



INTERIM REPORT
ON
THE PORT SURVEY REVIEW

Office for National Statistics

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Executive Summary

- This report is an interim response to recommendations of the Inter-Departmental Task Force on Migration Statistics set up by the National Statistician in 2006.
- The Task Force included recommendations to obtain more information about migrants as they enter or leave the country through a port survey with a substantially increased sample of migrants and from landing cards [Recommendations A(1) and A(2)].
- This interim report provides an initial assessment of what might be feasible and makes some specific short-term proposals for implementation in 2008.
- A series of short-term enhancements to the International Passenger Survey (IPS) are set out, including new migration shifts at major ports in addition to those currently operating.
- These enhancements will increase the sample of migrants at the key ports where the IPS currently interviews passengers and will increase the coverage of short-term migrants.
- These short-term improvements will be implemented in 2008 and have been designed to be relatively straightforward changes, not dependent on significant developments to ONS processing systems and realistic in terms of the likely availability and recruitment of IPS interviewers. Changes to the survey design in 2008 will feed into data available from late 2009 (or 2011 if estimates are based on three years of data).
- Alternative approaches to introducing more fundamental changes to the design of the IPS or a new migration survey are also identified in this report. Further work on the feasibility of these approaches will be required, including consultation with users of the IPS for purposes other than migration estimates (e.g. balance of payments, tourism and travel). Full implementation of a comprehensive re-design of data collection at points of entry and exit would depend on additional funding being available from 2009 onwards.
- Two main approaches are suggested: (i) use of sub-sampling; (ii) separate surveys for migration and for expenditure/tourism. Both options would involve a complete review of sample stratification and allocation and of the weighting procedures used for the survey.
- A programme of research and testing of new survey methods to introduce sub-sampling at sea ports and/or on ship and for Euro-Tunnel and Eurostar is recommended.
- No reduction in current sample sizes at individual ports is proposed in the short-term. Hence the quality of other statistical outputs derived from the IPS will not be reduced. Indeed some quality improvement may occur.
- In this review, the potential of alternative, administrative sources of data to improve migration estimates is also discussed and will be considered further in the next stage of the review. These alternative sources include some information already available - but not necessarily in a useable form (e.g. landing cards). Other sources depend on existing development work, such as the e-Borders Programme.
- These sources may be used directly or as part of an estimation process. Further feasibility and methodological work will be required in subsequent stages of this review before the suitability and availability of such administrative data can be assessed.

1. Background

An Inter-Departmental Task Force on Migration Statistics was set up by the National Statistician last year to identify whether and what further improvements could be implemented to enhance our migration statistics. The report of the Task Force was published on 15 December 2006 and can be found at <http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14731>

One part of the Task Force report (Section A) was dedicated to obtaining more information about migrants as they enter or leave the country and this interim report provides an initial assessment of what might be feasible and by when.

The United Kingdom is currently witnessing a period of significant population change and the ONS has been reporting regularly on this through its various statistical releases. The population of the UK has grown to more than 60 million; it will rise to over 70 million by 2031; fertility is the highest in 26 years; over 500 people are being added each day to our population through migration; and life expectancy at aged 65 is at record levels.

As Figure 1 (next page) shows, since 1999, international migration has overtaken natural change (the difference between births and deaths) as the largest contributor to population increase.

The contribution of international migration to population change is evident, even though it covers only long-term international migrants and excludes so-called "short term migrants". The relevant United Nations definitions of migrants are reproduced in Box One below.

Box One: United Nations definition of migrants

Long-term international migrant

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

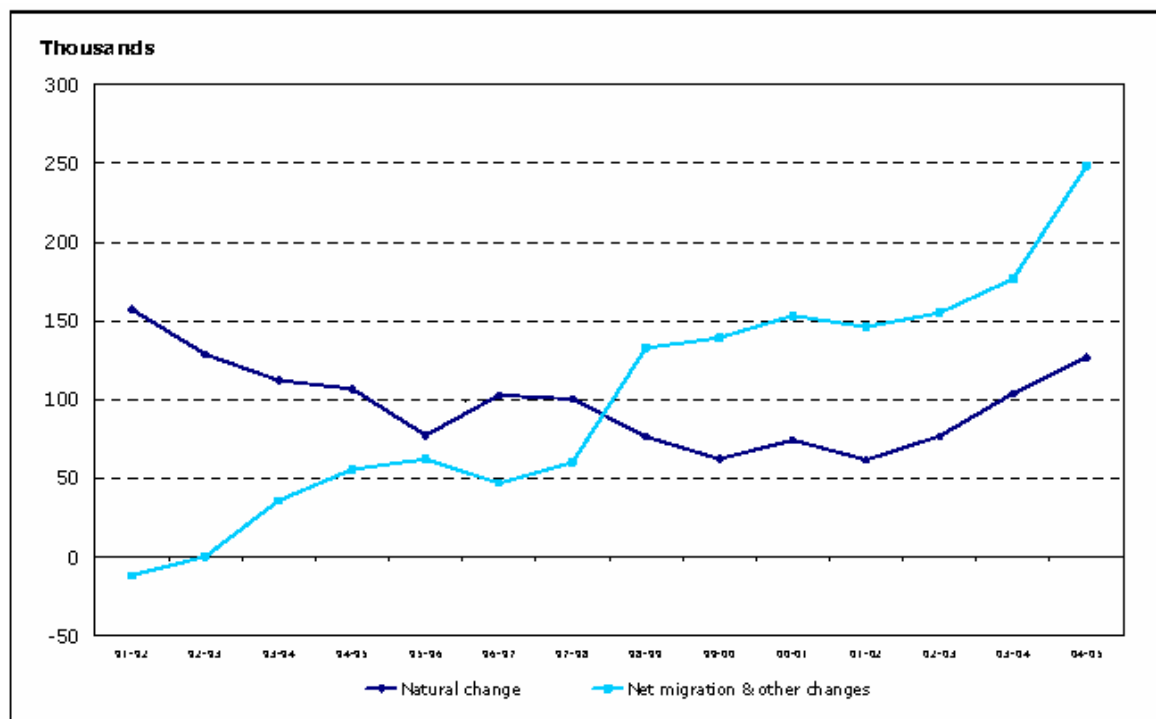
A person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence. From the perspective of the country of departure the person will be a long-term emigrant and from that of the country of arrival the person will be a long-term immigrant. This 12-month migrant definition is used for the UK usually resident population estimate series.

Short-term international migrant

The United Nations recommended definition of a short-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 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. For purposes of international migration statistics, the country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it. UK population estimates do not currently include short-term in-migrants as usually resident in the UK, nor do they exclude short-term out-migrants from the usually resident population.

Figure 1 Components of Population Change, UK, mid-1991 to mid-2005



Source: Office for National Statistics, General Register Office for Scotland, Northern Ireland Statistics and Research Agency.

Note: The component 'Net migration and other changes' predominantly reflects the impact of migration

With the large number of international migrants entering and leaving the country, there has been increased attention on how fit for purpose the national, regional and local estimates of migrant numbers are. Population data are used widely for resource allocation, in managing the economy and in policy formulation and any actual or perception of an inaccurate count leads to concerns that money is being distributed, policies formulated or key decisions taken in a sub-optimal way without the comprehensive evidence necessary to underpin those decisions.

It is clear why such concerns about migration data arise. In the UK, we do not have a systematic register that provides counts of the number of people as they enter and leave the UK and this has been recognised as a weakness in our sources. Instead, we rely on a large, voluntary national sample survey of people coming through port entry and exit points, called the International Passenger Survey (IPS), coupled with administrative information on asylum seekers and data from the Irish National Household Survey and Health Service Central Register.

In recent years, ONS has been implementing some significant improvements to its population statistics and the sources underpinning them. From the start of 2007, special interviewing arrangements have been introduced on the IPS to boost the number of emigrants sampled (an area identified as a high priority by users); we have investigated and are implementing this year new methods for combining IPS data with Labour Force Survey data to improve estimates of the

geographical distribution of immigrants; and we are set to publish the first official estimates of the numbers of short term migrants in October 2007.

However, such improvements only go as far as they can within the existing framework of data sources. Although the changes we have introduced have been generally welcomed, our users feel that more still needs to be done to restore confidence in our migration data. The absence of a comprehensive register and the reliance on a sample survey for international migration counts is at the heart of users' concerns and questions:

- Is the IPS covering all the routes that migrants from Eastern Europe are likely to be taking?
- Is the IPS just covering Heathrow, Gatwick and Manchester Airports?
- Are coaches being covered at our main coach stations?
- Isn't the sample size too small for my region?
- Doesn't the fact that you have few migrant contacts in the survey for my area mean you are under-estimating the number of migrants here?
- Are the numbers of interviews at Stansted and Luton airports sufficient?
- How are you going to measure migration to and from my local area? (Feasibility work has shown that the sample size for the IPS is too small to produce reliable estimates for regions outside of London);
- Are migrants coming in at times when interviewing is not occurring (for example, on night crossings to Dover)?
- Do migrants respond honestly and tell your interviewers that they are migrating?
- How optimal is the survey design, given that changes are happening to patterns of migration on the ground now?

Some of these questions are of less concern than others; indeed some represent a misunderstanding of the IPS survey design. For example, the IPS does cover routes widely across the UK and is not just restricted to the main airports; coaches don't need to be covered at coach stations because they are covered at entry and exit points to the UK; and just because there is a seemingly small sample of migrants in a survey in a region doesn't imply that once weighted to the overall traffic going through the relevant ports that the migration estimate will be any more likely to be underestimated than overestimated (all it means is that there could be a greater range of uncertainty over the estimate).

However, the use of a sample survey like the IPS does have limitations and these are well rehearsed. They relate to (1) competing priorities and the survey's use for various purposes - so what is optimal for migration statistics, may not be for its other purposes such as statistics on tourism or balance of payments; (2) sample sizes and the task and costs of identifying a relatively small numbers of migrants among a much larger number of travellers; (3) its voluntary nature and the potential for non-response and/or response bias; and (4) the survey design can only be optimised using retrospective data on travel patterns through ports.

The Inter-Departmental Task Force recognised these existing weaknesses and made two key recommendations, which are directly relevant to this report, to address them (see Box Two).

Box Two - Task Force Recommendations A(1) and A(2)

Recommendation A(1):

A port survey designed to capture a substantially increased sample of migrants (especially emigrants), is essential to provide reliable estimates of population and migration at regional and local levels. To do this, key elements of the e-Borders project need to be brought forward, including passport scanning (starting with arrivals). Improvements to statistics could be delivered in three to five years.

Recommendation A(2):

The early provision of more data on controlled migrants, from landing cards, is essential (in particular, duration of stay and destination in the UK). Access to individual level data is needed for linkage to subsequent information about the migrant. To achieve more comprehensive coverage of migrants, a sample of all travellers would need to complete a card on arrival in the UK. Improvements to statistics could be delivered in two to four years.

This interim report is an initial review of what might be achievable and by when. It describes:

- the coverage of the IPS, design issues and the accuracy of migration estimates;
- results from an initial optimisation of the IPS sample for migration purposes only using 2006 survey data which identifies areas of the survey that could be usefully boosted if new money could be identified. From this, interim recommendations have been made for the next survey year (2008);
- initial thoughts on a significant redesign of the survey for migration statistics purposes, potentially identifying significantly increased numbers of migrants. ONS will be seeking users views on such a change for the 2009 survey;
- plans for E-borders implementation, including passport scanning, with an initial assessment of options;
- initial options for using Landing Cards as a means for improving data on non-EEA citizens (and potentially through samples for EEA citizens).

Further work will be completed in the coming months to build on these proposals and to input the findings into the Cross-Departmental Group that will prioritise and take forward the Task Force's recommendations.

2. Scoping the Issue

2.1. Current sources of migration estimates

There is not a single, all-inclusive system in place to measure all movements of population into and out of the UK. Therefore, it is necessary to use a combination of data from different sources that have different characteristics and attributes in order to produce estimates of international migration. None of the data sources used, while offering the best data currently available, are specifically designed to capture information solely on international migration. Three sources of data are used to compile the National Statistics estimates of international migration. They are from the:

- International Passenger Survey (IPS). This is the prime source of migration data providing estimates of both inflows and outflows, but does not cover all migration types.
- Home Office, which provides data on asylum seekers and their dependants.
- Irish Central Statistics Office, which provides estimates of migration of all citizenships between the UK and Irish Republic.

Combining data from these three sources, with some adjustments, produces the most inclusive estimate and is referred to as Total International Migration (TIM).

2.2. IPS current design

The International Passenger Survey is a sample survey of people coming through port entry and exit points to the UK. The survey has been running since 1961 and currently interviews 280,000 respondents per year. The survey questionnaire covers three main areas: information on expenditure, tourism and migration, although not all questions in these three areas are asked of all respondents. For example, in the 1980s specific 'migration filter shifts' were introduced which only ask detailed questions on migration from respondents who indicate a positive migration status.

The main purpose of the IPS has always been to collect expenditure information to feed into the Travel Account of the Balance of Payments and to provide information on tourism, and it has been used for this purpose since the survey was first run in 1961. Collecting information on migrants followed shortly (1963-64) although the practice of running of migration filter shifts did not begin until the 1980s.

The survey interviews at all the main points of entry to and exit from the United Kingdom. When the survey began in 1961 this coverage was Heathrow and Dover but this soon increased to cover other airports and seaports. The tunnel routes to France were included in 1994 and coverage of routes to the Irish Republic in 1998. It was recognised that the number of migrant contacts was small and in the 1980s migration filter shifts were introduced on arriving passengers at Heathrow, Gatwick and Manchester although Manchester was soon dropped as few additional contacts were made. On these filter shifts, sampled passengers were asked questions to establish whether they were migrants or not and was not providing value for money. Those who were migrants were asked the migrant questions, the remainder were asked no further questions. In 2006 this enabled around 2500 migrants to be interviewed rather than the 700 or so who would have been contacted had only the normal IPS shifts been run. In

2007, following recommendations from the NS Migration Statistics Quality Review, filter shifts conducted on departing passengers were introduced at Heathrow and Gatwick.

2.3. Changing patterns in migration over time

As discussed in the previous section the IPS survey design has been modified several times since its inception. Several of these changes were introduced as a consequence of changing migration patterns over time.

The table below shows how the number of migrant contacts has changed over recent years and the weighted values that are associated with these contacts. Note that these figures are derived from the IPS data and may differ from published migration information.

Table 1. IPS Migrant contacts and weighted numbers

Year	Number of migrant contacts on all shifts	Weighted number of migrants (000s)
2000	2521	416
2001	2610	422
2002	2711	443
2003	2629	483
2004	2918	576
2005	3166	573
2006	3208	610

2.4. Accuracy of current migration estimates

The main cause of uncertainty about migration estimates is "sampling error", which is the error arising from considering only a sample of international passengers rather than every single passenger. Sampling error is an "unbiased" error source in the sense that it is just as likely to give rise to a estimate which is too high as one which is too low. It often presents itself in the form of volatility in estimates over time. It is the only type of uncertainty that we can relatively easily quantify, though other unbiased error sources probably exist in the conduct of the survey (e.g. through the design of the questionnaire or its use by interviewers).

Sampling error needs to be considered for each quantity measured (e.g. emigration, expenditure by visitors, number of visitors) and also for each level of aggregation used (e.g. national totals, regional totals etc.). It is usually measured by the "coefficient of variation (CoV)" as this can be easily compared between quantities measured, other surveys, aggregation levels etc. The CoV is a percentage error measure and should be interpreted as follows: a CoV of x% means that the true value of a quantity is 95% certain to be within +2x% of the estimate from the survey. It is also possible to make other probabilistic statements. For example, a quantity is 68% certain to be within +x% of the survey estimate. Also the average error (disregarding its direction) is 0.8x%.

In 2006 the number of international passengers passing through UK ports and airports was approximately 106 million in each direction. All but about 3.5 million (in each direction) of these

passed through ports/airports at which the IPS operates. IPS sample sizes for 2006 (with some estimates for 2007) are given in the table below.

Table 2. IPS sample sizes (2006, except departure filters - 2007 estimate.)

	Numbers of international passengers sampled
Departure Standard Shifts	180,000
Departure Filter Shifts	170,000
Total sample for departures	350,000
Arrival Standard Shifts	130,000
Arrival Filter Shifts	170,000
Total sample for arrivals	300,000

CoVs for 2006 are not yet available but the CoVs for 2005(with one estimate for 2007) are shown below.

Table 3. IPS Coefficients of Variation (2005, except emigration – 2007 estimate; national estimates)

Variable	CoV(%)
Total Immigration	3.7
Total Emigration	3.4
No. of Visitors to UK	1.5
Total UK Earnings from Visitors	1.3
UK Visitors abroad	0.65
UK Visitor Expenditure abroad	0.9

This shows that the survey is more efficient in measuring expenditure and tourism than in measuring migration. Although this is partly due to the fact that the IPS was designed to measure the former, it is also the result of the inherent difficulty in measuring migration by this means. This is because the proportion of migrants among all international passengers is very small which necessitates a large sample size for accurate measurement (about 0.6% of arrivals and 0.3% of departures are migrants).

Regional CoVs for immigration and emigration are also available and average about 17%, though there is considerable variation between regions. The most accurate figures are for London (CoV = 5%) and the South East (CoV = 10%). The regional IPS estimates are based on the destination and origin questions in the IPS rather than the port of entry/exit.

CoVs for immigration and emigration by port of entry/exit are also produced and vary widely. The most accurate figures are for Heathrow (CoV = 3.5%). The next best is for Gatwick (12%). Sea routes (in total) have a CoV of about 20% and the Channel Tunnel about 30%.

The above figures indicate that the IPS sample is currently allocated more for the accuracy of total national migration estimates than for regional ones. Moreover, within a given resource budget, there will always be a conflict between obtaining accuracy at national level and obtaining more uniformity in the accuracy of regional estimates.

2.5. Issues in the current IPS design

Apart from issues around the accuracy of migration estimates from the IPS it is clear there are a number of other issues with the existing IPS design with respect to migrants. These issues are more complex and are more difficult to resolve from a survey design and/or operational perspective.

- Migration filter shifts are currently being carried out at Heathrow and Gatwick only. These have been based on the number of migrants coming through normal shifts. However with the expansion of the EU in 2004, the pattern of entry to the UK changed and it is thought that some sites, where the budget airlines predominate, are being under-represented in the number of migrants interviewed.
- Interviewers work at airports at peak passenger flow periods. This, in general, is between 06.00 and 23.00. However there are flights from some areas of the world that arrive in the UK outside these hours and it is possible that there is some bias in migrants from these areas. Work in 2005 identified that extension of the working hours at Heathrow Terminal 1 would benefit counting migrants coming from Hong Kong. The working hours at this terminal were extended to start at 5.00 a.m. in 2007. Shifts on sea and tunnel vehicle routes run throughout the day.
- Although response on migration filter shifts, and the IPS in general, is high, there is still the potential for some groups who may be biased against because of poor response. An example is whether enough very young children are being sampled and interviewed. Recent additional information being collected on non-responders collects information by observation on age and sex to enable further investigation of this aspect.

These issues are being addressed in the final stage of the Review.

3. Potential Use of Alternative Sources

3.1. Introduction

It is clear that a sample survey such as the IPS has a number of strengths for migration statistics purposes. One of the key advantages of a survey is that it can cover a wide range of topics and questions that provide useful information on the type and nature of migration in and out of the UK. On the other hand a survey such as the IPS has the disadvantage that because of the relatively low number of migrants within the overall passenger flows it needs to sample a relatively large number of passengers in order to find sufficient numbers of migrants.

In comparison with other countries the UK statistical system is characterised by a relatively high reliance on sample surveys. However, in the last decade or so there has been an increasing drive to use administrative data for statistical purposes. One of the aims of this review is to look at how we can effectively use administrative data for migration statistics purposes.

This section gives an initial overview of current developments in administrative data collection in relation to migration statistics and considers some of the areas for future work in the medium to long term.

3.2. Official Administrative Data

The Home Office is currently working on several initiatives to strengthen UK borders which will provide a number of data sources that can be used - in principle - for the compilation of migration statistics.

In December 2006 the Home Office published an Action Plan that sets out a strategy which uses the National Identity Scheme to strengthen UK borders and to enforce compliance within the UK. One element of this strategy is to strengthen UK borders by introducing stronger border controls. This aspect is particularly relevant to the improvement of migration statistics.

There are two ongoing Home Office programmes: e-Borders and a review of landing card information.

(a) e-Borders

e-Borders is a joint project, led by the Border and Immigration Agency in partnership with the Police, HM Revenue and Customs and with UKVisas. Its prime objective is to deliver a modernised border control, which is fundamentally more effective, efficient and secure to meet the future operational needs of UK border, law enforcement and intelligence agencies.

e-Borders will require commercial carriers and owner/operators of all vessels scheduled to arrive in or depart the UK to submit to the e-Borders system detailed passenger, service and crew data prior to their departure to and from the UK.

This data will be checked against watch-lists, analysed, risk assessed and shared between UK border agencies. It will improve border security and assist in the fight against organised crime and illegal migration.

Information captured through the e-Borders programme will help build more accurate pictures of risk in advance - allowing to build a better picture of suspect passengers, travel patterns and networks and as a consequence, focus resources on identifying, scrutinising and where necessary intervening against, high risk travellers, while offering low risk travellers a more rapid service.

(b) Landing Cards Review

The e-Borders programme is intended to replace the current system of collecting information on landing cards for non-EU passengers arriving at UK ports. Appendix A provides an overview of the information currently collected on landing cards, and how it is used.

3.3. Strengths and weaknesses of the use of administrative data

In terms of the relevance of these initiatives for a port survey that collects information from arriving and departing travellers it is clear the information collected would in principle be useful to improve migration statistics. However there are a number of issues which need further consideration. They could be categorised along three dimensions: coverage, usability and timing. The Review will investigate these issues further.

(a) Coverage - what information would be available?

The key focus of the e-Borders strategy is to improve security and most of the initiatives are not designed to capture information from all travellers. For some of the initiatives certain groups of travellers are targeted, for example visa applicants, asylum seekers, or 'trusted travellers'. Most of these initiatives will also focus on non-EU travellers. From a statistical point of view this will leave gaps in the information that is needed and further work needs to be done on how these coverage issues can be addressed to obtain a comprehensive picture.

A second area for further work is to investigate what type of information would be needed to improve migration statistics and could be collected for use in a port survey design. For example, scanning of biometric passports will only provide limited information (name, age, sex etc.), and information on landing cards may not be sufficient (or sufficiently targeted) for the purposes of a survey and / or the statistics derived from it.

Finally it is clear that the above initiatives focus on certain groups of travellers rather than points of entry and / or exit. For example it is clear that some initiatives will only be implemented at certain (large) ports, so further work on geographical coverage would need to take place in order to assess the feasibility of using the partial information that is collected.

(b) Usability - how would the information be used?

In terms of a survey design there are two areas where information from the above initiatives could be used, at least in theory.

A first way to use the information would be for 'real time' sampling purposes. For example, for the purpose of a migration-specific port survey there would need to be a 'sift' to identify certain types of travellers who are then asked further questions depending on their status. In principle it would be possible to use information collected for immigration purposes could be used at the sift / filter stage. Further work needs to be done to see what information could be used to identify certain types of travellers (eg. immigrants and emigrants vs. tourists) and how it would be used as a survey sift mechanism.

A second use of the information collected at points of entry and exit would be to use the information for weighting and / or grossing purposes. Again a further assessment needs to be made in terms of what information could be used and for which sub-groups it would improve survey estimates. As part of the work for the Migration Task Force ONS have put in a request for information to the e-Borders.

Related to the usability aspect is the way in which the information would be available - database formats etc.

(c) Timing - when would information be available?

As can be seen from the milestones in the above table the timetable for the roll-out of some initiatives will not deliver benefits in the near future. ONS has put in a request to the e-Borders project to bring the roll-out forward but as yet there is no commitment to do so.

3.4. Next steps

From the above it is clear further work needs to take place to identify requirements from a survey design perspective in two areas:

- sample selection and sifting
- weighting and grossing

From discussions with the Home Office it is clear some internal discussions are in progress (eg. governance of landing cards processing); once there is more clarity on this we will approach relevant contacts in order to make our requirements clear.

The Home Office is aware of our interest in progress on e-Borders and they invited ONS to make a presentation to the "Borders Transformation Board" on 23 May 2007 to give ONS the opportunity to present our requirements. Issues raised will be followed up in the next phase of this Review.

4. Coverage of Migration Estimates

4.1. Introduction

The IPS covers all major air, sea and tunnel routes into and out of the United Kingdom. At airports interviewers work, in general, between the hours of 06.00 and 23.00 with variations on this at sites dependent on when flights arrive and leave from the various airports. Similar timings also apply to the Eurostar passenger trains. On ferries and Eurotunnel shuttle trains, wherever there are ferries or trains that run through the night, interviewers' shifts are selected to cover all hours of the day.

4.2. Airports

As a general rule of thumb, airports are included in the sample if they have more than a million international passengers passing through them in a year. If the passenger profile of an airport not in the sample is very different from elsewhere then this is possibly a good reason for including that airport. Similarly an airport that would normally be included in the sample but it is not economically sensible to include then this would be grounds for exclusion. An example of the first is London City which, when it was first introduced, did not have the requisite passenger flow but its profile was predominantly business and it could easily be covered by interviewers working at Waterloo. An example of the second is Belfast International where ONS do not have an interviewer workforce and the required number of shifts would probably be too low to warrant the recruitment of a team.

Airports are divided into whether they are main airports or residual. As would be expected the main airports are those that have the greater passenger flow.

Main airports

- London Heathrow
- London Gatwick
- Manchester
- Stansted

Residual airports

- Edinburgh
- Glasgow
- Prestwick
- Newcastle
- Liverpool
- Leeds/Bradford
- Nottingham East Midlands
- Birmingham
- Cardiff
- Bristol
- Luton
- London City

4.3. Seaports

As with airports, sea routes are selected if the number of passengers travelling on those routes exceeds 50,000 per quarter, however this is far more flexible.

Routes covered are:

- Dover - Calais
- Dover - Dunkirk
- Portsmouth - Caen
- Portsmouth - St Malo
- Portsmouth - Cherbourg
- Portsmouth - Le Havre
- Southampton - Queen Mary
- Poole - Cherbourg
- Plymouth - Santander
- Plymouth - Roscoff
- Pembroke - Rosslare
- Fishguard - Rosslare
- Holyhead - Dun Laoghaire
- Holyhead - Dublin
- Newcastle - Stavanger/Haugesund/Bergen
- Newcastle - Amsterdam
- Hull - Rotterdam
- Hull - Zeebrugge
- Rosyth - Zeebrugge
- Harwich - Hook of Holland
- Harwich - Esbjerg

4.4. Channel tunnel

The Channel Tunnel routes are run by two separate companies. Eurostar run the foot passenger services from London Waterloo and Ashford, Kent. Waterloo station will close towards the end of 2007 and be replaced by services from London St Pancras and Ebbsfleet. At the same time the service from Ashford will be considerably reduced. Eurotunnel run the vehicle services from Cheriton in Kent.

4.5. Regional coverage

The sample is designed to be representative of traffic through all routes into and out of the UK over a quarter. However this does not necessarily transport itself through to representation of people staying in or migrating to areas of the UK, or provide representational figures on numbers people leaving the UK from areas of the UK. More traffic travels through Heathrow than any other airport although some of the regional airports have increased in terms of traffic in recent years, in particular Stansted, Luton, East Midlands and Liverpool. Ensuring continued representation over time is not straightforward with the rapid increase in passenger numbers there has been especially of recent.

On the International Passenger Survey regional data is published in a number of ways;

- for visits by overseas residents, information is published on where people have stayed at local authority and town level. These are very broad figures with little cross analysis;
- for more detailed analysis, the places that overseas residents have stayed are grouped together into London, Other England, Scotland and Wales;
- for UK residents, information is published on region of residence (London, Other England, Scotland and Wales) and country of visit.

IPS data are used below GOR level for updating the mid-year population figures but such estimates are not separately published.

5. Improving the International Passenger Survey

5.1. A new model for the IPS

The aim of the Review that was set up was to identify ways in which resources for data collection at ports can be better focused on the collection of migration information, whilst at the same time recognising that a sample survey approach is not the most efficient way to provide all the information given the relatively low number of migrants within overall passenger flows. The Review will continue work on a fundamental review of data collection at ports, and will come up with a number of recommendations, some of which will affect the design of the current IPS.

Although the current IPS satisfies the needs of a number of users it is relatively inflexible in meeting independently the different needs of different types of user and in reacting to changes in these requirements. In particular, requirements of customers for expenditure and tourism data are different from those of customers for migration data. Expenditure / tourism estimates require a detailed questionnaire but are well catered for by the current sample size. On the other hand migration estimates require a very large number of interviews with a short questionnaire (very short if they are not migrants).

To date an attempt to reconcile these two types of requirement has been made by introducing and subsequently extending the use of migration filter shifts. Over half of the IPS sample is now in filter shifts rather than standard shifts and any short term changes are likely to be made primarily via a further extension of these shifts. The IPS processing system does not however allow the use of the filter shift approach at all airports and on sea routes. If this model of the IPS is to continue in the medium term some substantial changes will therefore be required.

Under these circumstances it is worthwhile considering other survey options which are more flexible. These options could use the existing IPS infrastructure, viz. the interviewing teams, port and airport interviewing locations etc. Two main alternatives have been suggested:

- (a) use of sub-sampling
- (b) separate surveys for migration and for expenditure/tourism.

Both options would involve a complete review of sample stratification and allocation and of the weighting procedures used for the survey.

Under the sub-sampling option, a large sample suitable for migration estimates would be selected. A sub-sample of this would then be given the full IPS questionnaire (migration and expenditure/tourism questions) and the remainder given only a migration questionnaire. This option has a number of advantages, for example in its efficient use of interviewer resources. Under the "separate surveys" option the common infrastructure would be used to conduct separately designed surveys with non-intersecting samples. This would be achieved by using different time slots (randomly selected) for the two surveys and different questionnaires, though there would be a common module of questions on both. Study of these options is still at a very early stage but the "separate surveys" option appears the more flexible though it does involve duplicating some questions across both surveys (though not to the same people).

Although the intention is to make increasing use of administrative data in migration estimation (e.g. e- borders and landing cards for non-EEA nationals), the long term need for the IPS is not

in doubt. The use of a survey allows collection of much more detail than is likely to be available from administrative sources, so the approach is likely to be one of benchmarking the survey against administrative totals. Also whereas most administrative approaches involve a time lag by estimating migration retrospectively, the IPS provides an early estimate based on the stated intentions of passengers.

In its early work the Review has come up with recommendations for immediate changes to the IPS to take into account the most recent data on migration. These changes are described in Section 5.3. The following section describes in more detail the changes that were already introduced from January 2007; the effect of these changes should start feeding through to migration estimates from next year onwards.

5.2. Improving emigration estimates: additional emigration filter shifts

Following the NS Quality Review into Migration Statistics, it was proposed that filter shifts carried out on departing passengers should be introduced. Following work to identify where these shifts should be introduced it was identified that the majority of UK residents emigrating passed through Heathrow Terminals 3 and 4 with smaller numbers at Terminals 1 and 2 and Gatwick. Elsewhere the numbers of emigrants were very small and it was felt that it was not financially viable to introduce migrant filter shifts at any other sites. It was proposed that the same number of migrant contacts would be achieved on departing filter shifts as arriving filter shifts and a sample design was produced that would deliver this with the number of shifts being delivered being proportional to the likely number of migrants through each of those terminals. These shifts were introduced in January 2007.

The sampling interval was set on these shifts as small with all contacts being asked their nationality and country of residence. Any UK residents were then asked how long they intended to stay away from the UK and if this was greater than 12 months then the migration trailer was applied to them. The number of migrants who were contacted within any one of these shifts was low, normally less than 5 per shift.

5.3. Optimisation of the IPS for migration purposes

In order to improve the accuracy of the current IPS in terms of measures of migration an optimisation exercise was carried out. The intention of the exercise was to provide an indication of where the IPS sample design would need to be adjusted in order to take account of recent changes in migration patterns. This section discusses the optimisation exercise itself; the proposed changes based on the optimisation are outlined in Section 6. It should be stressed that the optimisation only relates to changes in migration patterns and does not take into account other measures that are produced by the IPS (such as information on expenditure and tourism).

For a given sample size/resource it is possible to optimise the accuracy of a quantity of interest by means of the detailed allocation of the sample to survey strata. In the case of the IPS the strata are terminals at airports and sea routes intersected by time intervals such as weekday/weekend and a.m./p.m. If it is assumed that both the arrivals total sample size and departures total sample size remain fixed, the IPS can be treated as two separate surveys. It is then possible to optimise for one quantity in relation to arrivals and another in relation to departures.

An exercise to optimise the IPS sample allocation was conducted in 2004 based on data from the three years before that. The quantities subject to optimisation were the expenditures of UK travellers abroad and of foreign tourists in the UK rather than emigration or immigration. The findings of this exercise were only partially implemented. Also it is likely that the optimal sample pattern for emigration and immigration will be different from that for expenditures. For these reasons a new exercise targeting emigration and immigration has been conducted. This has used 2006 data thereby reflecting very recent migration patterns.

It has been assumed that the sample size for arrivals would be at the 2006 level. For departures, the sample size has been taken as the 2006 sample size plus the expected additional sample from emigration filter shifts started in January 2007. Details of these sample sizes are given in section 2.4. Because the optimisation relates only to the accuracy of migration estimates no distinction has been drawn between an individual sampled for a standard shift and one sampled for a migration filter shift. Also the difference in cost between interviews on the two types of shift and between different terminals/routes and times/dates has been ignored. The results should therefore be regarded as illustrative of the types and broad magnitudes of change needed to improve precision of migration estimates and need to be implemented with cost considerations in mind as well as a number of practical considerations.

The tables below show the largest changes indicated by the optimisation exercise.

Table 4. Largest changes in the IPS sample based on an optimisation of the IPS for arrivals (numbers in thousands)

Terminal /Route	Number of international passengers	Current IPS Sample Size	of which sample on filter shifts	Optimised sample	Change in Sample
Heathrow T1	8,443	13.8	6.7	26.1	12.3
Heathrow T3	9,613	111.4	96.3	46.4	-64.9
Heathrow T4	8,408	50.5	40.3	36.4	-14.1
Gatwick South	9,256	14.7	6.0	23.3	8.6
Manchester T2	3,832	4.3	-	9.7	5.4
Stansted	9,598	9.3	-	29.7	20.4
Luton	3,631	5.0	-	9.9	4.9
Dover-Calais	5,843	3.4	-	16.3	12.9
Tunnel Shuttle (non-freight)	3,795	3.4	-	11.1	7.7

Table 5. Largest changes in the IPS sample based on an optimisation of the IPS for departures (numbers in thousands)

Terminal/Route	Number of International Passengers	Current IPS Sample Size	+Sample from 2007 filter shifts (estimate)	Optimised sample	Change in Sample
Heathrow T1	8,345	11.3	11.0	30.6	8.2
Heathrow T3	9,586	27.1	113.0	61.6	-78.5
Heathrow T4	8,358	20.7	51.0	40.0	-31.7
Gatwick South	9,202	14.7	4.0	33.4	14.7
Manchester T1	4,026	5.5	-	12.7	7.1
Manchester T2	3,821	4.9	-	14.3	9.4
Stansted	9,528	8.0	-	37.5	29.5
Birmingham Main	2,627	2.6	-	8.4	5.8
Luton	3,570	5.1	-	9.8	4.7
Dover-Calais	5,892	2.6	-	22.0	19.4
Tunnel Shuttle (non-freight)	3,873	4.0	-	13.4	9.3

If this reallocation was implemented in full the CoV for total immigration could be reduced by about a fifth and the CoV on total emigration could be reduced by about a third (with no increase in overall sample size). In section 6 of this report it is explained that various cost, practical and IT considerations limit the changes that can be made in 2008 and therefore the improvement in accuracy that can be achieved in the short term.

The accuracy improvements can be obtained by changing the sample sizes on either IPS standard shifts, IPS filter shifts or some combination of the two. The average cost of filter shift interviews is substantially lower than that of standard shift interviews which suggests that sample size increases, where indicated, should be via filter shifts, though practical considerations may sometimes dictate otherwise.

Other users of the IPS also need to be considered in implementing reallocation proposals. Such users are only affected adversely where cuts in sample size are indicated and this only applies to Heathrow terminals 3 and 4. The proposed cuts can however be achieved entirely by reductions in filter shifts which will not affect customers for expenditure and tourism data.

Because filter shift interviews are, on average, cheaper than standard shift interviews, further improvements in the accuracy of migration estimates could be achieved by switching resources from standard to filter shifts, though this would reduce the accuracy of expenditure and tourism estimates and has not been pursued as part of the current exercise.

5.4. Changes to the survey content

Further work in the Review will also consider changes to the IPS questionnaire, in particular in relation to the measurement of short-term migration.

Firstly we would need to undertake further research to design questions which measure why migrants (both long and short term) move . In the current IPS design respondents can only give one reason for visit, yet we know that people may well work and study during their stay. This is a particular issue for comparisons with administrative sources where, for example, individuals are given a national insurance number if they want to work, regardless of whether employment is their primary purpose for being in the country or not.

Secondly the current research on short-term migration uses 'completed flow' IPS data i.e. where individuals are sampled when they return to their country of usual residence. Date of entry into the UK can be used in conjunction with the date of interview to get the exact length of stay. Research is planned to assess whether 'intended flow' data (sampled at the beginning of their stay) might be used to produce more timely estimates. To be able to use this data, intended length of stay needs to be consistent with the lengths of stay that will be published as experiment statistics i.e:

- 0 to 1 month
- 1 to 3 months
- 3 to 12 months

6. Implementation

6.1. Introduction of 2008 changes

Following a discussion of the optimisation outlined in paragraph 5.3, it was agreed that the full design proposed needed further work on it and that it could not be introduced in 2008. However it was acknowledged that some changes could be introduced in 2008 in order to improve estimates of migrants from the IPS. It was agreed that migration filter shifts should be introduced at those sites where it appeared there was a short fall in migrant contacts and that this should be implemented in April 2008.

Those sites where the recommended increase in sample size were greatest were those sites where migration filter shifts should be included. This included:

- Manchester T1 Departures
- Manchester T2 Arrivals and Departures
- Stansted Arrivals and Departures
- Luton Arrivals and Departures

It was also recognised that increases were required in the following sites although these could not be done in the same way as at the airports as the method which fieldwork and sampling was carried out meant the introduction of filter shifts was difficult. Discussion is continuing at present to identify how an increase in migrants can be obtained at these sites and whether this can be implemented in 2008.

- Dover-Calais Arrivals and Departures
- Eurotunnel shuttle Arrivals and Departures

It is proposed that a 1:10 sampling interval should be used at each of the airport shifts with appropriate numbers of shifts being introduced as follows:

Manchester T1:	Quarter	Proposed Number of Migration Filter Shifts
Departures	Qtr 1	4
	Qtr 2	3
	Qtr 3	3
	Qtr 4	3

Manchester T2: Quarter Proposed Number of Migration Filter Shifts

Arrivals	Qtr 1	4
	Qtr 2	3
	Qtr 3	2
	Qtr 4	3

Departures	Qtr 1	6
	Qtr 2	5
	Qtr 3	5
	Qtr 4	6

Stansted: Quarter Proposed Number of Migration Filter Shifts

Arrivals	Qtr 1	9
	Qtr 2	7
	Qtr 3	7
	Qtr 4	6

Departures	Qtr 1	17
	Qtr 2	14
	Qtr 3	13
	Qtr 4	14

Luton: Quarter Proposed Number of Migration Filter Shifts

Arrivals	Qtr 1	5
	Qtr 2	3
	Qtr 3	3
	Qtr 4	5

Departures	Qtr 1	6
	Qtr 2	5
	Qtr 3	5
	Qtr 4	6

It will need to be established whether all sites can cope with a 1:10 sampling interval and that the interval may need to be adjusted in order that interviewers can cope with the passenger flow at this level.

In addition with the general interest in short term migrants, it has been agreed that the migration filter shifts will be extended to included those intend to stay for more than 3 months.

It has also been proposed that extra ordinary IPS shifts could be included at other sites. Because there would be a need to make substantial changes to the IPS processing systems it is not possible to introduce migration filter shifts at other ports even though some of them may be on the marginal side as to whether they should be covered or not. However it would be possible to increase the number of shifts run at these sites by up to 25 per cent. Discussions

are continuing on the practicalities of this. It has also been proposed that interviewing is introduced at some of the airports where IPS is not carried out. This is again subject to further discussion.

6.2. Operational aspects

For implementation of the interim changes in April 2008 recruitment will need to take place at some of the sites identified and the process of recruiting and training interviewers can take up to 6 months. This is more to do with the security requirements at some sites than the any other part of the process. Once security clearance has been achieved, interviewers will be put through a one week training class followed by a gradual introduction onto shift where they will be closely monitored by the team leaders and other experienced interviewers.

6.3. Timetable

The implementation of the interim recommendations outlined in Section 6.1. will be in accordance with the following timetable:

- Decision on implementation - October 2007
- Adverts placed for interviewers - November 2007
- Interviews and recruitment - December 2007
- Security clearance - January/February 2008
- Training - March 2008
- Commence interviewing - April 2008

7. Conclusion

Following initial work on two recommendations from the Migration Task Force the Review of ONS data collection at ports has identified some areas where changes can be introduced in the IPS data collection from April 2008 onwards. These changes are based on an optimisation exercise which found a number of ports where, based on 2006 figures, higher numbers of migrants now arrive and depart. The changes which follow from this exercise are limited, but will give more accurate migration statistics from 2008 onwards.

It is clear, however, that further work needs to be done to improve the data collection in line with the two recommendations from the Migration Task Force. In particular the following areas need to be investigated further:

- Coverage of the sample
- Coverage of the questionnaire
- Potential use of administrative data
- Operational aspects of data collection, including processing and IM systems

ONS has identified further resources to continue the Review and potential testing and piloting of further changes during 2008/09 and will publish an update on the work in Spring 2008.

Annex A - Landing cards: current information and use

Currently passengers entering the UK through ports, airports and the channel tunnel are required to complete landing cards if both:

- a) their journey originates outside the Common Travel Area(CTA)(which consists of the UK, Irish Republic, Channel Islands and Isle of Man), but not if they come in transit via the CTA; and
- b) they are not nationals of EEA countries or of Switzerland. The EEA consists of the 27 EU countries plus Iceland, Norway and Lichtenstein.

Persons completing Landing Cards are placed in one of about 60 Reason for Entry (RFE) categories (see below). Landing Cards may be categorised as type C, N or S (Controlled Admission, Non-controlled admission, Settlement on Arrival). In some cases the type is determined by the RFE category, but some RFE categories allow more than one type in which case the type is at the discretion of the Immigration Officer (IO). About 90% of cards are non-controlled arrivals, about 10% controlled arrivals and a small number are grants of Settlement on Arrival. Settlement on arrival applies to persons joining certain already settled persons (e.g. family) and type S cards are processed as for type N.

Non-controlled cards are not used administratively but are purely for statistical use (the back of the landing card is not completed for non-controlled admissions.). Controlled cards may be used administratively if the person admitted applies for further leave to stay in either the entry category or in a new category, but are otherwise only used statistically. Cards may also be used to support enforcement action if appropriate. There is normally no follow-up of persons with controlled cards except in the above circumstances. An exception is where police registration is required (see below).

Landing Card - Content

The following information is provided by the incoming passenger:

- Full name
- Date of birth
- Gender
- Place of birth
- Nationality
- Occupation
- Address in the UK
- Signature

If the passenger has no VISA, the IO stamps both the landing card and passport with the permitted length of stay and conditions of stay (which are at the IO's discretion). The stamp also contains the IO number, date of entry and port/terminal of entry.

The IO also completes 5 boxes, specifying:

- The RFE category
- The number of under 16 minors entering on the same passport

- A code indicating the type of conditions the IO is applying to the person's entry (see CODE below)
- A code for the person's nationality
- A code to indicate whether registration with the police is required.

Codes used

Code 1	- No recourse to public funds
Code 1A	- Straight time/No restrictions
Code 2	- No recourse to public funds/Work (and any changes) must be authorised
Code 3	- No work or recourse to public funds
Code 4	- To work as/with ... /No recourse to public funds
Code 5	- No longer used (LTE for 6 months/No restrictions)
Code 5N	- LTE for 6 months/Employment and recourse to public funds prohibited
Code 6	- Contract seaman shore leave to leave on the ship/No recourse to public funds
Code 7	- Contract seaman to join and leave on the ship/No recourse to public funds
Code 8	- Confirms/transfers previous leave

(LTE = Leave to enter).

For controlled landings, the back of the card is also completed by the IO with the following information:

- Passport number
- Date/place of issue and expiry date of passport
- Where applicable, reason for VISA and date/place of issue of VISA (EC = entry clearance)
- Flight/ship details, time of arrival and origin.

The IO will also write in any relevant notes relating to the admission of the person. This may include the expiry date of a VISA, but this is not coded for data collection purposes.

Length and Conditions of Stay

Non-EEA/non-Swiss nationals require 'prior entry clearance' (a VISA) for stays of more than 6 months. In such cases the IO does not stamp the landing card but simply stamps the passport with a date stamp. Thus the information on VISA expiry is not recorded on the landing card, nor are the conditions of entry. In such cases the RFE category and entry conditions code are the only information on length of stay.

If there is no VISA the IO determines the conditions and permitted length of stay and stamps both the landing card and passport identically.

Police Registration

This applies to a limited list of (currently 42) nationalities and to stateless persons. The following is a quotation from the rule booklet:

"A person should normally be required to register with the police if he is a "relevant foreign national" and he is given limited leave to enter for longer than 6 months or limited leave to remain which will allow him to stay for longer than 6 months from the date of his arrival (whether or not such a condition was imposed when he arrived), unless the leave is given:

- (a) As a seasonal agricultural worker;
- (b) As a private servant in a diplomatic household;
- (c) As a minister of religion, missionary or member of a religious order;
- (d) On the basis of marriage or civil partnership to a person settled in the United Kingdom or as the unmarried partner of a person settled in the United Kingdom;
- (e) As a person exercising access rights to a child resident in the United Kingdom;
- (f) As the parent of a child at school; or
- (g) Following the grant of asylum."

Landings in Groups

Separate landing cards are normally completed for each member of a group, with two exceptions:

- a) Children under 16 included on a parent's passport - the number of children is recorded in the box provided. These arrangements are being phased out as children are now required to have their own passport.
- b) Group travel schemes - groups of persons all of the same nationality and with same RFE category - a single landing card may be used giving the number of persons travelling in the group.