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Experiences with using data from the 2010 round of censuses for measuring migration

Plans for post-census revision of intercensal population estimates - including updating of statistics on population stocks by country of birth and citizenship

Note by Eurostat¹

1. Introduction

This document presents an overview of actions being taken by National Statistical Institutes (NSIs) and Eurostat to update and rebase population statistics following the results of the 2011 round of population and housing censuses. This issue has important implications in terms of data comparability, and impacts on key indicators and on all European-level aggregates. The focus here is on activities within the EU and EFTA countries from which Eurostat regularly collects both demographic and migration data. However, the issues considered also have implications for the work of NSIs in the ECE countries more generally.

This document concentrates particularly on planned updates to the population stock data, including the migration-related tables on the resident population disaggregated by citizenship and country of birth. The wider statistical impacts of the revisions to the population data – including impacts on the weighing of major survey activities such as the Labour Force Survey and the EU Statistics on Income and Living Conditions – should also be kept in mind. However, these issues are not considered in detail here.

The information summarised in this document reflects the situation at the time of writing (late-September 2012). However, this situation may change as more census data become available.

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available for use at national level and NSIs are able to consider more fully what revisions are necessary.

II. Background

The availability of data from the latest census round is an important opportunity for countries to check and revise the population estimates for previous years, as well as establishing a new population count as a base for future annual estimates. Many countries will revise their annual population estimates once the population and housing census results have become available. Although NSIs may not yet be sure of the overall scale of the revisions that may be necessary, in most cases a strategy for such revisions has been prepared – including the types of revisions that will be made, the reference years for which data will be revised, and the probable publication dates for these revisions. Decisions have also been made concerning the degree to which the revisions will be applied to the disaggregated data.

In certain countries – such as those using a register-based or continuous rolling census process and/or where a population register is used as the data source for annual population statistics - the census cannot necessarily be seen as a separate source for revision of the annual population statistics. As such, although these countries carry out regular data quality checks, it is not necessary or appropriate to rebase the population data series following the census. These countries are therefore not considered as part of this activity.

Although revisions to population and migration statistics are important, they can create breaks in data series and, depending on whether all tables and disaggregations are updated, may result in inconsistencies in the published data. Looking beyond national level, there is also the risk of inconsistencies occurring between nationally published data and the comparable data supplied to and published by Eurostat. Effective coordination and communication are necessary to minimise these potential problems and to avoid confusion amongst data users.

As part of a detailed and ongoing consultation on this issue, Eurostat has collected information on national plans for post-census revisions and has made a series of proposals for discussion. The Eurostat group of Directors of Social Statistics from the NSIs agreed in March 2012 to a strategic approach for the updating of population data. This approach has since been developed in greater detail by the relevant Eurostat technical working groups (including the Eurostat Migration Statistics Working Group). Following discussions in the Working Groups, the plans were discussed again by the Directors of Social Statistics in September 2012.

In the specific context of migration statistics, this work is important because of the need to ensure consistency between the annual population estimates (as collected as part of Eurostat's demographic statistics) and the data on the country of birth and citizenship composition of the population collected by Eurostat under Regulation 862/2007 on migration statistics. Further, in countries where national annual population estimates are based on demographic methods – starting with a population figure and taking into account births, deaths and migration flows to calculate the following year’s population - the need for revisions to the population data relate almost exclusively to weaknesses in the migration flow data used to estimate the population over the period since the last census.

III. General approach for post-census revisions

The following approach proposed by Eurostat and discussed at the Directors of Social Statistics and the Migration Statistics Working Group WG meetings was agreed by the large majority of EU Member States:
If revisions are needed, countries should revise data for the whole intercensal period.

In order to ensure consistency between data available on the Eurostat and NSI websites, Eurostat will upload revised data as soon as they are transmitted by the NSIs. Eurostat will not wait for specific dates or for a particular number of countries' national data to be available before publication.

Aggregates for past years for the EU and for the Euro Area will be recalculated and updated on the Eurostat web site after each transmission of revised annual data from a Member State.

Revised national level population figures at broken down by sex and single year of age, needed in order for Eurostat to calculate the revised demographic indicators, should be transmitted to Eurostat by 15 September 2013 at the latest with the Joint Demographic Questionnaire.

For regional population statistics, the detailed revised population estimates by sex and single year of age should be transmitted to Eurostat by 15 December 2014 at the latest with the Regional Questionnaire.

For data collected under Article 3 of Regulation 862/2007 (statistics on the citizenship and country of birth of the usually resident population, disaggregated by age and sex), the revised data should be consistent with the population estimates - i.e. the revised totals for the population disaggregated by citizenship and country of birth should be equal to the total resident population figures supplied for the Joint Demographic Questionnaire. However, to coincide with the deadline under Regulation 862/2007 on migration statistics, these data need to be supplied by 31 December 2013. Revised data on the country of birth and the citizenship should be supplied to the same level of disaggregation as the already held on the Eurostat database.

The majority of EU Member States have stated that they will follow this general approach. However, there are still some ongoing discussions relating to the need to undertake revisions, which tables will be covered, and the timetable for revised data to be made available. Several countries are still considering the extent to which revisions are necessary, or are planning only to update the data for a shorter time series and not for the whole intercensal period. Eurostat will continue discussions with these countries to try to reach a satisfactory conclusion to this.

Importantly, all countries that are planning revisions to the demographic data series will also now provide citizenship and country of birth stock data that are consistent with the revised demographic series.

Ten EU Member States have already supplied to Eurostat 2011 census-based data for the total population for 2011 and/or 2012. An initial analysis of the rebased data compared to previously supplied figures indicates a lower total population in the majority of these ten countries. However, before forming a clear updated picture of the population at EU and national level, it will be necessary to wait until final census data and any final post-census revisions are available for all of the Member States that are planning revisions.

IV. Migration flows

As noted above, where revisions are made to the annual demographic estimates of the population following the census, in effect these changes relate entirely to weaknesses in the migration flow component of the demographic calculation. Therefore the extent of the revisions that are found to be necessary can in part be an indicator of how effectively the statistical systems have recorded the contributions of immigration and emigration to the size and structure of the resident population over the intercensal period.
Many Member States are not, though, planning revisions to the published data on migration flows. Where revised flow data are planned, there are national differences in the degree to which these data will be disaggregated by age, sex, citizenship and country of previous/next residence, as well as the number of years for which the migration flows data series will be revised. Several countries have stated that a decision on the revision of flows data will be made following a detailed review of the census results. In some cases, it appears likely that, due to the additional difficulties of correctly counting persons leaving the country, only the emigration flows data are likely to need revisions.

V. **Links to the implementation of Regulation 862/2007**

A number of EU Member States and EFTA countries are continuing to make changes to the methods and processes used to produce the migration flow and population stock data required under Regulation 862/2007. These changes are intended to improve the quality of the statistics and to ensure a better level of compliance with the definitions and disaggregations required under the Regulation. Several NSIs have reported to Eurostat that the rebasing of the population stock figures and possible revisions to migration flow data following the census will be a key step in completing the implementation of the Regulation.