

**COMMISSION IMPLEMENTING REGULATION (EU) 2017/881****of 23 May 2017****implementing Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses, as regards the modalities and structure of the quality reports and the technical format for data transmission, and amending Regulation (EU) No 1151/2010****(Text with EEA relevance)**

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 763/2008 of the European Parliament and of the Council of 9 July 2008 on population and housing censuses <sup>(1)</sup>, and in particular Articles 5(5) and 6(3) thereof,

Whereas:

- (1) Regulation (EC) No 763/2008 establishes common rules for the decennial provision of comprehensive data on population and housing.
- (2) Under Commission Regulation (EU) 2017/712 <sup>(2)</sup>, the next population and housing census should relate to the reference year 2021.
- (3) Commission Regulation (EU) No 1151/2010 <sup>(3)</sup> laid down the modalities and structure of the quality reports and the technical format for data transmission on population and housing censuses for the reference year 2011.
- (4) For the purposes of the next population and housing census 2021, and in order to assess the quality of the data transmitted to the Commission (Eurostat), it is necessary to lay down new modalities and structure for the quality reports and the technical format for data transmission.
- (5) In accordance with Article 5(5) of Regulation (EC) No 763/2008, Member States should transmit their validated data and metadata in electronic form, in an appropriate technical format to be adopted by the Commission. The Statistical Data and Metadata eXchange (SDMX) initiative on statistical and technical standards for the exchange and sharing of data and metadata, on which Census Hub is based, was launched by the Bank of International Settlements, the European Central Bank, the Commission (Eurostat), the International Monetary Fund, the Organisation for Economic Cooperation and Development (OECD), the United Nations and the World Bank. For the exchange of official statistics, SDMX and the Census Hub provide statistical, technical and transmission standards. A technical format in accordance with those standards should therefore be introduced.
- (6) Regulation (EU) No 1151/2010 requires Member States to store the population and housing census data for the 2011 reference year until 1 January 2025. In order to allow users to make comparisons between the two censuses, the 2011 census data should be available until 1 January 2035 in parallel with the 2021 data.
- (7) Regulation (EU) No 1151/2010 should therefore be amended accordingly.
- (8) The measures provided for in this Regulation are in accordance with the opinion of the European Statistical System Committee,

<sup>(1)</sup> OJ L 218, 13.8.2008, p. 14.

<sup>(2)</sup> Commission Regulation (EU) 2017/712 of 20 April 2017 establishing the reference year and the programme of the statistical data and metadata for population and housing censuses provided for by Regulation (EC) No 763/2008 of the European Parliament and of the Council (OJ L 105, 21.4.2017, p. 1).

<sup>(3)</sup> Commission Regulation (EU) No 1151/2010 of 8 December 2010 implementing Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses, as regards the modalities and structure of the quality reports and the technical format for data transmission (OJ L 324, 9.12.2010, p. 1).

HAS ADOPTED THIS REGULATION:

### Article 1

#### **Subject matter**

This Regulation lays down the modalities and structure of Member States' reports on the quality of the data that they transmit to the Commission (Eurostat) from their population and housing censuses for the reference year 2021, and the technical format for data transmission.

### Article 2

#### **Definitions**

The definitions and technical specifications set out in Regulation (EC) No 763/2008, Commission Implementing Regulation (EU) 2017/543 <sup>(1)</sup> and Regulation (EU) 2017/712 shall apply for the purpose of this Regulation.

The following definitions shall also apply:

1. 'statistical unit' means the basic observation unit, namely a natural person, household, family, living quarter or conventional dwelling;
2. 'individual enumeration' means the collection of information on each statistical unit so that its characteristics can be recorded separately and cross-classified with other characteristics;
3. 'simultaneity' means that the information obtained in a census refers to the same point in time (reference date);
4. 'universality within a defined territory' means that data are provided for all statistical units within a precisely defined territory. Where the statistical units are persons, 'universality within a defined territory' means that data are provided based on information for all persons who have their usual residence in the defined territory (total population);
5. 'availability of small-area data' means the availability of data for small geographical areas and small groups of statistical units;
6. 'defined periodicity' means the regular conducting of censuses at the beginning of every decade, including the continuity of registers;
7. 'data source' means the set of data records for statistical units and/or events relating to the statistical units which forms a direct basis for the production of census data about one or more specified topics for a specified target population;
8. 'target population' means the set of all statistical units in a defined geographical area at the reference date which qualify for reporting on one or more specified topics. It includes each valid statistical unit only once;
9. 'estimated target population' means the best available approximation of the target population. It consists of the census population plus under-coverage minus over-coverage;
10. 'census population' means the set of statistical units that is factually represented by the census results on one or more specified topics for a specified target population. The data records for the census population are those in the data source for the specified target population, including all imputed records and excluding all deleted records. If a data source comprises, as a matter of methodological principle, data records for only a sample of the statistical units in its estimated target population, the census population includes the complementary set of statistical units, in addition to the statistical units in the sample;
11. 'complementary set of statistical units' means the set of those statistical units that belong to an estimated target population, but on which, as a result of an applied sampling methodology, the data source contains no data records;

<sup>(1)</sup> Commission Implementing Regulation (EU) 2017/543 of 22 March 2017 laying down rules for the application of Regulation (EC) No 763/2008 of the European Parliament and of the Council on population and housing censuses as regards the technical specifications of the topics and of their breakdowns (OJ L 78, 23.3.2017, p. 13).

12. 'coverage assessment' means a study of the difference between a specified target population and its census population;
13. 'post-enumeration survey' means a survey conducted shortly after the enumeration for coverage and content assessment purposes;
14. 'under-coverage' means the set of all statistical units that belong to a specified target population but are not included in the corresponding census population;
15. 'over-coverage' means the set of all statistical units that are included in a census population used to report on a specified target population, but without belonging to that target population;
16. 'record imputation' means the assignment of an artificial but plausible data record to exactly one geographical area at the most detailed geographical level for which census data are produced, and the imputation of that data record into a data source;
17. 'record deletion' means the act of deleting or ignoring/not taking into account a data record that is included in a data source used to report on a specified target population but does not report any valid information on any statistical unit within that target population;
18. 'item imputation' means the insertion of an artificial but plausible value on a specific topic into a data record that already exists in a data source but either does not contain this value or contains a value that is considered implausible;
19. 'questionnaire-based data' means data originally obtained from respondents by means of a questionnaire in the context of a collection of statistical data that refer to a specified point in time;
20. 'record linkage' means the process of merging information from different data sources by comparing records for individual statistical units and merging information referring to the same statistical unit;
21. 'unique identifier' means a variable or set of variables in the data records in a data source or any list of statistical units which is used for
  - verifying that the data source (or list of statistical units) includes no more than one data record for each statistical unit, and/or
  - record linkage;
22. 'register' means a repository of information about statistical units which is directly updated in the course of events affecting the statistical units;
23. 'register-based data' means data in or from a register;
24. 'matching of registers' means record linkage where all matched data sources are contained in registers;
25. 'data extraction' means the process of retrieving census information from information contained in a register and relating to individual statistical units;
26. 'coding' means the process of converting information into codes representing classes within a classification scheme;
27. 'capturing' means the process by which collected data are imported into a form suitable for further processing;
28. 'record editing' means the process of checking and modifying data records to make them plausible while at the same time preserving major parts of them;
29. 'generation of a household' means the identification of a private household according to the household-dwelling concept as defined in the Annex to Implementing Regulation (EU) 2017/543 under the topic 'Household status';
30. 'generation of a family' means the identification of a family based on information on whether the persons live in the same household, but with no or incomplete information on family relationships between them. The term 'family' is specified in 'family nucleus' as defined in the Annex to Implementing Regulation (EU) 2017/543 under the topic 'Family status';
31. 'unit no-information' means the failure to collect any data from a statistical unit that is in the census population;
32. 'statistical disclosure control' means the methods and processes applied in order to minimise the risk of disclosing information on individual statistical units when releasing statistical information;

33. 'estimation' means the calculation of statistical estimates using a mathematical formula and/or algorithm applied to the available data;
34. 'data structure definition' means a set of structural metadata associated with a data set, which includes information about how topics are associated with the measures, dimensions and attributes of a hypercube, along with breakdowns, information about the representation of data and related descriptive metadata.

#### *Article 3*

### **Metadata and quality reporting**

Member States shall report to the Commission (Eurostat), by 31 March 2024, the background information and quality-related data and metadata specified in the Annex to this Regulation, with reference to their population and housing censuses for the reference year 2021 and to the data and metadata transmitted to the Commission (Eurostat) under Regulation (EU) 2017/712.

#### *Article 4*

### **Data sources**

Member States shall report on any data source(s) used for the collection of information needed to fulfil the requirements of Regulation (EC) No 763/2008, in particular to:

- (a) meet the essential features listed in point (i) of Article 2 of Regulation (EC) No 763/2008;
- (b) represent the target population;
- (c) comply with the relevant technical specifications set out in Implementing Regulation (EU) 2017/543; and
- (d) contribute to the provision of data for the programme of statistical data set out in Regulation (EU) 2017/712.

#### *Article 5*

### **Access to relevant information**

1. Member States shall provide the Commission (Eurostat), at its request, with access to any information relevant to the assessment of the quality of the data and metadata transmitted under Regulation (EU) 2017/712.
2. In complying with paragraph 1, Member States shall not be obliged to provide the Commission (Eurostat) with any microdata or confidential data.

#### *Article 6*

### **Technical format for data transmission**

The technical format to be used for the transmission of data and metadata for the reference year 2021 shall be the Statistical Data and Metadata eXchange (SDMX) format as implemented through the Census Hub. Member States shall transmit the required data in line with the data structure definitions and related technical specifications provided by the Commission (Eurostat). Member States shall store the required data and metadata until 1 January 2035, for any later transmission requested by the Commission (Eurostat).

#### *Article 7*

### **Amendment to Regulation (EU) No 1151/2010**

In Article 6 of Regulation (EU) No 1151/2010, the third sentence is replaced by the following:

'Member States shall store the data and metadata for the 2011 reference year until 1 January 2035. Member States shall not be obliged to make changes or revisions to these data after 1 January 2025. Member States choosing to do so shall inform the Commission (Eurostat) about the changes or revisions before they are implemented.'

*Article 8***Entry into force**

This Regulation shall enter into force on the twentieth day following its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 23 May 2017.

*For the Commission*  
*The President*  
Jean-Claude JUNCKER

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## ANNEX

**Content and structure of the quality reports for data transmission**

The **textual** and **quantitative** metadata information on the population and housing censuses conducted in the Member States for the reference year 2021 comprises the following sections:

**1. OVERVIEW**

- 1.1. Legal background
- 1.2. Bodies responsible

**2. DATA SOURCES**

- 2.1. Classification of data sources in accordance with Article 4(1) of Regulation (EC) No 763/2008.
- 2.2. List of the data sources used for the 2021 census
- 2.3. 'Data sources x topics' matrix
- 2.4. Adequacy of data sources: extent to which they meet the essential features (Article 4(4) of Regulation (EC) No 763/2008)
  - 2.4.1. *Individual enumeration;*
  - 2.4.2. *Simultaneity;*
  - 2.4.3. *Universality within the defined territory;*
  - 2.4.4. *Availability of small-area data;*
  - 2.4.5. *Defined periodicity.*

**3. CENSUS LIFECYCLE****3.1. Reference date**

Member States shall provide the Commission (Eurostat) with the reference date according to Article 3 of Commission Regulation (EU) 2017/712.

**3.2. Preparation and execution of data collection****3.2.1. Questionnaire-based data**

- design and testing of questionnaires (including copies of all final questionnaires),
- preparation of any address lists, preparation of the field work, mapping, publicity,
- data collection (including field work),
- legal obligation to collect information, incentives for providing truthful information or possible reasons for providing false information.

**3.2.2. Register-based data**

- creation of new registers from 2011 onwards (where applicable),
- redesign of existing registers from 2011 onwards (including changes in the contents of registers, adaptation of the census population, adaptation of definitions and/or technical specifications) (where applicable),

- maintenance of the registers (for each register used for the 2021 census), including
  - content of the register (statistical units and information on them, any record editing and/or item and record imputation in the register),
  - administrative responsibilities,
  - legal obligation to register information, incentives for providing truthful information and possible reasons for providing false information,
  - delays in reporting, in particular legal/official delays, data registration delays, late reporting,
  - evaluation of and clearance for non-registration, non-deregistration, multiple registration,
  - any major register revisions or updating of records that affects the 2021 census data, periodicity of register revisions,
  - usage, including ‘statistical usage of the register other than for the census’ and ‘usage of the register other than for statistical purposes (e.g. administrative purposes)’,
- matching and linking of registers (including unique identifier(s) used for record linkage),
- data extraction.

### 3.2.3. *Data collected by means of a sample*

For topics for which information has been collected by means of a sample, the metadata shall also contain descriptions of:

- the sampling design,
- methodologies used for any estimations, models or imputations,
- possible biases in the estimation due to methodologies applied,
- formulae and algorithms used to calculate the standard error.

### 3.2.4. *Data collected by combined methods (data based on more than one type of data source)*

For topics for which information has been collected by combined methods, the metadata shall also contain:

- a description of the methods (types of data sources used and how information from different sources was combined, how the different sources and methods used complement and support each other and, if applicable, which parts of the population were covered by which source),
- any other quality issues relating to the process of using combined methods.

## 3.3. **Processing and evaluation**

3.3.1. Data processing (including capturing, coding, identifying variable(s), record editing, record imputation, record deletion, estimation, record linkage including identifying variable(s) used for the record linkage, generation of households and families, measures to identify or limit unit-no-information);

3.3.2. Coverage assessment activities, methodology to treat non-response, post-enumeration survey(s) (where applicable), final data validation: method of assessing under- and over-coverage, including information on the quality of the under- and over-coverage estimates.

3.4. **Dissemination** (dissemination channels, ensuring statistical confidentiality including statistical disclosure control)

3.5. **Measures to ensure cost-effectiveness**

#### 4. ASSESSMENT OF DATA QUALITY

##### 4.1. Comparability

For each topic, Member States shall report on any deviation from the required concepts and definitions or any practice in the Member State that could impair the Union-wide comparability of the data.

For the topic 'Current Activity Status', Member States shall report on any estimation methods used to adjust data to meet more closely the definition set in the Annex to Commission Implementing Regulation (EU) 2017/543. Member States shall report on the extent to which the data sources and any estimation methods used result in deviation from the definition of 'Current Activity Status' set in that Regulation.

##### 4.2. Timeliness and punctuality

The following information shall be provided at national level:

- date(s) of the transmission of data to the Commission (Eurostat), broken down by hypercubes,
- date(s) of major revision(s) of the transmitted data, broken down by hypercubes,
- date(s) of transmission of the metadata.

In the event of major revisions on or after 1 April 2024, Member States shall report the respective date(s) separately to the Commission (Eurostat) within a week.

##### 4.3. Coherence

Member States shall report on any significant inconsistencies between the data transmitted in the different datasets defined in Commission Regulation (EU) 2017/712.

##### 4.4. Coverage and accuracy

To indicate coverage, the following absolute values shall be provided for person counts at national level and shall be disaggregated by sex and broad age groups as defined in Commission Implementing Regulation (EU) 2017/543:

- (a) census population;
- (b) number of all record imputations;
- (c) number of all record deletions;
- (d) under-coverage (estimated);
- (e) over-coverage (estimated);
- (f) estimated target population.

For the assessment of accuracy the following **absolute values** shall be provided for person counts at national level and shall be disaggregated by sex and broad age groups as defined in Commission Implementing Regulation (EU) 2017/543:

- (a) census population;
- (b) number of observed data records on the topic derived from traditional census;
- (c) number of observed data records on the topic derived from administrative registers;
- (d) number of observed data records on the topic derived from sample surveys;
- (e) number of observed data records on the topic derived from multiple data sources;
- (f) complementary set of statistical units on the topic (for samples);
- (g) number of imputed observations on the topic;
- (h) number of records with missing information on the topic.



The above absolute values for the assessment of accuracy shall be provided for the following census topics:

- (a) Legal Marital status (LMS);
- (b) Family status (FST);
- (c) Household status (HST);
- (d) Current activity status (CAS);
- (e) Occupation (OCC);
- (f) Industry (IND);
- (g) Status in employment (SIE);
- (h) Location of place of work (LPW);
- (i) Educational attainment (EDU);
- (j) Country/Place of birth (POB);
- (k) Country of citizenship (COC);
- (l) Year of arrival in the country since 2010 (YAT);
- (m) Year of arrival in the country since 1980 (YAE);
- (n) Place of usual residence one year prior to the census (ROY);
- (o) Housing arrangements (HAR).

#### 4.5. **Completeness**

Member States shall report on the degree of completeness of the data in terms of the requirements of Regulation (EC) No 763/2008. They shall give details of any census topics or associated breakdowns for which data are not supplied.

#### 4.6. **Relevance**

Information on the following shall be provided at Union level:

- (a) actions taken to identify and fulfil user needs;
  - (b) monitoring of the extent of data extractions.
-