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**CHALLENGES IN DEFINING AND MEASURING DIFFICULT-TO-COUNT  
MIGRANTS**

**DEVELOPMENT OF EXPERIMENTAL ESTIMATES OF SHORT-TERM  
MIGRATION STATISTICS\***

Submitted by United Kingdom

I. INTRODUCTION

1. European Union (EU) expansion in 2004 has been a catalyst for recent increases in flows of international migration to the United Kingdom. There is particular interest in migration for employment given the opening of the UK labour market to migrants from A8<sup>1</sup> accession countries. Interest is in all such moves, regardless of how long individuals stay in the United Kingdom.

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\* This paper has been prepared by Jonathan Smith, Office for National Statistics, at the invitation of the secretariat.

<sup>1</sup> Eight of the ten countries joining the EU in May 2004 are referred to as the A8. These are the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. The other two countries who joined the EU in 2004 were Cyprus and Malta.

2. The Office for National Statistics (ONS) currently produces migration statistics based on the United Nations (UN) definition of a long-term migrant; namely individuals who change their country of usual residence for a period of twelve months or more. It is widely recognised that these estimates do not capture all visits, in particular those who stay for shorter periods. As part of an on-going programme on research into migration and population statistics (the IMPS project), ONS has been exploring how short-term migration might be estimated. The UN define short-term migration as:

"A person who moves to a country other than that of his or her usual residence for a period of at least 3 months but less than a year (12 months) except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimage."

3. A short-term migration feasibility report was published in January 2007 [1]. ONS requested feedback to this report and received a range of responses from users including central and local government and from within academia [2]. Following this feedback, ONS published its first set of short-term migration estimates in October 2007 [3].

4. This paper presents a summary of the research on this project including:

- a) Consideration of whether the UN definition is most suited to meeting user requirements.
- b) Experimental estimates of short-term migration estimates for the year to mid-2004 and the year to mid-2005.
- c) A discussion of the issues arising from the publication of the first set of estimates.
- d) An outline of the planned future developments for the estimates.

## II. DEFINING SHORT-TERM MIGRATION

5. The ONS already produces estimates of moves into and out of the UK for less than 12 months, referred to as 'visits'. However visit estimates exclude moves made for employment. Furthermore as all other moves are included, regardless of length of stay, the majority of moves are very short visits made for a few days or weeks for holiday or business purposes. The overlap between this existing product and the UN definition of short-term migration is summarised in figure 1.

6. Figure 1 demonstrates that the UN definition of short-term migration represents only a fraction of moves made for less than 12 months. ONS was eager to understand whether this relatively narrow UN definition met users' requirements. With this aim, ONS undertook a consultation exercise to seek views on the UN definition and whether a broader definition, extended to wider reasons for visit and/or shorter lengths of stay, would be more appropriate.

**Figure 1** – Overlap between ONS visit definition and UN short-term migration definition

		Length of stay	
		<3months	3-12 months
Reason for visit	Definite job to go to	Neither Definition	UN Definition of short-term migration
	Looking for work	ONS Visitor Definition	
	Formal study		
	Au pair		
	Holiday		
	Business		
	Medical		
	Friends		
	Family		

7. Users were presented with a framework for extending the UN definition as replicated in figure 2. The UN definition alone is shown by the red box ‘category 2’. Extending to include all lengths of stay only would therefore be categories 1 + 2; conversely extending to include all reasons for visit would be categories 2 + 4; finally, the sum of all four categories would equate to all reasons for visit and lengths of stay. As noted in paragraph 2.1, estimates of all visits for less than 12 months would be dominated by those lasting less than a month. In addition to 0 to 12 months and 3 to 12 month stays, it was also suggested that a third definition of visits lasting 1 to 12 months might be appropriate.

**Figure 2** – Categories for short-term migration definitions

		Length of Stay	
		<3 months	>=3<12 months
Reason for Visit	Employment and Study	Category 1	Category 2 (UN definition)
	Other Visits	Category 3	Category 4

8. Overall, most users stated a requirement for estimates consistent with the UN definition. However, there was also interest in the provision of supplementary estimates using alternative definitions. Over half of users stated a requirement for the UN definition reasons for visit (employment or study) but with shorter lengths of stay (categories 1 + 2). There was particular interest in such a definition from central government departments with an interest in macro-economic statistics. These users also stated a requirement to be able to identify students and workers. Interest for broader reason for visit estimates primarily came from users with responsibilities for service provision such as those in local government. Estimates by local authority district were a priority for such users.

9. Further research undertaken to assess the viability of producing estimates on alternative definitional bases was published alongside the experimental statistics in October 2007. A key conclusion from this work was that, as had been suggested, inclusion of the very large number of visits made for 0 to 1 month made interpretation difficult. Overall it was concluded that estimates should be published on the following definitional bases:

- a) UN definition of a short term migrant (staying for 3 to 12 months for employment or study)
- b) A separate 'split' of the UN definition between workers and students
- c) An extended UN definition covering workers and students but including those staying 1 to 12 months
- d) Again a separate 'split' between workers and students for 1 to 12 month stays  
'Other visit' estimates (mainly made for tourist reasons) for 1 to 12 months and 3 to 12 months

### III. EXPERIMENTAL SHORT-TERM MIGRATION ESTIMATES MID-2004 AND MID-2005

10. Estimates presented in this section are experimental statistics reproduced from a research report published by ONS in October 2007. All estimates are based on the International Passenger Survey (IPS). The IPS is a large, multi-purpose survey that collects information from passengers as they enter or leave the UK. IPS data are used as the basis of a range of existing ONS products including estimates of long-term international migration and estimates of visits (referred to in section 2.1). For estimating short-term migration, IPS data are based on passengers' responses as they return to their country of usual residence (at the end of their visit). Responses provided at the end of a visit are more likely to be accurate in terms of length of stay and reason for visit than passengers at the beginning of their stay, as intentions are known to change after arrival. Data based on intentions will, however, be more timely as there is no requirement to wait until the end of a visit before passengers can be sampled. ONS is currently investigating methods for combining the two forms of IPS data to get estimates which are accurate and more timely.

11. Based on a sample survey, there are limitations on the level of detail robust estimates can be produced. ONS published estimates divided by London/non-London though only estimates at England & Wales level are provided in this paper. Standard errors (SE), expressed as coefficients of variation, are provided alongside each estimate to indicate robustness.

A. FLOW ESTIMATES – TOTAL NUMBER OF MOVES MADE IN A GIVEN PERIOD

12. The first set of short-term migration estimates presented in table one are the number of moves made by overseas residents into England & Wales. These data showed an approximate doubling of the number of short-term migrant workers between the year to mid-2004 and the year to mid-2005. This finding is consistent with increased labour migration since EU expansion in May 2004. Short-term migration measured using the UN definition (moves for work or study for between 3 and 12 months) also increased over this period, though only by 15 per cent. It is apparent that the UN definition hides important detail in the changing patterns of moves made for employment and study in the period. Separate employment and study estimates also indicate how important short-term study moves are for the UK economy.

**Table 1** – In-flow of overseas residents into England & Wales, by length of stay and reason for visit (in thousands)

Reason for Visit	3-12 month length of stay				1-12 month length of stay			
	mid-2004		mid-2005		mid-2004		mid-2005	
	In-flow	SE (%)	In-flow	SE (%)	In-flow	SE (%)	In-flow	SE (%)
Employment	23	31	46	21	40	21	78	16
Study	68	15	59	14	195	8	170	9
Employment or Study	91	13	105	12	235	8	247	8
Other	136	9	155	8	677	4	771	4
<b>All Reasons</b>	<b>227</b>	<b>8</b>	<b>260</b>	<b>7</b>	<b>912</b>	<b>4</b>	<b>1,018</b>	<b>3</b>

13. Table 1 also presents extensions to the UN definition. As might be expected, more moves are made for all other reasons than for employment or study. Typically such moves will include holidays, business trips, and visits to friends & family. There is a far larger increase in moves made for ‘other reasons’ when extending length of stay to include moves made for 1 to 12 months. This suggests that, on average, moves made for employment or study are made for longer than moves made for other reasons.

14. Although no estimates giving a further demographic breakdown of these figures can be provided due to the lack of robustness of highly disaggregated IPS data, there is some evidence to suggest that when considering all reasons for visit there are more female immigrants than male immigrants. There is no clear difference between males and females when considering employment and study reasons alone. The vast majority of short-term migrants visiting England & Wales for employment or study are aged between 16 and 24, although in the year to mid-2005 the estimates suggested increasing numbers of workers and students aged between 25 and 34 compared to the year to mid-2004.

15. The total number of moves made by England & Wales residents overseas (‘out-flow’) for all reasons was more than double the equivalent number of moves made by overseas residents to England & Wales (‘in-flow’). Table 2 shows that, as for in-flows, there is a skew toward shorter lengths of stay (the 1-12 month estimates are far larger than those for 3-12 months). Out-flow

consistent with the UN definition is, however, much smaller than the equivalent in-flow. Within the UN definition there is a particular difference in the number of England & Wales residents studying abroad for short periods than the equivalent number of overseas residents coming to England & Wales to study.

**Table 2** - Out-flow of England & Wales residents by length of stay and reason for visit (in thousands).

Reason for Visit	3-12 month length of stay				1-12 month length of stay			
	mid-2004		mid-2005		mid-2004		mid-2005	
	Out-flow	SE (%)	Out-flow	SE (%)	Out-flow	SE (%)	Out-flow	SE (%)
Employment	26	21	24	21	62	13	45	15
Study	11	35	9	35	28	21	34	22
Employment or Study	37	18	33	18	90	11	79	13
Other	366	5	352	5	2,112	2	2,293	2
<b>All Reasons</b>	<b>403</b>	<b>5</b>	<b>385</b>	<b>5</b>	<b>2,202</b>	<b>2</b>	<b>2,372</b>	<b>2</b>

## B. STOCK ESTIMATES – POPULATION PRESENT IN A GIVEN PLACE AT A GIVEN TIME

16. A methodology has been developed to estimate short-term migration stocks using IPS data as the survey is not designed to produce direct estimates for a point in time. Essentially the method produces an average stock of short-term migrants in (or out of) the country. They are labelled ‘Long-Term Migrant Equivalent’ (LTME) estimates as they are designed to be comparable to existing long-term migration outputs. LTME estimates are supplemented by the average length of stay of short-term migrants who entered in that year. A more detailed description of the stock estimation methodology is provided in annex. A.

17. Due to restrictions of space, this paper only presents estimates of the stock of short-term migrants in England & Wales. These estimates are referred to as ‘in-stock’ and are shown in table 3. Estimates of the stock of England & Wales residents who are temporarily overseas (‘out-stock’) are available in the ONS’ research report on short-term migration published in October 2007.

18. In general, stock estimates are considerably smaller than the associated flow figure as short-term migrants are in (or out of) the country for a fraction of the year. Mean length of stay estimates confirm that there is a skew towards relatively short stays, in particular those made for reasons other than work or study. As would be expected, the in-stock of short-term migrants in England and Wales shows the same patterns that are evident from the in-flow figures:

- a) Overall increase in stock from mid-2004 to mid-2005;
- b) Particularly large increase in the stock of workers;
- c) A slight decrease in the stock of students.

**Table 3** – ‘In-stock’ of short-term migrants in England & Wales by reason for visit (in thousands) and average length of stay (in months).

Reason for Visit	3-12 month length of stay				1-12 month length of stay			
	mid-2004		mid-2005		mid-2004		mid-2005	
	In-stock	Mean Length of Stay	In-Stock	Mean Length of Stay	In-stock	Mean Length of Stay	In-stock	Mean Length of Stay
Employment	6	4.5	19	5.1	8	3.5	24	3.8
Study	29	5.7	24	5.6	47	3.3	44	3.4
Employment or Study	35	5.4	43	5.4	56	3.4	67	3.5
Other	55	4.8	58	4.7	128	2.4	138	2.4
<b>All Reasons</b>	<b>90</b>	<b>5.0</b>	<b>101</b>	<b>5.0</b>	<b>183</b>	<b>2.7</b>	<b>205</b>	<b>2.6</b>

#### IV. DISCUSSION – PUBLISHING A FIRST SET OF EXPERIMENTAL SHORT-TERM MIGRATION ESTIMATES

19. Though the first set of short-term migration estimates were generally well received, users provided further feedback which ONS will use in the development and future reporting of this product. This section identifies a number of these issues.

20. Limited detail. As had been indicated by feedback to the initial feasibility report, users required information on short-term migrants beyond that which could be provided by a sample survey. Such required detail included estimates at low geographic levels of detail and information on the nationality/citizenship of the migrants. Local government users are aware that, in addition to contributing to local labour supply, short-term migrants use local goods and services. Estimates at lower geographic levels are a priority for further research on this project. ONS are exploring how information from administrative records such as patient registers and employment registration may be used in providing further disaggregation. Inevitably, given recent EU expansion, users also required estimates by nationality/citizenship. Most commonly there was a requirement for nationality cross-classified by reason for visit to enable the identification of temporary foreign workers from new EU member states.

21. Confusion with current product set. As noted in section two, ONS already publishes estimates of the number of visits made to the UK each year. Figure 1 in this paper demonstrated that there is overlap between existing estimates of visitors and the UN definition of short-term migrants. This figure proved a useful tool in demonstrating the differences between the products and could be referred to at the publication of both.

22. Stocks and flows. By definition all long-term migrants (intending to stay for longer than 12 months) moving into the UK in a calendar year will still be resident at the end of the year. As a result the estimated flow over the year will be the same as the stock of new international

migrants present at the end of the year. As short-term migration visits are made for less than 12 months, the flow over a calendar year will not equal the stock: many such migrants are likely to have returned to their country of usual residence. The difference between stock and flow estimates of short-term migration was the most misinterpreted aspect of the publication.

23. Net flows. A further difference in the interpretation of short-term and long-term migration estimates is the calculation of net flows. Again this related to the shorter length of stay in the former, meaning it was not possible to consider the balance between in and out flows over a calendar year.

24. Irregular migration patterns. As ONS' experimental estimates are based on a sample survey it is not possible to link records over time and so identify migrants who regularly change residence between the UK and other countries. It may be possible to make such linkages with the planned introduction of 'e-borders' in the UK. The e-Borders programme aims to record electronically the passport details of everyone entering and leaving the UK (including UK citizens) and link successive travel histories. Results of this programme are however unlikely to be available prior to 2012.

## V. FUTURE IMPROVEMENTS TO ESTIMATES OF SHORT-TERM MIGRATION

25. Short-term migration estimates have initially been published as 'experimental' statistics. By publishing estimates under this label, ONS are able to involve users in the development of the statistics. However by publishing under this label ONS is also obliged to identify the pathway for the estimates to acquire the higher quality standards required of 'National Statistics'. These steps include:

- a) Developing a methodology for estimating the standard errors for estimates of short-term migration stocks
- b) Undertaking a reconciliation exercise between combined ONS estimates of long and short-term migration and counts from administrative sources
- c) Improving the timeliness of the estimates
- d) Assessing the estimate over a five year period rather than the two points which are currently available

26. As noted in section 4.2 there is significant demand from users for estimates of short-term migration by local area level. ONS have identified researching the methods for local area distribution as a priority. Though this is a priority, ONS have already stated that it may not be possible to produce estimates of sufficient quality to publish. One of the key challenges with producing estimates at this level of detail is the lack of alternative sources against which to validate and assess quality. It is likely that the sources would be used in the production of the estimates themselves.

27. The benchmark for long-term migration estimates at local area level comes from the decennial census. ONS are exploring the feasibility of enumerating short-term migrants in the 2011 Census. Including short-term migrants in the census would provide a unique opportunity to

validate local area level estimates which might be produced through combining survey and administrative records. In addition to providing estimates at local area level, the census would allow a much broader cross-classification of variables than is currently possible. Examples of such cross-classifications include estimates of temporary foreign workers by age, sex, and citizenship. The seasonal nature of some short-term migration means the time of year the census is taken will be important.

## VI. CONCLUSIONS

28. By publishing a first set of experimental short-term migration estimates ONS are able to measure an increasingly important trend in movements into and out of the UK. Producing estimates over the key period 2003 to 2005 the impact of EU expansion can be more fully assessed.

29. Respondents to the consultation exercise stated a requirement for estimates on the UN short-term migration definition. Most users also stated requirements for broader length of stay and/or reason for visit estimates. In response to this the experimental estimates were published by UN definition but also on extended bases. The experimental estimates did not include visits made for less than a month as the very large number of such moves made the estimates difficult to interpret.

30. The estimates presented in this paper have shown that although the number of temporary foreign workers to the UK has recently increased, short-term migrant moves are not only made for employment. Large numbers of short-term migrants come to England & Wales to study (though fewer England & Wales citizens do the same). Furthermore very large numbers of visits are made for other reasons such as for business and tourism purposes. As would be expected, the estimated stock of short-term migrants in the UK is much lower than the flow over a 12 month period. Stock estimates also demonstrate the skew towards relatively short lengths of stay, particularly for visits made for reasons other than work or study.

31. The discussion section of this paper highlighted some of the issues ONS has experienced in publishing estimates of short-term migration. Among these are included the limited detail current estimates are able to provide, and user confusion with stock/flow estimates. It has been noted that a sample survey is unlikely to be able to meet all requirements set out by users. Acknowledging this, ONS is exploring both how survey data might be used in conjunction with administrative data sources such as patient record information, and whether it is feasible to measure short-term migration through the 2011 Census.

## REFERENCES

[1] Office for National Statistics (2007) Short-Term Migration Feasibility Report. Available at: <http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/downloads/Short-termMigrationFeasibilityReport.pdf>

[2] Office for National Statistics (2007) Summary of Feedback Received on Short-Term Migration Feasibility Report. Available at:  
[http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/downloads/STM\\_feedback.pdf](http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/downloads/STM_feedback.pdf)

[3] Office for National Statistics (2007) Research Report on Short-Term Migration. Available at:  
[http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/downloads/STM\\_Research\\_Report.pdf](http://www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/downloads/STM_Research_Report.pdf)

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