

2011 UK CENSUS - Moving From A 6-Month Enumeration Base To 12 - Month Output Base In Scotland

UK Statistics Authority (UKSA) Census Assessment Phase 1, Recommendation 1 requires the Census Offices to:

- publish explanations of how the census estimates relating to the resident population, based on 12-month residency, will be derived from the information collected about three and six-month residency.’

This paper sets out the approach to be taken for Scotland. In order to determine that approach, it was necessary initially to attempt to quantify and characterise short-term migrants - those who are in the UK for between 6 and 12 months - specifically in relation to the difference between the enumeration base and main output base of the 2011 Census.

1. Background

- 1.1 The 2011 UK Census is designed to enumerate all usual residents and short term residents of the UK. In Scotland, this means that a full census return will be collected from anyone who has stayed, or intends to stay, in the UK for 6 months or more (in England & Wales, 3 months or more). People normally resident in the UK but are temporarily outside the UK on census day for less than 12 months will also be enumerated at their UK usual residence address.
- 1.2 The main output base for the 2011 Census will be ‘usual residence’. The three UK statistical offices have agreed that usual residents should be defined as people that have been, or intend to be, a resident of the UK for a period of 12 months or more¹. Therefore, the enumeration base in Scotland will include all those meeting the ‘usual residence’ output base, plus those present on Census day whose total length of stay in the UK is at least 6 months but less than 12.
- 1.3 A difference in census questions means the approach being taken by the rest of the UK to obtain a 12 month output base cannot be replicated in Scotland. National Records of Scotland (NRS), formerly the General Register Office for Scotland (GROS), analysed user needs for data from the census in Scotland and concluded that there was little demand in Scotland for information on intended length of stay. Hence the decision was taken not to include the question in Scotland’s 2011 Household Questionnaire (along with other topic-related questions, such as those about ‘second residences’). This allowed space for other questions that would provide information on topics of more interest to Scottish users, such as additional questions on language and one on long-term health conditions. Latterly, a question on intended length of stay was added to the Census Coverage Survey (CCS) in Scotland, since space and design on the questionnaire allowed and it would help inform population base work.

¹ This definition is based on the UN definition of the related terms ‘Place of usual residence’ (The country in which a person lives, that is to say, the country in which he or she has a place to live where he or she normally spends the daily period of rest. Temporary travel abroad for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage does not change a person’s country of usual residence) and ‘International long-term immigrant / long-term emigrant’ (A person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence).

- 1.4 The work described here provides evidence for the scale of the difference in population count between the enumeration and main output base in Scotland and the conclusions that can be drawn from the analysis of that evidence.

2. Data sources for short-term migrants in Scotland

- 2.1 There are no official estimates of short-term migrants in Scotland. However, the Office for National Statistics Centre for Demography (ONSCD) has produced 'non-England & Wales'² estimates of short-term migrants based on their published experimental statistics on short-term migrants for England & Wales. The 'non-England & Wales' estimates will include migrants visiting Northern Ireland but based on evidence from administrative sources it is likely that the majority will visit Scotland.
- 2.2 The estimates are based on International Passenger Survey (IPS) data. The number of short-term migrants sampled by this survey is very small and consequently there are wide confidence intervals associated with the estimates. Office for National Statistics (ONS) suggest that any estimates from the IPS with a standard error greater than 25% should be treated with caution as they are subject to a high level of uncertainty. However, in the absence of other, more robust data being available, the IPS estimates can provide an indication of the approximate number of people that may be in Scotland for between 6 and 12 months.
- 2.3 The ONS data provides two measures of short-term migration: flows and stocks. The term in-flow refers to short-term migration visits made by individuals who are usually resident outside the UK. Out-flow refers to short-term migration overseas by individuals who are usually resident in the UK. In-flow and out-flow therefore refer to different migration streams.
- 2.4 While in and out flows measure the number of visits made in a specified period, stock refers to the average short-term migrant population present over a specified period. The stock of short-term migrants in a country is referred to as 'in-stock' whereas the stock of a country's normal residents temporarily out of the country is referred to as 'out-stock'.
- 2.5 Given that the census count is a 'snapshot' of the population on a given day – 27 March 2011 – the in-stock and out-stock figures are those of immediate relevance and for consideration in this context.

² 'Non-England & Wales' estimates were produced by subtracting estimates for England & Wales from estimates for the UK.

Table 1 'Non-England & Wales' in and out stock of 6-12 month short-term migrants, mid-2004 to mid-2008³

Year	In stock	<i>Standard Error %</i>	Out stock	<i>Standard Error %</i>
2004	2,000	54	5,000	35
2005	3,000	51	6,500	36
2006	10,500	46	15,500	27
2007	4,500	39	11,000	30
2008	3,000	38	3,000	45

2.6 Table 1 shows the IPS based estimates of the stock of 6-12 month short-term migrants for the 'non-England & Wales' region. The estimates have high standard errors (indicating low accuracy) and there is considerable variation from year to year. However, it seems reasonable to assume that the in-stock of 6-12 month short-term migrants in the 'non-England & Wales region is in the low thousands and that over time, out-stock has tended to outweigh in-stock.

2.7 Other data from the IPS shows that for the majority (about 50-70%) of short-term migrants staying for 6-12 months, the main reason for migration was employment or study. Identification and analysis of short-term migrants in administrative data relating to employment and study can help verify the IPS data.

2.8 The number of foreign domiciled students (i.e. those whose address prior to study was outside the UK) enrolled on courses lasting between 6 and 12 months at Scottish further and higher education institutions is shown in Table 2. As this data shows the number of students studying over the course of a year, it is equivalent to a migration in-flow, rather than in-stock. Note also that some higher education is conducted in further education institutions.

Table 2 Foreign domiciled students enrolled on courses lasting 6 to 12 months, academic year 2008-09

	Number of students
Higher education institutions	350
Further education institutions	1,756
Total	2,106

2.9 With regards whether some of these students ultimately stay in Scotland for 12 months or more, response rates to the Higher Education Statistics Agency (HESA) Destination of Leavers from Higher Education Survey are lower for foreign-domiciled students than overall and so no firm conclusions can be drawn. However, it seems plausible to suggest that at least some of these graduates may stay in Scotland for longer than indicated by length of course, for work or further study (hence becoming part of the 'usually resident' Scottish population in due course).

2.10 All migrants that come to the UK for work can be identified through the allocation of National Insurance Numbers (NINo) to foreign nationals. However, there is no formal means for determining length of stay of those allocated a NINo so it is difficult to identify short-term migrants. An estimate of the proportion of NINo allocations that are made to 6-12 month short-term migrants was made based on

³ Stock estimates have been rounded to the nearest 500. Standard error % relate to the unrounded figure.

data from a reconciliation exercise undertaken by ONS⁴ and IPS data. Nationals from the European Union (EU) accession states were treated separately as a higher proportion of this group are likely to be short-term migrants. The estimates derived using this method are shown in Table 3.

Table 3 Estimate of NINo allocations to foreign nationals staying for 6-12 months and residing in Scotland, financial year 2007-08

	Estimate of migrant workers
EU Accession	2,365
non-EU Accession	1,164
All nationalities	3,529

- 2.11 Assuming no overlap between the two administrative systems, there was an in-flow of approximately 5,600 6-12 month short-term migrants to Scotland around 2008.
- 2.12 For comparison, the IPS based estimated in-flow of the 6-12 month migrants giving employment or study as their main reason for migration was 6,500. The two sets of estimates are broadly in agreement, particularly when factors such as the wider geographical area of the IPS estimates (i.e. the inclusion of Northern Ireland) are taken into account.
- 2.13 Analysis of other data, including the 2011 Census rehearsal in England & Wales, also suggests that the number of migrants that stay for 6-12 months is relatively small.

3. Sub-Scotland distribution of short-term migrants

- 3.1 The small number of short-term migrants sampled by the IPS means that it is not possible to produce meaningful sub-Scotland estimates. However, it is possible to get an indication of the geographical spread of short-term migrants using administrative data sources.
- 3.2 [Table 4](#) compares the distribution, at local authority level, of 6-12 month short-term in-migrants, as defined by NINo allocations to foreign nationals and data on further and higher education students. The distribution of GP registrations as recorded by the National Health Service Central Register (NHSCR) is also shown, although it is not possible to distinguish short and long term migrants using this source

⁴ Office for National Statistics (2008) A Reconciliation Exercise between IPS Based Estimates of International Immigration and Counts from Administrative Source.

Table 4 Comparison of distribution of short-term migrants between local authorities based on three administrative sources

	Percentage share of Scotland total			
	NINo allocation	Student	NHSCR/Community Health Index (CHI)	Population
Aberdeen City	11	4	13	4
Aberdeenshire	4	6	3	5
Angus	1	0	1	2
Argyll and Bute	2	0	1	2
Clackmannanshire	0	0	0	1
Dumfries and Galloway	1	1	1	3
Dundee City	4	5	4	3
East Ayrshire	0	0	0	2
East Dunbartonshire	1	0	0	2
East Lothian	1	0	1	2
East Renfrewshire	1	0	0	2
Edinburgh, City of	25	16	24	9
Eilean Siar	0	0	0	1
Falkirk	1	2	1	3
Fife	4	5	5	7
Glasgow City	18	35	22	11
Highland	5	2	3	4
Inverclyde	0	3	0	2
Midlothian	1	4	0	2
Moray	1	0	1	2
North Ayrshire	1	0	0	3
North Lanarkshire	3	5	2	6
Orkney Islands	0	0	0	0
Perth and Kinross	4	3	5	3
Renfrewshire	2	4	1	3
Scottish Borders	1	0	1	2
Shetland Islands	0	0	0	0
South Ayrshire	1	0	1	2
South Lanarkshire	2	2	2	6
Stirling	2	0	2	2
West Dunbartonshire	1	0	0	2
West Lothian	3	0	2	3

3.3 There is general agreement between the three administrative sources in the distribution of migrants. While the share of migrants is broadly in-line with population share, the city authorities of Aberdeen, Edinburgh and Glasgow receive a relatively higher proportion of migrants.

4. Census Coverage Survey

4.1 In the latter stages of the development of the Census Coverage Survey (CCS) in Scotland, a question on intended length of stay was added to the questionnaire, since space and design allowed. This will offer NRS a valuable chance to gather a limited amount of information on intended length of stay to supplement the evidence base and to appraise the recommendations made in this paper, with regards the requirement for enumeration base adjustment. Although the size of the sample is limited (the total sample size is approximately 40,000 households, or about 1.5% of the population), it is broadly representative of the population as a whole. Moreover, the sampling method is deliberately skewed towards the hardest to count areas, which will include areas in large cities such as Glasgow

and Edinburgh, where we might expect there to be a relatively higher proportion of migrants.

5. Conclusion

- 5.1 Based on the survey and administrative evidence presented here, the number of 6-12 month short-term migrants in Scotland appears to have been in the low thousands in recent years. This may lead to the 2011 Census enumeration base population being slightly higher than the true population main output base.
- 5.2 However, the discrepancy is well within the margin of error of the Census population estimates. Furthermore, the difference will be offset to some extent by the likelihood that some of those temporarily outside the UK will be missed by the 2011 Census (the migrant out-stock). Moreover, the migrant out-stock has shown a tendency to outweigh the in-stock in recent years, hence any erroneous inclusion of short-term migrants as usual residents in Scotland for less than a year may well be counter-balanced by the exclusion of short-term emigrants, at any one point in time, who will return to Scotland.
- 5.3 There is a small bias towards the major cities in the distribution of 6-12 month short-term migrants but in general the distribution is line with population size. Even in these cities, the 6-12 month short-term migrant population is likely to be not greater than 0.5% of the total, and much less than that in many areas.
- 5.4 Information gathered from the CCS will be examined when the data becomes available in late 2011, to supplement the information base.
- 5.5 Consideration of all available evidence leads NRS to conclude that no adjustment to the 2011 Census main output base should be made to account for the presence of 6-12 month short-term migrants in the enumeration base.

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