

Using data from overseas to improve estimates of emigration

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Migration figures are notoriously problematic to compile, and this is primarily due to complexities in establishing the size and composition of those leaving the UK to live overseas. This article summarises an Office for National Statistics (ONS) investigation into the potential use of data held by countries receiving UK citizens in order to improve the accuracy of emigration figures.

Introduction

Migration involves the movement of a person and their change of residence from one country to another. This movement obviously affects the population of two countries and will therefore be recorded twice, once as immigration to the receiving country and once as emigration from the exporting country. For the UK, as for many countries, it is more difficult to collect accurate information on those leaving to live abroad. The simple reason is that people leaving the country are much harder to estimate as they are absent, and this applies to both stock and flow estimates.

Household surveys and censuses have difficulties in collecting information about absent people, particularly when no member of the household is living in the country of origin. Also, departures generally tend to be less well recorded than arrivals as governments are often unable to monitor people emigrating closely, particularly if they are nationals rather than foreign citizens. Moreover, for the migrant, there is often little incentive to notify the authorities of their departure.

In the UK, the main source of information for the emigration component is the International Passenger Survey (IPS), which is a large multi-purpose port survey that interviews a sample of travellers¹. Although this survey is essential in the UK as it is the only way that direct estimates of in and out migration can be made, the sample size is currently relatively small. Approximately one per cent of those sampled are long-term migrants (**see Box one**) and less than half of those are emigrants. In 2005, the sample size was approximately 3,000 for in-migration and 800 for out-migration meaning the estimates are subject to considerable sampling error. The standard errors for estimates of total international in-migration to the UK and out-migration from the UK were 3.7 per cent and 4.8 per cent respectively.

Like many countries, the UK has more comprehensive sources on immigration than on emigration. For example, sources such as the Census and household surveys, while collecting some information on where people have come from, do not currently collect any information on emigration, as those people have left the usually resident population and therefore the sampling frame for the survey. The Office for National Statistics (ONS) has carried out research to investigate the feasibility of running questions on emigration in household surveys in Great Britain and the findings of a pilot study were reported in *Population Trends 127*². Further research into the potential for using administrative data sources to support the estimate of emigration was reported in the previous edition of *Population Trends*³.

While many countries lack reliable estimates of emigration, pooling information from other countries' immigration data – which is likely to be significantly better – may actually improve the validity of the UK's emigration estimates. ONS has carried out research to compare migration flow estimates from the IPS with those of the European Union (EU) member states prior to May 2004 (except the Republic of Ireland) and those from non-EU countries where it is known that the countries in question receive large numbers of UK citizens. The aim was to assess whether more reliable estimates of out-migration can be obtained by combining data sources and to explain more fully where and how the figures from overseas sources are different from the IPS.

In addition, research work comparing the IPS emigration data with the stock of UK emigrants resident overseas from the 2000 round of Censuses, the Labour Force Surveys and other sources held by international organisations has been carried out to evaluate further the IPS emigration estimates and to assess the potential for special surveys of emigrants at destination countries. This article collates research that has been carried out by ONS over the last two to three years using the most recently available data at that time. While more up to date information is now available, the research findings using these data are still valid.

Definition of a migrant

ONS migration estimates, which feed into the UK usually resident population estimates series, are based on the definitions agreed by the United Nations (UN) for a long-term migrant. This definition is shown in **Box one**.

International migration is a key component of population change. The UK has experienced increasing levels of both inward and outward international migration in recent years⁵. **Figure 1** shows that over the past decade migration into the country increased from 314,000 in 1994 to 582,000 in 2004, with most of the increase to inflows occurring after 1997. Out-migration increased more slowly than inflows but to a lesser extent, from 238,000 in 1994 to 380,000 in 2005.

Box one

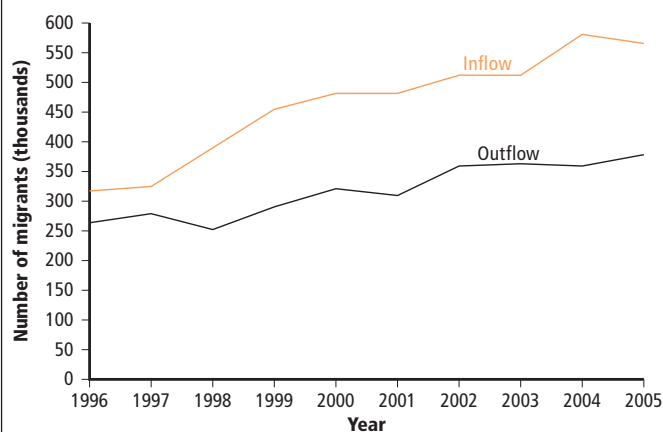
United Nations definition of migrants

The United Nations⁴ recommended definition of a long-term international migrant is:

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. From the perspective of the country of departure the person will be a long-term emigrant and from that of the country of arrival the person will be a long-term immigrant.

Figure 1

International migration into and out of the UK, 1996 to 2005



Using overseas immigration estimates to measure emigration

When comparing UK estimates of emigration with the information collected by other countries on immigration, attention needs to be paid to definitional limitations, coverage and accuracy problems. Generally, immigration data are considered to be more accurate, but this does not mean that for any given flow, the immigration estimate is more accurate than the corresponding emigration figure. However, data collected by other countries can be seen as a promising potential data source, to both estimate missing data or to improve existing figures.

Immigration data held by other countries

The United Nations Economic Commission for Europe (UNECE) and Eurostat created a Task Force to assess the feasibility of using a receiving country's immigration data to measure emigration. As part of this work, the Task Force developed guidelines⁶ on how to measure emigration of stocks and flows in host countries and to assess the feasibility of doing so, taking into account issues of data suitability, timeliness and accuracy. According to the guidelines, when using a specific source of immigration data from a receiving country, the following require consideration: accuracy of data source, availability of origin/destination data, coverage, time reference, definition of international migration, and the availability of metadata. Research by ONS has concentrated on the flow estimates of the EU members prior to 2004 (except for the Republic of Ireland for which no IPS data are available), mainly for data availability reasons, and the non-EU countries of Australia, Canada, New Zealand, South Africa and the United States of America, all of which are large receivers of UK migrants. Norway, Poland and Switzerland were also included.

Box two summarises the data that are available on international migration for the countries listed above. This shows the wide variety of data sources that exist across these countries. The final two columns in **Box two** also show two further important considerations: firstly, whether the data are suitable for comparison with the IPS; secondly, whether the IPS estimate for a particular country is sufficiently robust to allow a useful comparison to be made. Given the small sample size for some of the individual countries, estimates will be subject to significant sampling error and will therefore make analysis difficult.

The most important considerations concern coverage and definitions. In EU countries, the population universe of the data may be different from that of the UK where estimates are made for the usually resident population. Estimates based on a register may relate to legal or present

Box two

Main overseas data sources for immigration flow estimates by country

		Main data source to estimate flows	Data availability	UK-born/ UK citiz/ UK res	Year/s	International migrant definition (as in data source available)	Definition suitable for comparisons with IPS	IPS data robust for single country comparison
EU15	Austria	Population register	yes	UK citiz	1996-2001	No minimum length of stay for inclusion	no	no
	Belgium	Population register	no			Three months residency	no	no
	Denmark	Population register	yes	UK citiz	2001-2003	Data provided acc to UN definition of mig	yes	no
	Finland	Population register	no			Intention of stay of more than one year	yes	no
	France	Work permit	no				no	yes
	Germany	Population register	yes	UK citiz	1974-2004	At least two months residency	no	no
	Greece	Census- address 1 yr ago	yes	UK res	2001	Address one year ago	yes	no
	Italy	Population register	yes	UK citiz	1998-2001	Three months residency	no	no
	Luxembourg	Population register	yes	UK citiz	1991-2003	Unclear	no	no
	Netherlands	Population register	yes	UK-born	1995-2003	Intention to reside for 4 of next 6 months	no	no
	Portugal	Census- address 1 yr ago	yes	UK res	2001	Address one year ago	yes	no
	Spain	Population register	yes	UK res	1995-2004	Six months residency	no	yes
	Sweden	Population register	yes	UK res	2000-2004	One or more years of residency	yes	no
	Other	Norway	Population register	yes	UK res	1999-2004	Six months residency	no
European	Poland	Foreing register	yes	UK res	2001-204	Permanent residency	no	no
	Switzerland	Population register	yes	UK citiz	1991-2004	Not known	no	no
Non-EU	Australia	Landing cards on all arrivals	yes	UK citiz	1999-2004	Length of stay of more than 12 months	yes	yes
	Canada	Permanent residency permit	yes	UK citiz	2001-2002	People granted permanent residency	no	yes
	New Zealand	Landing cards of Permanent or long stay arrivals/	yes	UK res	1979-2005	Intention of permanent/long stay	yes	yes
		Residency applications	yes	UK nationals	1999-2003	Time of granted residency	likely	yes
	South Africa	Department of Home Affairs	yes	UK res	2001-2003	Time of granted residency	no	yes
USA	USA Immigration Statistics Department	yes	UK-born	1998/99–2001/02	Immigrants admitted by fiscal year	likely	yes	

population. This may make it difficult to compare the UK emigration data with those of countries that obtain their figures using their population register, for example. Each data source identifies people that the country considers as international migrants. While there are UN agreed definitions of migrants, which are used in the UK, other countries are not always in a position to conform to them, and may therefore use different time durations to define the place of usual residence. Therefore, the accuracy of alternative data sources needs to be understood. However, it is difficult to make an objective assessment of the accuracy of another source. Estimates from the IPS will also be subject to sampling error inherent in sample surveys, but some comparisons for individual countries can be made. Work as part of the UNECE taskforce made several direct comparisons between the UK and other European countries: the most robust were France, Portugal and Spain shown in tables 1a-1c and figure 2. Again, they noted the wide variety of sources and concepts among the countries involved in the analysis.

Example European countries: France, Portugal and Spain

Table 1a

Migrants UK to France, recorded by the UK as emigration and France as immigration ('000s)

	Emigration (UK)	Immigration (France)
1995	12.6	2.7
1996	14.8	3.2
1997	17.6	3.7
1998	11.8	7.4

Source: UNECE/Eurostat Task Force

Table 1b

Migrants UK to Portugal, recorded by the UK as emigration and Portugal as immigration ('000s)

	Emigration (UK)	Immigration (Portugal)
1995	3	0
1996	0.9	0
1997	1.5	0.1
1998	4.6	0.2
1999	1.4	0.7
2000	3.8	0.8
2001	na	0.8
2002	2.1	0.9
2003	0.4	0.9
2004	3.3	0.7

Source: UNECE/Eurostat Task Force

Table 1c

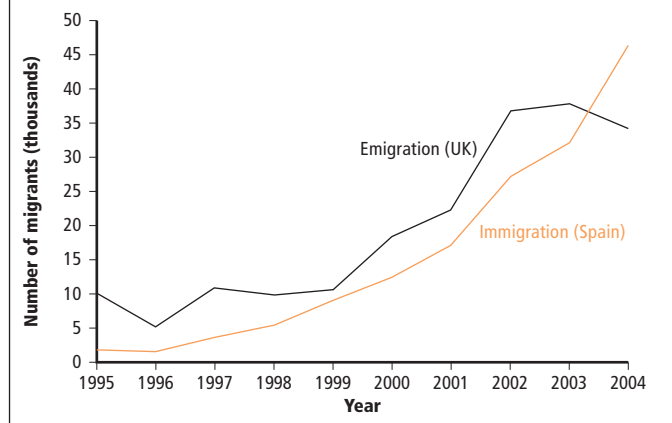
Migrants UK to Spain, recorded by the UK as emigration and Spain as immigration ('000s)

	Emigration (UK)	Immigration (Spain)
1995	10	1.8
1996	5.2	1.5
1997	10.8	3.6
1998	9.9	5.5
1999	10.7	9.1
2000	18.4	12.4
2001	22.4	17.1
2002	36.7	27.2
2003	37.7	34.2
2004	34.2	46.5

Source: UNECE/Eurostat Task Force

Figure 2

Migration from the UK to Spain, recorded as UK emigration and Spanish immigration



While the data recorded by Portugal and France show little similarity with that recorded by the IPS, the figures recorded for Spain follow much more closely. Some of the differences in the first two tables can be explained by discrepancies in definition, coverage and recording, and some attributed to the large standard errors when examining the IPS for single countries over single years. For these countries it is difficult to see that the comparisons produce useful results. However, when the estimates are larger and based on more contacts in the IPS with subsequently smaller proportional standard errors, as in the case of Spain, the picture is rather different. For Spain, the trend of growing numbers of emigrants to that country can be clearly observed, with both datasets capturing this strong increase. In addition, the estimates of the total number of migrants captured over the 10-year period are similar and do not differ statistically.

This analysis has shown that large significant changes can be quality assured using data from other countries, and also that these figures can be used to assess the validity of trends over time. Extensive research into the use of other countries' data sources to improve estimates further has been carried out over the last decade by Michel Poulain⁷. This project looked at the availability, accuracy and comparability of data on migration across Europe and concluded that there was an urgent need for more comparable statistics on migration and asylum.

Rendall and Wright⁸ further compared the register data of several European countries with the IPS and also found them to be comparable. Poulain found that register data is generally more comprehensive in receiving countries, but that they are subject to varying degrees of non-compliance and also are not uniform in terms of migration definitions (as seen in **Box two**).

Example countries that receive large numbers of UK migrants : Australia, New Zealand and USA

ONS also considered a comparison of the UK IPS outflows with data recorded as inflows for countries that received large numbers of migrants from the UK. Where the size of the flow is large, both the figures derived from the IPS and the sources in other countries will be more accurate and it is thus possible to make some comparisons. **Figure 3** shows the comparison of IPS estimates of outflows to Australia with data from the Australian Customs and Immigration for Australian fiscal years (1 July-30 June) 1999-00 to 2002-03. The estimates derived from landing cards for these years were compared with IPS data for the corresponding quarters/years. Australian immigration data on UK citizens were broadly similar to IPS estimates of outflows. IPS estimates in years 1999-00 and 2000-01 were closer to Australian data than the estimates for more recent years.

Figure 4 shows data from the USA Immigration Statistics Department for the fiscal year (1 July - 30 June) 1999-00 to 2001-02. These were compared with the estimates of UK-born outflows to the USA in the corresponding quarters. The estimates derived from the US Immigration Department were similar to the IPS outflows estimates.

Figure 3

IPS outflow estimates of UK-citizens (with upper and lower 95% confidence intervals) to Australia, and Australian Customs and Immigration data based on flight passenger cards; Fiscal years 1999-00 to 2002-03

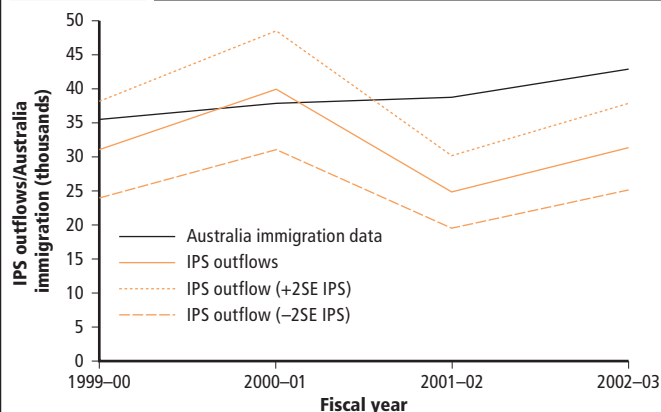


Figure 4

IPS outflow estimates of UK-born (with upper and lower 95% confidence intervals) to the USA, and USA data on in-migrants granted legal residence; Fiscal years 1999-00 to 2001-02

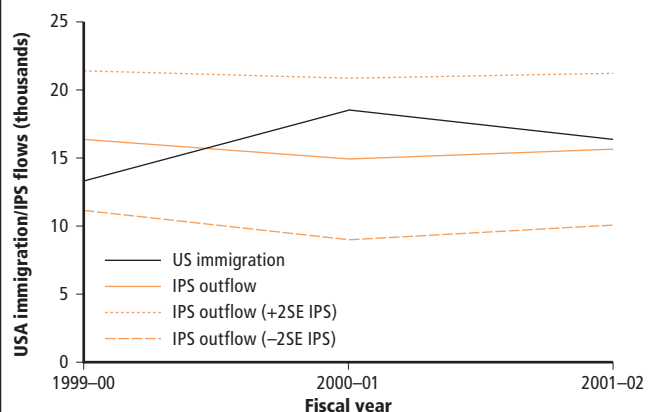


Figure 5

IPS outflow estimates of UK residents (with upper and lower 95% confidence intervals) to New Zealand, and New Zealand data on UK resident arrivals for permanent or long-term periods; 1999 to 2003

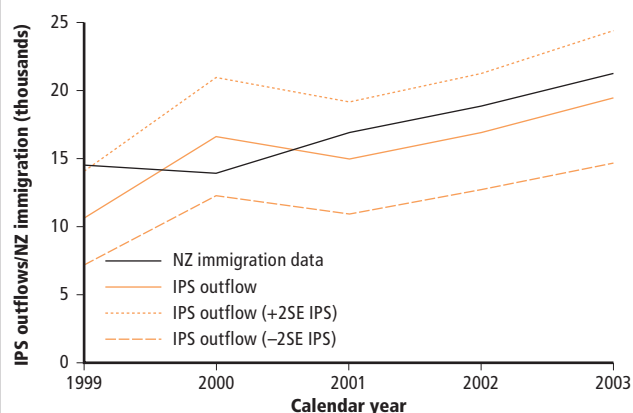


Figure 5 shows data from Statistics New Zealand (SNZ) on UK residents arriving in New Zealand for permanent or long-term periods (12 months or more) for calendar years 1999 to 2003, and the IPS outflow to New Zealand estimated in the corresponding years. The IPS estimates were very close to the SNZ data.

Data for these three countries are very close to those recorded by the IPS, indicating again that accessing immigration figures from other countries would be a useful quality assurance tool, particularly for assessing the validity of changes in trends. Discrepancies can be attributed mostly to definitional issues; for example, figures for the UK and Australia are more similar when only long-term migrants are included in the definition. Work as part of the UNECE/Eurostat task force also compared the UK with these large receivers and produced comparable results.

When using figures collected by other countries in their measurement of international migration, it is important to take into account the differences in definition, data collection systems, coverage and data quality. In addition, care must be taken when using the IPS data for emigration to single countries as the standard errors on these estimates will be relatively large, making it more difficult to draw conclusions. While ideally for this kind of analysis, one would have common definitions of migration and population and statistics that were of high quality with no or reduced standard errors, this is rarely the case in reality. This ONS research has shown that useful comparisons can be made with the immigration data from other countries, particularly where there are large numbers of emigrants and where definitions can be made as similar as possible.

Alternative immigration data sources – the Labour Force Survey

The comparative analysis described above faces many empirical challenges with the comparability of international migration data between countries and sources. The European Labour Force Surveys (LFSs) can be seen as an alternative to the traditional sources of immigration. The obvious advantage is that they are designed to be comparable across the European Union. Rendall and Wright⁸ carried out research to assess this alternative as a source of immigration data. This research built on earlier work⁹ using the LFS question on place of residence one year before the survey, and combined data for a number of years to reduce problems of uncertainty inherent when using results from a sample survey.

Both IPS and LFS produce sample-based estimates, so data for any one year for a particular country will have correspondingly high standard errors; therefore the flows were aggregated. There is concern that there

Table 2a

Total immigration from the UK to the continental European Union* by citizenship. Years 1997–2002 aggregated (1996 to 2001 for IPS)

Citizenship	LFS		IPS	
	Number ('000)	Per cent	Number ('000)	Per cent
UK	79.4**	32.2	234.4	57.6
s.e.	(4.6, 7.7)		18.7	
Non-UK	167.2	67.8	172.7	42.4
s.e.	(6.6, 11.2)		12.7	
Total	246.5**	100.0	40.7	100.0
s.e.	(8.1, 13.6)		22.55	

Notes:

* Excludes Republic of Ireland and Sweden for all years and Netherlands for 2000–02

**Statistically significant difference between the LFS estimates and the IPS estimate at $p < 0.05$. s.e. = standard error. The lower and upper bounds of the LFS standard errors are calculated respectively assuming a simple random sample and assuming a design effect due to clustering of 2.85

would be differentially high non-response for migrants, particularly recent ones, owing to language difficulties. This would potentially lower response rates for newly arriving, but not returning, migrants. Also, there is concern that the LFS would not collect illegal migration. In both cases, it may be expected that there will be differences in the quality of the migration estimates. While the European LFSs are generally considered to produce comparable data across Europe, the production of international migration estimates are likely to push the survey to its limits. The LFS, being a household-based survey, excludes communal establishments and the institutional population, some of whom may be migrants. Additionally, it is possible for the newly-arrived household to be excluded from the sampling frame in their first year of residence, and therefore miss answering the 'where did you live one year ago' question.

Table 2a shows the comparison of the two data sources for immigration from the UK to Europe divided between UK and non-UK citizenship. The table shows that there are statistically different total numbers of migrants recorded by the two surveys, but that this is not consistent across the citizenship groups. Continental EU migrants that are returning from the UK are accurately estimated by the LFS, but in contrast the number of UK citizens are under estimated. This analysis can be broken down into the major receiving countries but it is only for Spain, Germany and France that the IPS estimates are sufficiently robust to make comparisons.

Table 2b compares the register-based estimates with those from the two surveys, showing closer correspondence with those derived from the IPS than with those from LFSs. So, while the LFS compares favourably for the return migrants to Europe, the IPS is much better at estimating flows of UK citizens. Rendall and Wright concluded that migrant flows tend to be poorly estimated by the LFS, with returning citizens the exception; accordingly for this group the LFS may be a useful tool to inform and quality assure estimates from the IPS.

Table 2b

Total immigration from the UK to Germany and Spain. Years 1997–2002 aggregated (1996 to 2001 for IPS)

Country	LFS	IPS	Register
	Number ('000)	Number ('000)	Number ('000)
Germany	51.1	95.0	97.3
s.e.	(3.6, 6.1)	10.8	
Spain	21.4	77.3	74.9
s.e.	(2.1, 3.6)	8.3	

Notes:

s.e. = standard error. The lower and upper bounds of the LFS standard errors are calculated respectively assuming a simple random sample and assuming a design effect due to clustering of 2.85

Using information held on the stock of UK citizens abroad

In order to evaluate the IPS emigration figures further, and to assess the potential for surveys of emigrants at specific destination countries, overseas data sources on UK nationals residing abroad can be examined. ONS carried out research into three alternative data sources:

- Comparing IPS outflows with the Organisation for Economic Co-operation and Development (OECD) collated time series¹⁰ on the stock of the UK born and UK nationals residing overseas;
- Comparing the IPS outflows with stocks of UK immigrants found in the LFS data for other European countries; and
- Comparing the IPS outflows with the OECD-compiled 2000 round of Census data on stocks of UK born emigrants resident overseas.

Two methods of comparison were used. For the first two analyses detailed above, IPS net outflow was compared with the difference in stock figures for two points in time. For the third analysis the duration of stay recorded in the various censuses were compared with IPS outflows and net outflows.

OECD data on immigrants and expatriates

OECD has compiled a database on the stock of the foreign born and foreign nationals for 1996-2001 (with the exception for the United States of America where the data are for 1990-2000) by taking data from member countries. This is designed to compile information on immigrants and expatriates in OECD countries, to permit international comparisons. Source data include censuses, residence permits and population registers. With this diversity comes inherent differences in the definitions, coverage and quality, so a cautious approach is required.

Table 3a shows comparisons between the OECD-compiled stocks data and IPS net outflow. Substantial differences can be seen for Australia and Canada, but there is a closer picture for the USA, Netherlands and the Scandinavian countries. The main differences can be attributed to the differing definitions of migrants.

Table 3a OECD data for the difference in stocks of UK-born living abroad between 1996 and 2001; the sum of IPS net outflows and IPS inflows, and outflows (weighted sample and sampling errors) for years 1997-2001

UK-born living in	OECD 1996 & 2001	IPS 1997-2001					
	difference in stocks (N)	Sum of net outflows (n)*	Inflows		Outflows		
			(n)*	(se)	(n)*	(se)	
Australia	-36,300	66,287	52,846	4,556	119,133	6,268	
Canada	-49,535	9,886	15,328	3,525	25,214	3,845	
Netherlands	6,223	6,304	14,268	3,775	20,572	4,346	
Scandinavian countries**	4,095	6,463	4,652	1,540	11,115	3,029	
United States	37,606	47,070	103,527	6,900	150,597	7,612	

Notes:

Australia: OECD reference period is 30 June; IPS data refers to 1996-2000; United States: OECD refers to 1990-2000 and IPS to 1990-1999

* weighted sample

**Scandinavian countries: Denmark, Finland, Norway and Sweden

Table 3b EU-LFSs data for the difference in stocks of UK-born living abroad between 2000 and 2004; the sum of IPS net outflows and IPS inflows, and outflows (weighted sample and sampling errors) for years 1999-2003

UK-born living in	EU-LFSs 2000 & 2004	IPS 1999-2003					
	Difference in stocks n(w)*	Sum of net outflows n(w)*	Inflows		Outflows		
			n(w)*	(se)	n(w)*	(se)	
Other EU countries**	77,831	55,710	61,196	8,755	116,905	11,335	
Scandinavian countries***	1,836	3,715	4,782	2,056	8,498	2,532	
Spain	73,030	62,495	20,390	4,755	82,885	9,361	
All European countries	152,697	121,920	86,367	10,173	208,288	14,917	

Notes:

Czech Republic: EU-LFS difference in stocks for years 2002 and 2004; IPS sum of net outflows for years 2001-03

Spain: IPS data includes Spain, Balearic and Canary Islands.

* weighted sample

** Other EU countries included: Austria, Belgium, Czech Republic, France, Greece, Cyprus, Luxembourg, Netherlands and Portugal

***Scandinavian countries: Denmark, Finland, Norway and Sweden

European LFS data

As described above, and in a paper by Rendall et al (2003), the LFS has a more common approach across Europe and contains four variables of interest: nationality, country of birth, previous country of residence and number of years of residence in the member state. While potentially the latter variable provides a good 'foothold' to provide consistent analysis for stocks, further investigation suggested that member states were using different starting points for counting years of residence, despite common explanatory notes. Moreover, countries used different starting points, such as date of first entry, date of most recent entry and date of registration. So, while the LFS would appear to produce a common ground for compiling stock figures on migrants, concerns have been highlighted regarding the quality of the results, particularly due to the coverage of the population, bias in the results, and data quality. Particular problems surround the measurement of recent migrants as they may be absent from the sample frame owing to differential time lags that exist in accepting them into the population registers in the various countries. Concerns have also been raised as to the ability of recent migrants to respond to the LFS, particularly owing to language difficulties, and also to illegal migrants wishing to evade government-run surveys.

As sample sizes for migrants in both the LFS and the IPS are small, data are combined to facilitate comparisons. **Table 3b** shows some comparisons that have been made. Despite the potential difficulties, this is a useful data source for making comparisons. There is correspondence between the two data sources, particularly when the figures are pooled over multiple years and across countries.

Data from the 2000 round of Censuses

The OECD has compiled a database of the stocks of UK-born emigrants living abroad by the length of time spent in residence at the time of the 2000 round of censuses in the host country. Data used in this analysis are from the receiving countries of Australia, Canada, France, New Zealand, Spain and the USA. Comparisons are made between the IPS outflows and net outflows of the UK-born and the OECD-compiled stocks of UK-

born derived from census data provided from the host country, based on length of time abroad. The IPS data measure the intention to migrate for more than 12 months. For comparisons with the length of time abroad, IPS data referring to the year before the respective census in the host country are used. The censuses also record the stock of the overseas born that have resided in the host country for more than one year; to facilitate a comparison with this, IPS data are combined for a number of

quarters to produce estimates that best correspond to the actual length of time abroad. **Box three** shows how the data have been combined to make these comparisons possible.

The comparisons for each country are shown in **table 3c** and **figures 6a–6f**. UK emigration data include only those estimated by the IPS as intending to stay for a year or more. They exclude those people who

Box three

IPS quarter/year(s) used for comparisons; UK-born outflows by country of residence and length of time abroad.

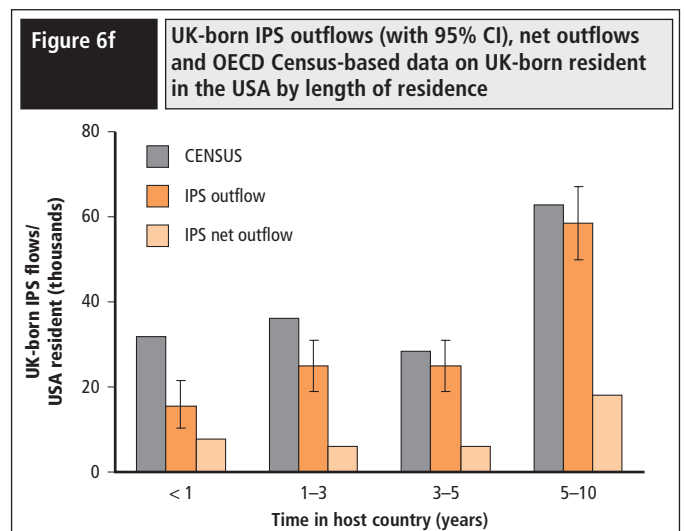
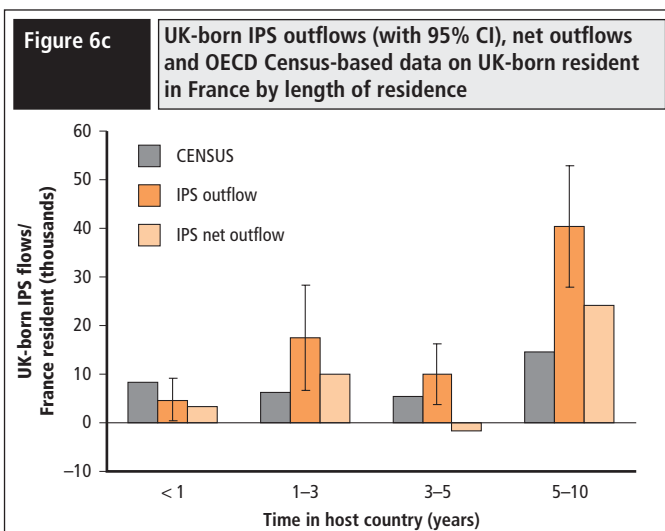
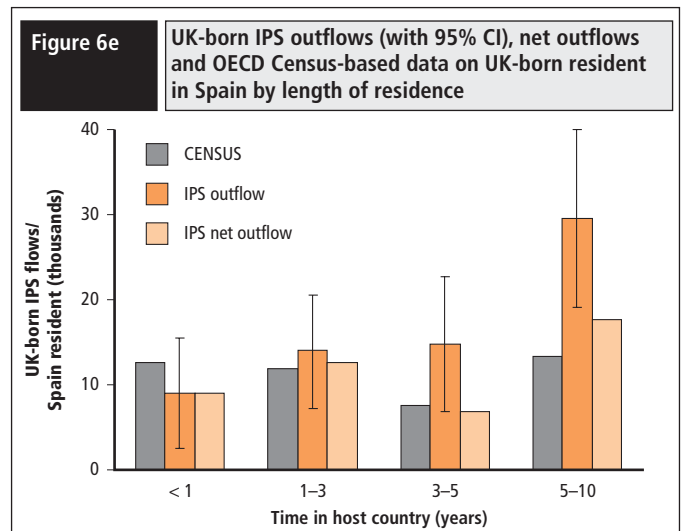
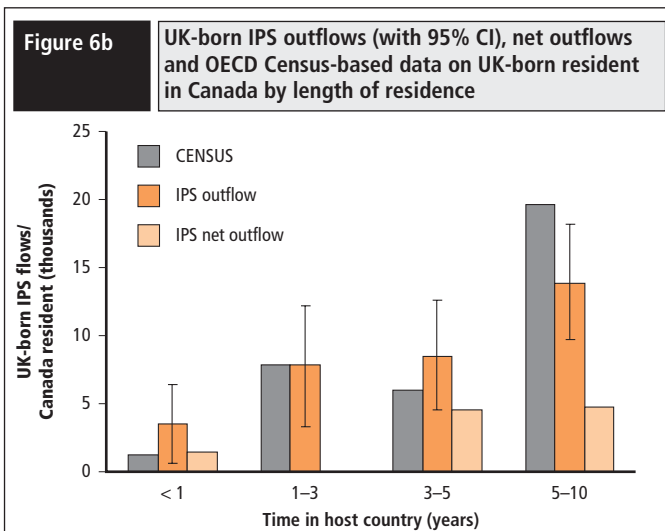
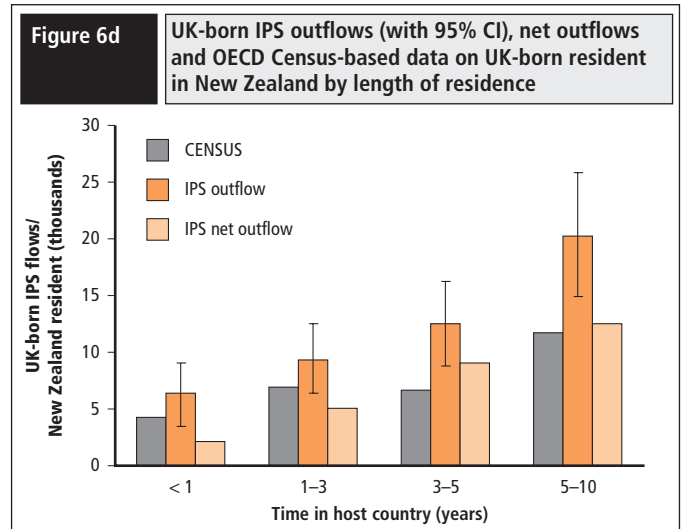
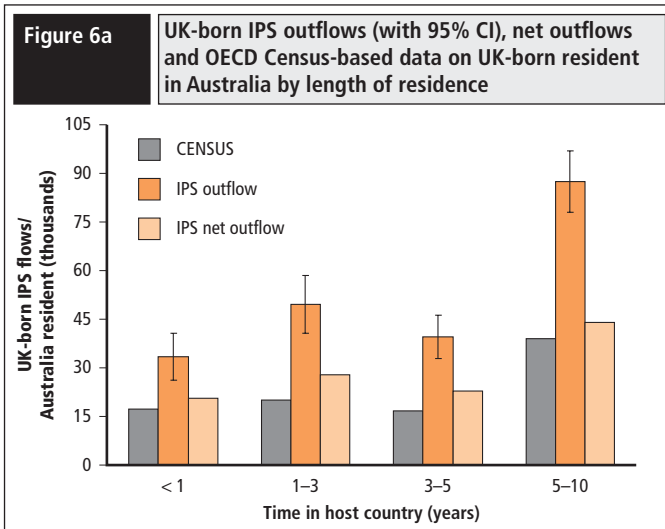
UK-born country of residence	Census month/year in country of residence	UK-born length of time in country of residence			
		<= 1 year	>1 & <=3 years	>3 & <=5 years	>5 & <=10 yrs
Australia	Aug-01	IPS Q34 2000 Q12 2001	IPS Q12 2000 Q1234 1999 Q34 1998	IPS Q12 1998 Q1234 1997 Q34 1996	IPS Q12 1996 Q1234 92-95 Q34 1991
Canada	May-01	IPS Q34 2000 Q12 2001	IPS Q12 2000 Q1234 1999 Q34 1998	IPS Q12 1998 Q1234 1997 Q34 1996	IPS Q12 1996 Q1234 92-95 Q34 1991
France	Mar-99	IPS Q1 1999 Q234 1998	IPS Q1 1998 Q1234 1997 Q234 1996	IPS Q1 1996 Q1234 1995 Q234 1994	IPS Q1 1994 Q1234 90-93 Q234 1989
New Zealand	Mar-01	IPS Q1 2001 Q234 2000	IPS Q1 2000 Q1234 1999 Q234 1998	IPS Q1 1998 Q1234 1997 Q234 1996	IPS Q1 1996 Q1234 92-95 Q234 1991
Spain	Nov-01	IPS Q1234 2001	IPS Q1234 1999 Q1234 2000	IPS Q1234 1997 Q1234 1998	IPS Q1234 92-96
USA	Apr-00	Q1 2000 Q234 1999	Q1 1999 Q1234 1998 Q234 1997	Q1 1997 Q1234 1996 Q234 1995	Q1 1995 Q1234 91-94 Q234 1990

Table 3c

UK-born IPS outflows/sum of outflows and OECD-compiled stocks of UK-born from the 2000 round of censuses; data by host country and length of time of residence abroad

UK-born country of residence	Census month/year in country of residence	UK-born length of time in country of residence																			
		<= 1 year				>1 & <=3 years				>3 & <=5 years				>5 & <=10 years							
		OECD		IPS*		OECD		IPS*		OECD		IPS*		OECD		IPS*					
		sum of outflows		95% CI		sum of outflows		95% CI		sum of outflows		95% CI		sum of outflows		95% CI					
N		n(w) se		N		n(w) se		N		n(w) se		N		n(w) se							
Australia	Aug-01	17,494	33,352	3,592	26,311	40,392	19,755	49,527	4,366	40,971	58,084	16,593	39,551	3,274	33,134	45,969	38,633	87,081	4,702	77,865	96,296
Canada	May-01	1,200	3,478	1,420	695	6,262	7,785	7,759	2,243	3,362	12,155	5,975	8,541	2,047	4,528	12,554	19,675	13,880	2,113	9,738	18,021
France	Mar-99	8,321	4,663	2,172	406	8,920	6,078	17,499	5,518	6,684	28,314	5,314	9,975	3,078	3,942	16,008	14,532	40,423	6,321	28,033	52,812
New Zealand	Mar-01	4,350	6,253	1,378	3,551	8,954	6,861	9,437	1,552	6,396	12,479	6,579	12,480	1,828	8,898	16,062	11,820	20,254	2,716	14,930	25,577
Spain	Nov-01	12,540	8,945	3,285	2,507	15,384	11,880	13,906	3,383	7,274	20,538	7,500	14,712	3,996	6,880	22,544	13,420	29,612	5,200	19,419	39,804
USA	Apr-00	31,660	15,636	2,842	10,066	21,205	35,760	25,045	3,111	18,947	31,142	28,794	24,855	2,924	19,123	30,587	62,905	58,421	4,459	49,681	67,161

* IPS sum of outflows reference period is shown in Box three.



enter as a visitor and whose intentions change, causing their stay to be extended, for example, for reasons of study or upon marriage. For some of the countries (Canada, France and Spain), because sample sizes for the UK-born residing abroad are small, the figures should be treated with caution. When net outflows are used there is close correspondence between the two datasets for France and for Spain. For New Zealand and Australia, similar results can be seen for all lengths of stay. For Canada, the comparisons are close with the exception of the longer lengths of stay where the Canadian Census counted larger

numbers of UK-born than those counted as emigrating from the UK by the IPS. One explanation may be that at the time of leaving the UK, the intention was that of a visitor, but this was subsequently extended to a longer period. For the USA, there is a similar picture to that of Canada, with larger numbers of the UK-born counted in the census than recorded by the IPS. Again, this difference could result from changing intentions. In these comparisons, it is not possible to isolate UK-born migrants that have arrived in the receiving country by way of a third country, so this may also account for some of the differences.

Overall there is good concurrence between the IPS estimates of UK-born emigration and the OECD-compiled Census data on the stock of UK-born. For this analysis only selected countries have been used to investigate the usefulness of the data, and the analysis of net outflows was not split by age and sex. In addition, census stocks data would inevitably include movements via a third country. Therefore the analysis does not necessarily challenge the conclusions drawn following the 2001 Census, that net migration to the UK over the two decades 1981-2001 had been over estimated. These analyses have shown that while overseas censuses data could not be used directly to estimate UK emigrants, they provide a useful quality assurance tool.

Conclusions

Emigration is the most difficult component of population change to measure, and for this reason it is important to make use of other data sources that are available. As emigrants leave the UK, they are recorded in the population and migration figures of the country to which they have moved. Datasets held by other National Statistical Institutes (NSIs) on the flow of migrants from the UK and the stock of UK citizens are a potential source for improving the quality of UK emigration estimates. ONS research has concluded that while these figures are not suitable for use directly to produce estimates, it is possible to take into account differences in definitions, coverage and quality in the data sources held in other countries, thus providing the potential for quality assurance, and to assess changes in underlying trends. ONS will continue to keep possible alternative data sources under review as part of its wider work programme to improve the quality of population and migration statistics.

This paper has reported on work carried out by ONS to take forward a recommendation of an earlier review of the quality of international migration statistics¹¹. The recommendation was to investigate the potential of overseas data sources to assist in the estimation of international migration. ONS will continue to investigate this further as datasets improve and new datasets become available. This research is part of a wider programme of work. Owing to the importance attached to the availability of more robust migration statistics, ONS is undertaking a substantial programme of work to improve the methods and data sources that are used to estimate migration and population¹². Research carried out within the improvement programme will be reported in *Population Trends* and on the National Statistics website.

There are several streams of work covering both new statistics such as the estimates of short-term migrants; improving the use of existing sources of information (for example, improvements were made to the IPS, and from 2007 there has been additional sampling to improve the estimates of emigrants); making better use of administrative sources; and developing new or revised sources (for example, a review of port surveys is being undertaken). Earlier papers reported on population definitions research¹³ and the feasibility of estimating short-term migrants¹⁴, and further papers are planned for future issues of *Population Trends*.

In addition, in May 2006 the National Statistician set up an inter-departmental Task Force to recommend timely improvements that could be made to estimates of international migration and migrant populations in the UK, both nationally and at local levels. The inter-departmental nature of the Task Force facilitated more cross-governmental working and sharing of information. The Task Force reported in December 2006 and further recommendations will be produced during 2007¹⁵.

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Key findings

- Immigration data held by other countries are a potential source to assist in the estimation of emigration from the UK
- There are widespread differences in data quality, coverage and definitions of the population and migration figures held by other countries
- Due to the difficulties in producing comparable data, immigration estimates from overseas cannot be used directly to estimate UK emigration, but do provide a useful source of figures for quality assurance, particularly for countries where the flow of migrants is large
- Data from the European LFSs can be used to assess the IPS estimates of returning European migrants
- Data held on the stock of UK-born in other countries cannot be used directly, but can provide a further useful source for quality assurance

References

1. Office for National Statistics (2006) *Travel Trends*. Available at: www.statistics.gov.uk/statbase/Product.asp?vlnk=1391
2. Evans H, Chappell R and Wright E (2007) Using the Omnibus Survey to test questions on emigration. *Population Trends* 127, p 15-20
3. Evans H, Vickers L and Wright E (2007) Using administrative sources in the estimation of emigration. *Population Trends* 128
4. United Nations Statistics Division (1998) *Recommendations on Statistics on International Migration, revision 1*. Available from <https://unstats.un.org/unsd/pubs/gesgrid.asp?id=116>
5. Office for National Statistics (2007) *International Migration 2005, series MN no.32*. Available at www.statistics.gov.uk/statbase/product.asp?vlnk=507
6. UNECE/ Eurostat Conference of European Statisticians, *Guidelines for measuring emigration through use of immigration statistics of receiving countries*. Available from <http://www.unece.org/stats/documents/ece/ces/ge.10/2006/wp.5.e.pdf>
7. Poulain M, Perrin N, Singleton A (2007) *THESIM: Towards Harmonised European Statistics on International Migration*.
8. Rendall M and Wright E (2004) *Survey and Population estimates of recent international migration flows in Europe*. Paper presented at the EAPS migration workshop
9. Rendall M, Tomassini C and Elliot D (2003) Estimation of the annual immigration from the LFS of the United Kingdom and continental Europe, *Statistical Journal of the UNECE*, 20 (3-4): 219- 234. Available at www.statistics.gov.uk/methods_quality/quality_review/downloads/sju00560.pdf
10. OECD Database on immigrants and expatriates. Available from http://www.oecd.org/document/51/0,3343,en_2825_494553_340630_91_1_1_1_1,00.html
11. Office for National Statistics (2004) *Review of International migration statistics*, NSQR series report no 23. Available at www.statistics.gov.uk/about/data/methodology/quality/reviews/population.asp
12. Office for National Statistics (2006) Updates from the Improving Migration and Population Statistics Project. Available at www.statistics.gov.uk/about/data/methodology/specific/population/future/imps/updates/default.asp
13. Smith CW and Jefferies J (2006) Population bases and statistical provision: towards a more flexible future? *Population Trends* 124, 18-24
14. Smith J and Sharfman A (2007) Assessing the feasibility of making short-term migration estimates. *Population Trends* 127, p21-29.
15. Office for National Statistics (2006) *The Report of the Inter-departmental Task Force on Migration Statistics*. Available at www.statistics.gov.uk/statbase/product.asp?vlnk=14731