

<p style="text-align: center;"><b>POPULATION AND MIGRATION STATISTICS COMMITTEE (SCOTLAND)</b></p>
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**Impact of revisions to Mid-Year Population Estimates on work of Population  
and Migration Statistics (PAMS) branch  
(Work in progress)**

## **1. Purpose**

The Code of Practice for Official Statistics requires that a Revisions Policy is published for those outputs that are subject to scheduled revisions. This is the case for the mid-year population estimates in the aftermath of the census and so we have begun to think about how we might make revisions after the 2011 Census and, more generally, about when and how revisions should be made, whether they are scheduled or not.

This paper provides a starting point for this work and highlights some of the issues which we will have to consider when deciding whether and how to revise mid-year population estimates.

Some questions which we will be considering and on which we would welcome the views of PAMS are:

- How 'big' must an error be before revisions are necessary?
- Would it ever be appropriate to 'produce your best estimate of ... the previous year's statistics on the new basis, or the new year's figure on the old basis to allow change to be measured on a like for like basis?
- Should all associated publications (e.g. projections) be revised?
- Office for National Statistics (ONS) have made a series of revisions to their mid-year estimates as a result of improvements in methodology. How would PAMS feel about General Register Office for Scotland (GROS) following a similar course? What are the implications of revisions for Local Authorities?

## 2. Background

Each year GROS produces mid-year population estimates for Scotland and its administrative areas using the cohort component method with the Census used to give figures for the base year. After the following census the mid-year population estimates are compared to the census results and if a discrepancy is found (most likely to have been introduced in the migration estimates used in the cohort component method) then the mid-year estimates for the previous 10 years are revised.

There are other reasons that revisions may be necessary in the period between censuses, for example if an error was discovered or the methodology changed.

The Code of Practice for Official Statistics states:

- Where time series are revised or changes made to methods or coverage, produce consistent historical data where possible;
- Publish a Revisions Policy for those outputs that are subject to scheduled revisions. Provide a statement explaining the nature and extent of revisions at the time the statistics are released;

Recent internal guidance has suggested that 'where possible' should mean exactly that i.e., not where convenient but wherever it can be done. It's not clear that this caters for the fact that in some cases users might not want data to be revised if the cost of revisions outweighs the benefit. Additional internal guidance suggested that:

- where it is not possible to produce a historical series on the new basis, you must produce your best estimate of at least the previous year's statistics on the new basis, or the new year's figure on the old basis to allow change to be measured on a like for like basis.

This paper considers the work involved for the Population and Migration Statistics branch (and the Demography Division more generally) in making revisions to population estimates. The paper assumes that the nature and size of the required revisions are known and considers three different responses to the discovery of error or to a change in methodology.

- i) Change the methodology or correct the error for future publications but do not revise backwards.
- ii) Revise backwards by making adjustments to final population and migration figures - i.e. change the 'output' data only.
- iii) Revise backwards by repeating the process used to create the original estimates – i.e. change the 'input' data.

### 3. Overview of the consequences of making revisions

If revisions were made to population estimates then it is likely that there would be a significant effect on the output of the Population and Migration Statistics branch whilst the team concentrated on making the revisions as quickly as possible. However, the more significant impact would likely arise from the need to revise the numerous other publications which rely on population estimates.

Any revisions to the mid-year population estimates might require further revisions to the following GROS publications and statistics:

#### Population and Migration Statistics team - publications

- Small Area Population Estimates.
- National Population Projections.\*
- Sub-national population projections.
  - a. Administrative areas;
  - b. National Parks; and
  - c. Strategic Development Planning (SDP) areas.
- Interim life tables for Scotland (potentially all years since the last census)\*.
- Life expectancy for admin. areas (potentially all years since the last census).
- Life expectancy for special areas (potentially all years since the last census).
- Marital status estimates (potentially all years since the last census).
- Centenarian publication.

#### Population and Migration Statistics team – other statistics

- High Level Summary.
- Scottish Neighbourhood Statistics (SNS).
- Migration tables on GROS website.
- Migration reports on GROS website.
- Sub-council projection datasets.

#### Other teams in Demography Division - publications

- Household projections.
  - d. Administrative areas;
  - e. National Parks; and
  - f. Strategic Development Planning (SDP) areas.
- Vital events reference tables.
- Annual Report(s).

\* Much of this work would need to be performed by ONS.

A number of Scottish Government (SG) and Information Services Division (ISD) publications (including, for example, Scottish Index of Multiple Deprivation (SIMD)) could also be affected.

To give an idea of the scale of resource required, it is estimated that revisions to the Population and Migration team's publications would involve up to 4 assistant statisticians working for between 2 and 3 months each.

**4. Possible responses to the discovery of an error or to a change in methodology**

- a) An error is discovered or a change is made to the methodology but the cost of making revisions to historic data outweighs the benefits.
- b) An error is discovered or a change is made to methodology and historic figures are revised by making adjustments to final population and migration estimates only. This would probably mean that in- and out-migration estimates would not be available for sub-council geographies but it would take less time than option c.
- c) An error is discovered or a change is made to methodology and the process used to produce the original estimates is repeated (as far as is appropriate). This would not always be possible, it depends on the nature of the change being made. Where it is possible it would be more difficult and time consuming than option b. It would however provide the full range of migration statistics currently available.