some progress has been made since then towards improving the quality and timeliness of the data within the next two production rounds.

¹¹ EU-27 up to and including 2013Q2, since then EU-28.

3.5 COMPARABILITY

In order to publish comparable labour cost index data across countries it is important to correct for calendar and seasonal effects.

Article 1 of Commission Regulation (EC) No 1216/2003 states that labour cost index figures shall be provided in non-seasonally adjusted, working-day adjusted and seasonally and working-day adjusted form. There are some exceptions to this rule: a number of Member States have derogations for the delivery of non-seasonally adjusted data ⁽¹²⁾. Regulation (EC) No 450/2003 does not explicitly state whether working-day and seasonal adjustments have to be made using the direct or the indirect approach. While for indirect adjustment, the basic series are adjusted and then used to construct higher-level aggregates, a direct adjustment means that every single series, including higher-level aggregates, is adjusted individually. Both approaches have their advantages and drawbacks, and both are supported by the European Statistical System guidelines on seasonal adjustment ⁽¹³⁾. In a limited number of cases, the adjusted index of the total cost component was either higher or lower than the adjusted index of both sub-components (wage and salary costs; labour costs other than wages and salaries). Eurostat has therefore systematically checked the data delivered by all Member States to ensure that the total index is consistent with its two sub-components for each NACE section. Eurostat continued the policy of publishing only the total index, hiding the components if these differ by more than 0.1 % from the total.

Some progress has been made during the last two years when the practice during production has shown that the indirect method of adjustment produces better data quality. This analysis started in the May 2015 workshop and was concluded during the LAMAS working group in October 2016 where Member States agreed to switch to the indirect method of adjustment.

3.6 CONSISTENCY WITH NATIONAL ACCOUNTS FIGURES

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 (ESA2010 definition) ⁽¹⁴⁾. It is not realistic to expect the figures to be exactly the same. Even if almost identical definitions of labour cost are used, statistical treatments and sources 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 datasets. When the levels are above a given relative threshold, this may indicate quality issues in either dataset.

Eurostat carried a quality exercise for NACE Revision 2 sections B to S aggregates of each State except Greece and Croatia whose LCI data were not available. For this comparison non-seasonally adjusted LCI data were used except for Denmark and Sweden for which working-

¹² Regulation (EC) No 1216/2003 - Denmark, Germany, France and Sweden are not bound to deliver non-seasonally adjusted data.

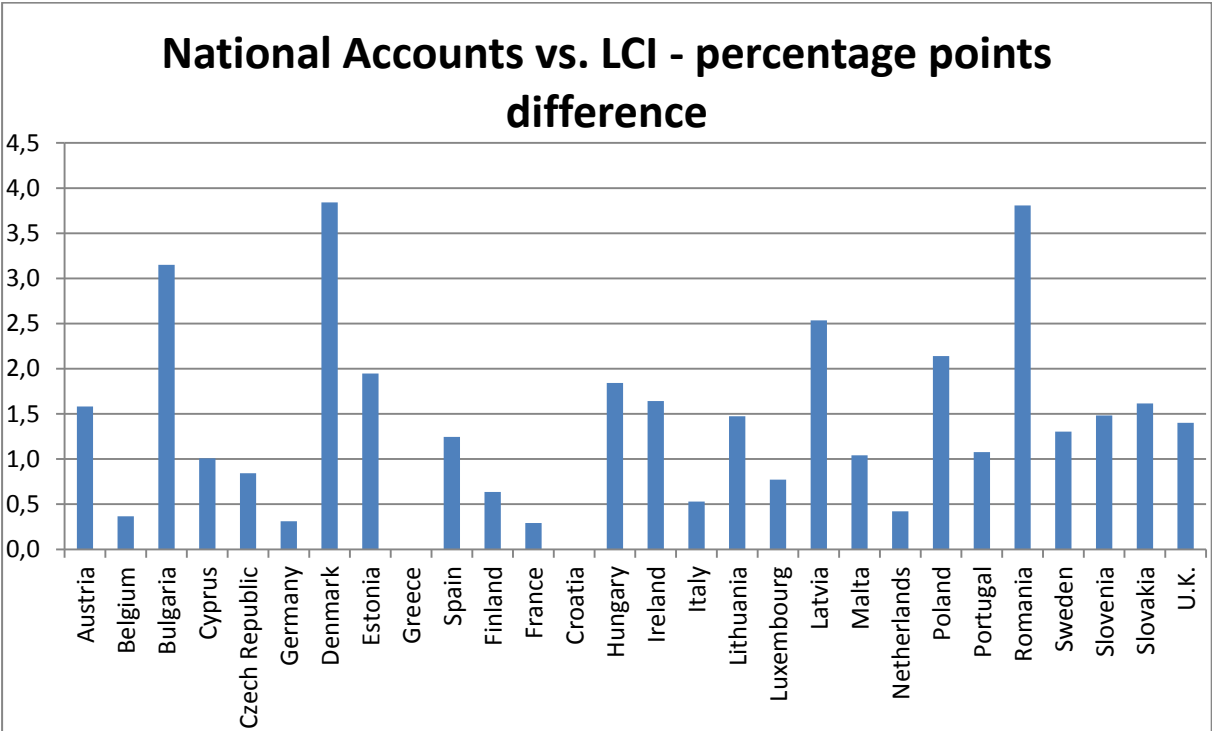
¹³ The updated version of the guidelines include also a specific section on adjusting chain-linked indices <http://ec.europa.eu/eurostat/documents/3859598/6830795/KS-GQ-15-001-EN-N.pdf> (available only in English).

¹⁴ Regulation (EU) No 549/2013.

day adjusted data were available. The absolute average discrepancy between the growth rate of the labour cost index and that of the hourly compensation of employees over 10 quarters was analysed and variations of more than two percentage points on an annual basis were considered to warrant further analysis. This was the case for Bulgaria, Denmark, Latvia, Poland and Romania (see figure 3).

The results of the above analysis will be followed up with the Member States concerned, in particular with respect to data on hours worked. The aim is to improve consistency across the different statistical domains.

Figure 3: Growth rate of the hourly compensation of employees versus labour cost index - Difference in percentage points -



Note: Data for Greece and Croatia not available

4. CONCLUSIONS

Overall, the quality of the labour cost indices of the Member States and of the EU has continued to improve since the previous report, published in 2014. Member States’ punctuality remained good except for Greece whose labour cost index data were still behind the established deadlines.

The use of SDMX standard has been extended and the latest improvements in SDMX format are being implemented.

The quality reports submitted by Member States have been migrated to a new version of the European Statistical System Metadata Handler and have been made available to all users.

The overall quality of statistics on the labour cost index and certain technical aspects were evaluated and improvement proposals were agreed. The consistency of labour cost index data is expected to improve further, among others as result of the follow up actions implemented after a dedicated workshop and subsequent LAMAS meetings. In particular, countries not using the indirect method for seasonal adjustment (wages / non-wages and NACE aggregates) and whose data presented sizeable inconsistencies between components and total, agreed to implement the indirect method by mid-2017.

The Commission (Eurostat) has also started publishing annual estimates of the hourly labour costs levels by NACE sections, starting from 2012 onwards, based on both labour cost survey levels and labour cost index trends.

The Commission will continue to monitor issues relating to non-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.