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

**on implementation of Regulation (EC) No 453/2008 of the European Parliament and of  
the Council on quarterly statistics on Community job vacancies**

## **1. INTRODUCTION**

### **1.1 Background**

Job vacancy statistics (JVS) show the number of jobs vacant at a particular moment. They correspond to the part of labour demand that is not met by labour supply and thus provide key information on the size and structure of labour market mismatches.

Regulation (EC) No 453/2008 of the European Parliament and the Council of 23 April 2008 on quarterly statistics on Community job vacancies<sup>1</sup> ('the JVS Regulation') establishes the framework for producing and evaluating quarterly job vacancy statistics.

Article 10 of the JVS Regulation requires the Commission to report to the European Parliament and the Council on the implementation of the Regulation by 24 June 2010 and every three years thereafter. The purpose of the report is to assess the quality of (a) the statistics provided by Member States and (b) the European aggregates, and to identify areas where improvements could be made.

This is the Commission's fourth report to the European Parliament and the Council<sup>2</sup>. It draws on experience of providing data at quarterly intervals and on documentation provided by Member States in their annual quality reports. As previous reports have analysed back series, this report focuses on the quality of the JVS received since those reports. It examines the JVS sent to the Commission for the reference quarters from the first quarter of 2016 (2016Q1) to the fourth quarter of 2018 (2018Q4).

Section 2 presents the last three years' progress in implementing the JVS Regulation, while Section 3 assesses the quality of job vacancy statistics. Finally, Section 4 draws conclusions and suggests ways to meet users' expectations better in future.

### **1.2 Legal framework**

To complement the general framework established by the JVS Regulation, the Commission adopted two implementing regulations:

- Commission Regulation (EC) No 1062/2008,<sup>3</sup> which defines the seasonal adjustment procedures to be applied from the first quarter of 2014, the structure and content of the annual quality reports which the Member States are to supply to the Commission, and the dates on which these reports are to be sent;
- Commission Regulation (EC) No 19/2009,<sup>4</sup> which defines the term 'job vacancy', sets deadlines for sending data and specifies the periods to be covered by the first set of data

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<sup>1</sup> OJ L 145, 4.6.2008, p. 234.

<sup>2</sup> See previous report, COM (2016) 449 of 8 July 2016.

<sup>3</sup> Commission Regulation (EC) No 1062/2008 of 28 October 2008 implementing Regulation (EC) No 453/2008 of the European Parliament and of the Council on quarterly statistics on Community job vacancies, as regards seasonal adjustment procedures and quality reports (OJ L 285, 29.10.2008, p. 3).

<sup>4</sup> Commission Regulation (EC) No 19/2009 of 13 January 2009 implementing Regulation (EC) No 453/2008 of the European Parliament and of the Council on quarterly statistics on Community job vacancies, as regards the definition of job vacancy, the reference dates for data collection, data transmission specifications and feasibility studies (OJ L 9, 14.1.2009, p. 3).

supplied. The annex to this legal act lists the Member States running feasibility studies and the subjects these studies cover.

Under the above legislation, all Member States are required to provide time series for the number of vacancies and number of occupied posts, starting from the first quarter of 2010. They are to do so no more than 70 days after the end of the quarter (T+70). In addition, Member States with an overall number of employees exceeding 3% of the EU total are required to send flash estimates no more than 45 days after the end of the quarter (T+45).

Member States are required to provide numbers of job vacancies and occupied posts for all business units and each section of the NACE Revision 2 (NACE Rev. 2) classification of economic activities<sup>5</sup>. However, for small businesses (defined as units with under 10 employees) and NACE Rev. 2 sections O-S<sup>6</sup> (where the main activities are public administration, health services and education), the JVS Regulation states that any Member States which have difficulties in providing data should conduct feasibility studies.

Although these feasibility studies have enabled some Member States to achieve full coverage of the economy, this is not yet the case for four of them (Denmark, France, Italy and Malta), whose data are not fully comparable with those of the rest of the EU. In France and Italy, only business units with 10 employees or more are included in surveys, whereas public institutions are not covered by public administration, education and human health (NACE Rev. 2, sections O, P and Q). In Malta, only units with 10 employees or more are included in surveys. Denmark only covers units within the business economy (NACE Rev. 2, sections B-N).

## **2. GENERAL PROGRESS SINCE THE LAST REPORT**

There have been no legislative changes since the adoption of the last report in 2016.

As regards the production process, a number of improvements have been made to the JVS production chain, as detailed in the following paragraphs.

### **2.1 SDMX standards for data collection**

JVS have been transmitted by all Member States using the Statistical Data and Metadata eXchange (SDMX)<sup>7</sup> data structure and internationally agreed code lists (available online through a dedicated registry<sup>8</sup>). The same coding was used in Eurostat's JVS database and to transmit the EU's JVS to the European Central Bank.

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<sup>5</sup> Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains (OJ L 393, 30.12.2006, p. 1).

<sup>6</sup> Covering: Public administration and defence, compulsory social security (section O), education (section P), human health and social work activities (section Q), arts, entertainments and recreation (section R) and other service activities such as activities of membership organisations, repair of computers and personal and household goods, and other personal service activities (section S).

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

<sup>8</sup> <https://webgate.ec.europa.eu/sdmxregistry/> (available in English only)

This standardisation avoids ambiguities and misunderstandings with Member States and simplifies the data validation process, making it suited for automation. This was done by using a new tool for IT validation, described in the paragraph below.

## **2.2 IT validation**

To check the structure and coding of JVS, a new IT tool (STRUVAL) has been introduced to simplify the production process and reduce the risk of errors arising from wrong coding. When the file transmitted is not in line with the SDMX standards in force, it is automatically rejected, and Member States receive a success / failure notification by email. They may access the IT validation report through a web service.

## **2.3 Statistical validation**

In each quarterly transmission, Eurostat makes plausibility checks by comparing data over time and across NACE Rev. 2 economic activities. In the event of significant quarter-on-quarter changes in the number of occupied posts or job vacancies, Eurostat asks Member States to confirm the data or retransmit a corrected data file. No major issues have been uncovered by the plausibility checks carried out over the last few years. However, minor inconsistencies have been detected for some countries between individual and aggregated NACE Rev. 2 sections. These have been corrected.

As regards volatility, results for Finland were somewhat above the average. Finland will look into whether data volatility could be reduced by increasing the sample size or improving the methodology used.

Malta improved its national methodology so as to measure only the number of vacancies open on a reference date ('stock data'), making sure that any vacancies filled before that date are not recorded.

Eurostat's validation detected some significant revisions in the transmission of French 2018Q4 data back to 2015Q4. France explained that these were the result of an improvement in the Acemo survey's coverage (Acemo: 'Activité et conditions d'emploi de la main-d'oeuvre'), which had triggered a level shift in both occupied posts and vacancies, leaving the job vacancy rate broadly unchanged.

## **2.4 Flag management**

Eurostat also introduced new rules on the processing of flags that signal special events such as breaks in the series and specify the confidentiality status of the data. Consequently, the flagging of JVS is now harmonised across the EU and between national figures and European aggregates.

## **2.5 Seasonal adjustment**

Under Article 1 of Commission Regulation (EC) No 1062/2008, EU countries are also required to transmit seasonally adjusted (SA) data. It is mandatory to supply SA data on job vacancies and occupied posts at least for individual/aggregated NACE Rev. 2 sections B-E, F,

G-I, J, K, L, M-N, O-Q, R-S. Eurostat uses the data supplied on SA job vacancies and occupied posts to calculate the SA job vacancy rates for each country as a ratio.

In December 2016, Eurostat started publishing SA data on the EU and the euro area, in addition to the existing SA data on individual Member States. These figures are disseminated for the following aggregated sections of NACE Rev. 2: B-S, B-N, B-F and G-N.

At the EU and euro area level, occupied posts and job vacancies are first aggregated across Member States and then seasonally adjusted (direct seasonal adjustment).

Eurostat has started to give SA data a higher profile by publishing European aggregates in the Statistics Explained article on JVS, alongside not seasonally adjusted (NSA) data.

### **3. DATA QUALITY**

This part examines all quality dimensions in European statistics on job vacancies: relevance, accuracy, timeliness, punctuality, coherence and comparability.

#### **3.1 Relevance**

Collecting JVS is very relevant, these being the only statistics that measure unmet labour demand. Quarterly data on job vacancies are used by the Commission (the Directorate-General for Employment, Social Affairs and Inclusion and the Directorate-General for Economic and Financial Affairs) and the European Central Bank to monitor short-term developments in the business cycle and the labour market. The job vacancy rate is one of the principal European economic indicators (PEEIs)<sup>9</sup>, the primary source of information used to analyse and monitor short-term cyclical economic developments within the EU, the euro area and individual EU countries.

JVS are also used for indicator-based structural analyses conducted as part of the Europe 2020 strategy for smart, sustainable and inclusive growth<sup>10</sup>. The job vacancy rate is also included in the employment performance monitor, a selection of key indicators in the labour market that are monitored in the context of the Commission's Joint Employment Report (JER).

However, JVS would be even more relevant if the existing gaps in the coverage of sections O-S of NACE Rev. 2 and small businesses were filled.

#### **3.2 Accuracy**

As an indication of accuracy, Member States calculate the coefficients of variation in the number of job vacancies (not seasonally adjusted), taking into account the characteristics of their national sample design. The coefficient of variation expresses the standard error as a percentage of the quantity being estimated. It provides a measure of the variability of the estimated number of job vacancies. According to the quality reports for the 2017 reference

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<sup>9</sup> Communication from the Commission to the European Parliament and the Council on eurozone statistics, 'Towards improved methodologies for Eurozone statistics and indicators', COM(2002) 661.

<sup>10</sup> Communication from the Commission — 'EUROPE 2020 — a strategy for smart, sustainable and inclusive growth', COM(2010) 2020.

year, the coefficients of variation for total job vacancies were below 15% in all Member States but Cyprus and Greece<sup>11</sup>.

The sample size and response rate significantly affect the accuracy of estimates. According to the quality reports, the sample size varied from around 2 324 businesses in Malta, 3 200 in Cyprus, 7 451 in Greece up to around 85 000 in Germany<sup>12</sup> and 100 000 in Poland.

The response rate varied from 14% in Germany<sup>13</sup> (for the postal survey conducted in the fourth quarter), between 55% and 62% for Greece (depending on the quarters) up to 85% or more in Cyprus and 99% in Romania.

In terms of revisions, the situation differs for the two releases of the job vacancy rate, i.e. the flash and the final estimates. The flash estimates, which are released in Eurobase at T+50 days, may be revised at T+78 days, when the news release with the final estimates is published. Although the flash data did not cover all the Member States, revisions did not exceed 0.1 percentage points for the euro area and the EU.

As regards final estimates published at T+78 days, revisions can be measured by comparing the first and second transmission of JVS for a given quarter. For the euro area and the EU, revisions in the job vacancy rate never exceeded 0.1 percentage points over the reference period of this report.

### **3.3 Timeliness and punctuality**

The timeliness of JVS transmissions was generally satisfactory as regards both the flash estimate and the final publication. Although minor delays were recorded occasionally for some countries, there were no structurally late deliveries that could impair the timely publication of the JVS release. Member States have been reminded regularly of the importance of meeting the mandatory deadlines for transmitting PEEI data, including job vacancy statistics.

### **3.4 Coherence and comparability**

It is not possible to check directly the extent to which job vacancies are measured in a consistent fashion, as there is no other harmonised source used at European level that measures unmet demand on the labour market. While many Member States count vacancies reported to public employment services, it is problematic to use these figures to check whether the JVS are measured in a consistent way. This is because they suffer from heavy undercoverage and/or double counting if the administrative register is not updated to take account of filled vacancies. Moreover, JVS from administrative sources are based on national definitions, which differ from one country to another.

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<sup>11</sup> See the JVS metadata: [http://ec.europa.eu/eurostat/cache/metadata/en/jvs\\_esms.htm](http://ec.europa.eu/eurostat/cache/metadata/en/jvs_esms.htm)

<sup>12</sup> This corresponds to the sample size of each fourth quarter when a full postal survey is conducted. The other three quarters are surveyed by following up all the respondents who completed the postal survey.

<sup>13</sup> The job vacancy survey is not mandatory in Germany, which explains the low rate of response to the postal survey run every fourth quarter of the year. The results from this survey are re-weighted using administrative data, through Generalised REGression estimation (GREG), to correct for any bias due to non-response.

The number of occupied posts, a variable which is part of the denominator of the job vacancy rate, can be compared with information from other sources, in particular the number of employees reported in the Labour Force Survey (LFS). Comparisons and subsequent assessments of differences must nevertheless take account of conceptual and survey-related differences between sources.

The difference between the number of employees recorded in the LFS and the number of occupied posts recorded in JVS for the whole economy generally fluctuates between -20% and +20%. Luxembourg, Bulgaria, Greece, Portugal, Hungary and Romania are exceptions.

Hungary does not cover businesses with fewer than five employees in its JVS, but imputes them based on the data collected for businesses with 5-9 employees; this may explain part of the gap recorded.

The negative gap measured for Luxembourg can be explained by the large proportion of cross-border work, which creates large discrepancies between the domestic concept of the labour market used in the LFS and the national one applied in JVS; the LFS surveys resident households only, whereas JVS cover resident enterprises, including their non-resident (i.e. cross-border) workers.

Bulgaria's quality report stated that the definition of employees used in the LFS is broader than for JVS statistics, encompassing people working under a civil contract (contract for certain work to be done), those working under management and control contracts, and those working without a contract of any kind. Moreover, JVS do not include military personnel.

Romania explained in its quality report that discrepancies between the LFS and JVS as regards the number of occupied posts reflected the fact that occupied posts collected using JVS methods did not include the following:

- individuals whose employment contract is suspended for a given period (on the grounds of maternity leave, childcare leave, sick leave or unpaid leave, or because of some other type of absence);
- posts which, though temporarily suspended, might fall vacant and be occupied for a limited period of time;
- posts in armed forces or in the informal sector.

Portugal and Greece provided some general explanations, pointing out the differences between the two sources as regards methodology and definitions.

Together with the competent national authorities of the countries listed above, Eurostat will monitor discrepancies between the number of employees recorded by the LFS and the number of occupied posts recorded in JVS.

It is also important that vacancies and posts on the payroll of temporary agencies are covered and assigned to section N of NACE Rev. 2.

Finally, the main challenge as regards comparability is for all Member States to cover the entire economy in their job vacancy surveys, i.e. to include small businesses and NACE Rev.2 sections O-S. As noted in sections 2.2 and 2.3 above, four Member States continue to fall short of this objective.

### **3.5 Accessibility and clarity**

Job vacancy statistics are disseminated through Eurostat's standard distribution channels, namely the online database and the 'Statistics Explained' pages on Eurostat's website<sup>14</sup>. The website provides timely information on the job vacancy rate for both the European aggregates and individual Member States, including charts on developments over time.

Metadata supplied to users in support of data releases have been updated using the annual quality reports provided by Member States.

## **4. CONCLUSIONS**

Over the past three years, much has been done to improve the validation and dissemination of European statistics on job vacancies. Moreover, Eurostat has started publishing seasonally adjusted data for European aggregates, which are covered by a 'Statistics Explained' article.

The complete re-engineering of IT programmes made it possible to align them on SMDX standards, to improve the IT and statistical reliability of the production chain and to handle confidentiality flags better. The validation of JVS has also benefited from enhanced validation reports that do a better job of highlighting sizeable revisions between two successive transmissions.

JVS have been supplied in good time and European aggregates have been published as scheduled. In general, only very light revision has been needed for the European aggregates published in both the flash and final estimates.

The Member States' quality reports have been processed using the latest version of the European statistical system metadata handler and made available to all users.

Nevertheless, incomplete coverage is still the main reason why JVS are not used more widely. It is crucial for all Member States to fully cover the public sector (in the case of Denmark, France and Italy) and small businesses (in the case of France, Italy and Malta). Improved coverage would also make it possible to publish the number of vacancies, for European aggregates, in addition to the job vacancy rate. Eurostat plans to address this issue in close cooperation with the countries concerned, under the next review of EU legislation on labour market statistics collected from businesses.

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<sup>14</sup> See the articles on Eurostat's website: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Job\\_vacancy\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Job_vacancy_statistics) and [http://ec.europa.eu/eurostat/statistics-explained/index.php/Job\\_vacancy\\_and\\_unemployment\\_rates - Beveridge curve](http://ec.europa.eu/eurostat/statistics-explained/index.php/Job_vacancy_and_unemployment_rates_-_Beveridge_curve) (in English only).



The Commission will continue to monitor compliance and data quality at regular intervals, using the data delivered and other national documentation, including quality reports, and follow this up closely with the competent national statistical authorities.