International Passenger Survey (IPS) Methodology

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Please note this document has been developed by VisitBritain with every care taken to ensure accuracy. However, the Office for National Statistics do make methodological changes from time to time and will always be best placed to advise on the use and interpretation of the IPS data.

Introduction

The International Passenger Survey (IPS) is a continuous survey carried out by the <u>Office for National Statistics (ONS)</u>. It began in 1961 and now covers all major air, sea and tunnel ports, providing detailed information on the numbers and types of visits made by people travelling to and from the UK.

It is used widely across and outside Government including supplying the travel account of the balance of payments, feeding into international migration statistics and informing decisions on tourism policy. Data is published regularly by ONS on a monthly, quarterly and annual basis.

Anonymous face-to-face interviews are undertaken with a random sample of passengers as they enter or leave the UK. Approximately 95 per cent of passengers entering and leaving the UK have a chance of being sampled on the survey.

Introduction

IPS collects data from both UK residents departing for and returning from overseas and overseas residents arriving and departing the UK.

- It only counts visits which last for less than a year
- It includes visits for holidays, visiting friends and relatives, business, study and many other 'miscellaneous' reasons
- It excludes transit passengers (those passing through the UK en route to other destinations and not staying overnight) from counts of visits but any spending by these transit passengers while in the UK is included in the spending figures.
- It excludes 'stay-on-board' trippers (those who cross the Channel, North Sea or Irish Sea but do not alight from the boat)
- It excludes migrants and persons travelling to take up pre-arranged employment (but includes those looking for work)
- It excludes military or diplomatic personnel, merchant seamen and airline personnel on duty.
- Since the IPS began in 1961, its coverage has been extended so that it includes all the main air, sea and tunnel ports or routes into and out of the UK. Excluded from the survey are sea routes to and from the Channel Islands, the land border with the Irish Republic, and cruise ships travelling to and from the UK – figures for these routes are included in the final annual data but based on data provided from sources other than IPS interviewing.

Introduction

VisitBritain focusses on inbound tourism to the UK so primarily uses the data from departing overseas residents (which includes UK nationals or 'ex-pats' who reside outside the UK). As they are interviewed at the end of their visit this provides complete and reliable answers to questions such as visit duration and spending.

Read further introduction to IPS on the <u>ONS website</u>.

IPS and VisitBritain

VisitBritain is a member of the IPS Steering Group and one of the main users of data generated by overseas residents visiting the UK. The survey allows us to track key trends in overseas travel and tourism as well as being able to sponsor our own questions on topics of importance to inbound tourism.

VisitBritain uses the data to produce a raft of tailored excel files and interactive visualisations allowing users to track trends over time, from individual markets and to different areas in the UK. These are all freely available on our corporate website. IPS data is also the backbone of our flagship Market Profile reports and is central to many of our reports on inbound tourism trends.

VisitBritain uses the IPS to provide many of the UK figures required by international bodies such UNWTO, Eurostat and the European Travel Commission.

Key concepts and definitions

- Number of visits

IPS data relates to the number of visits not the number of visitors. Those entering or leaving the UK more than once in the same period are counted on each visit.

- Purpose of visit

The IPS records the many different reasons people have for making a visit. VisitBritain combines these into are combined into five main categories:

- – Holiday
- – Business (including conference and trade fair visits)
- – Visiting friends or relatives (VFR)
- – Study
- – Miscellaneous (including medical treatment, watching sport or shopping)

The categories describe the main purpose of the visit and, where it is not possible to determine this, the respondents' reason for the visit is categorised as 'miscellaneous'. People migrating (to the UK) or travelling as crew of aircraft, ships or trains are excluded from analyses in this publication.

Key concepts and definitions

- Country of residence

This is the main country of residence of the visitor. Although the IPS collects information on all individual countries of the world, many countries outside of the EU are shown within groups rather than individually. It would not be practical to show all countries separately but also for many countries, sample sizes are too small to give accurate estimates.

- Mode of transport

Until 1994 air and sea were the only two main modes of transport to and from the UK. The Channel Tunnel between the UK and France began operating towards the end of 1994. Information on passengers using the tunnel is available on the IPS from the fourth quarter of 1994. Journeys by sea and tunnel are further analysed to show whether a vehicle was taken on the trip and, if so, the type of vehicle that was used.

Key concepts and definitions

- UK region of stay

The IPS records which towns overseas residents report staying in when they visited the UK. In 2007 a more accurate approach to coding towns was employed in the survey, based on a more comprehensive coding frame of towns and boroughs. This may result is a slight discontinuity from previous years and care should therefore be exercised when comparing results with earlier years.

Care must be taken when using the regional information, as the numbers of visits to separate UK areas cannot simply be added together to form larger regions. This is because a person may stay in more than one area of the UK during a single visit. As a result, the numbers of visits to smaller areas do not sum to the figures given for larger regions in the regional data.

For example, a person visiting London, Windsor and Aberdeen in a single visit to the UK would appear as one visit to London, one to Berkshire and one to Grampian. However, the same visitor would be recorded as a single visit in the England total and a visit in the Scotland total, and as just one visit in the UK total. Although visits cannot be summed across UK regions, the amount of spending and the number of nights stayed can.

Key concepts and definitions

- Expenditure

For overseas residents this excludes amounts spent on fares to and from the UK. Expenditure data of overseas visitors transiting the UK, but not staying overnight, are included within the figure shown for 'All purpose' of travel, but are not shown separately. This means that spending shown for overseas residents' visits by individual purpose of visit will not always sum to the figure shown for 'All purposes'.

- Travellers to and from the Irish Republic

From the second quarter of 1999, the IPS began interviewing on air and sea routes between the UK and the Irish Republic. For the years up to and including 1998, estimates of visitor numbers, their spending and nights stayed on routes between the UK and the Irish Republic and their characteristics were based on data provided by the Central Statistical Office of the Irish Republic. From 1999, and for subsequent years, this report uses IPS interview data so there is a major discontinuity in the time series between years up to and including 1998 and subsequent years.

Key concepts and definitions

- Age and gender

Respondents' age and sex are collected in the IPS interview. Questions on exact age are not asked on the IPS and instead respondents are classified into age groups as it is felt that some people may not give accurate answers, and age groups are normally sufficient for users' needs. All travellers, including children under 16, are eligible to be interviewed on the IPS. If the sampled person is under 16, where possible the interview is carried out with the child after having first received permission from a parent, guardian or responsible adult travelling with them (for example, a school teacher if they are on a school trip). If the child is too young to complete the interview themselves, proxy information is collected from the parent, guardian or responsible adult, wherever possible.

- Further information

The ONS has further information on key concepts and definitions, which can be found in Appendices A & B of the annual Travel Trends.

Sampling approach

The IPS uses a multi-stage sample design.

The sampling for air, sea and tunnel travel is carried out separately, although the underlying principle for each mode of travel is broadly similar. In the absence of a sampling frame of travellers, time periods/shifts or sea crossings are selected at the first stage (primary sampling unit), and travellers are then systematically chosen at fixed intervals from a random start within these shifts or crossings at the second stage.

The details of the sampling scheme for each individual mode of travel are described on the following slides.

The ONS has further information on the sampling approach on their website, including any changes or updates implemented each year.

Sampling approach (Air routes)

For air routes, time periods are sampled. Shifts are selected for the first stage at the 12 largest air sites (that is the five terminals at Heathrow Airport, the two terminals at Gatwick Airport, three terminals at Manchester International Airport and Stansted and Luton Airports).

These are done in such a way that the numbers of shifts are balanced between mornings and afternoons, and days of the week within any quarter. At the second stage, passengers are counted as they cross a predetermined line and every *nth* one is interviewed.

A small number of shifts every quarter are also conducted at other smaller international airports in the UK. However, the sample size is insufficient to provide accurate estimates for most of these airports individually. Those airports with less than about 250,000 passenger movements per quarter are usually excluded from the survey altogether on the grounds of cost effectiveness, but traffic at these sites is taken into account when producing national estimates.

Sampling approach (Sea routes)

Sea routes carrying 50,000 passengers a year or more are generally included in the IPS sample. At some seaports, passengers are sampled and interviewed on the quayside while some are interviewed on the boat itself. The choice between interviewing on the quayside or on crossings is made on practical grounds such as cost, safety and permission.

Where interviewing is conducted on the quayside as they embark, the sample is designed to select shifts that are balanced across different days of the week and times of day within a quarter, with each individual shift covering several sailings. Where interviews are conducted on crossings, a predetermined number of return crossings are selected for each route, spread across time of day and day of week each quarter.

As for air sampling, sea passengers are selected at fixed sampling intervals from a random start within each shift or crossing. The IPS also samples long haul ships capable of carrying more than 200 passengers at the port in Southampton (where resources permit).

Sampling approach (Tunnel routes)

The method used for the tunnel routes is different for Eurostar passenger trains and for Eurotunnel vehicle shuttles.

The method for passenger trains is similar to that for air travel; time shifts are selected and then passengers are selected at fixed intervals within the time shift. Passengers are interviewed after crossing a predetermined line at St. Pancras International station on departure.

In contrast, for vehicle shuttles, crossings are randomly selected and interviewing takes place on board the shuttles themselves. Because of time constraints, only a certain number of interviews can be carried out on any individual shuttle and the sampling interval used is therefore dependent on traffic volumes.

Collection of IPS data

The key to producing reliable results from the IPS lies initially in the way the data are collected. Great emphasis is therefore placed upon the IPS interviewers to ensure they are able to capture data efficiently and accurately.

Nationally, IPS data are collected by a team of specially recruited and trained interviewers. All IPS interviewing staff undergo an intensive initial training course and, once qualified, are regularly briefed and monitored by a support team of team leaders and site managers.

Some interviewing teams will cover a single large port, for example Heathrow, while others may cover several smaller ports which are generally in the same part of the UK. Interviews are carried out on all days of the year, apart from Christmas Eve, Christmas Day and Boxing Day.

Collection of IPS data

Typically, an IPS shift will consist of a group of interviewers led by a team leader. One of the team will act as a counter to ensure that people are correctly selected for interview according to the sampling intervals appropriate for that port. The team leader is responsible for the organisation and running of the shift and is available to offer advice to team members when required. Site managers ensure that data quality is to the acceptable standard.

Almost all IPS interviews take place on a face-to-face basis with the responses being initially recorded on paper forms. Shortly after the interview has taken place, the data are transferred to a computer system in which electronic checks are made of the data being input.

Once the interview information has been captured electronically, it is transmitted to ONS headquarters where a series of further quality and accuracy checks are made on the data before they will be ready for processing and the publication of analysis.

Producing national estimates - weighting

Once the information has passed the quality checks and is complete, the survey data are weighted to produce national estimates, which are then published on a monthly, quarterly and annual basis.

The basis of the weighting of IPS survey data is that the total set of respondents interviewed at a port or route is weighted up/calibrated to passenger traffic known to have passed through that port or route in the period in question. The known passenger traffic information is provided to the IPS team by CAA, Department for Transport, Eurostar, Eurotunnel, BAA and a number of airports themselves.

The weighting approach incorporates a number of stages which take account of all passengers selected for interview. Weighting is conducted for each port/route and direction of travel combination, employing the same principles at each one. There are 8 stages, which are described on the following slides in order of application.

Producing national estimates - weighting

- Stage 1 - Design weighting

To account for the probability of sampling this passenger using the first-stage sampling rate. This compares the number of shifts or crossings sampled at each port/route and direction of travel combination with the number of shifts or crossings that could have been sampled for that combination in the period, taking into account the first-stage sampling rate. As well as port/route and direction, this weight incorporates weekday or weekend, and am, pm or night as weighting strata.

- Stage 2 - Non-response weighting

To take account of contacts selected for interview but who were subsequently not interviewed, either because it was not possible to contact them or they refused to participate. Again this weight is applied at each port/route and direction of travel combination and also incorporates weekday versus weekend as weighting strata. It involves uplifting 'complete' and 'minimums' cases.

Producing national estimates - weighting

- Stage 3- Second design weighting

To account for the second-phase of the sample design (relating to the sub-sampling of non-migrants).

- Stage 4 – Discarding minimum interviews

Minimum interviews are discarded in this step of the weighting, with other cases weighted up to compensate, it is possible that the profile of minimums might be skewed to certain nationalities or residents of certain countries (for example driven by language difficulties meaning that only minimal information is provided to the interviewer). This weighting step works to the same principle as the non-response weight and again utilises port/route and direction of travel as weighting strata.

- Stage 5 – Sampling frame weighting

Here the population (that is, passenger traffic) or the ports and routes covered by the sampling frame are used to weight the data.

Producing national estimates - weighting

- Stage 6 - Weighting for frame under coverage

This extends the above population weighting to compensate for not covering certain ports and times of day (out-of-hours traffic) in the survey sample. The weights reflects the fact that flights to and from some parts of the world are more likely than others to arrive, or take off at night, when no interviewing is conducted at airports.

- Stage 7 - observed imbalance

This step is to correct an observed imbalance between the number of non-migrants entering and leaving the UK. These are applied as a series of fixed factors, relating to direction of travel, port/route and country/residence.

- Stage 8 - final weighting

The weighting is applied, which combines each of the weighting stages listed above.

Producing national estimates - imputation

- Length of stay, spend and town of stay

Where the responses for key items of interest are missing from the survey data for an individual record the values are imputed. Each missing value is replaced with the average value for records with similar characteristics.

- Spend for package visits

Where the respondent has travelled on a package holiday, the cost of the fare is imputed and then deducted from the total cost of the package, and the residual cost (after removal of a percentage to cover travel agent fees) is assigned to expenditure.

Producing national estimates - imputation

- Spend in UK towns (and regions)

Respondents report their total expenditure in the UK. This information is then imputed across the towns stayed in, proportionate to the length of stay in each one. It is recognised that people tend to spend more when they stay in London than in other towns in the UK and therefore an uplift index is calculated and applied to the spend allocated to London in cases where the respondent stayed in both London and other towns in the UK.

- Visits to UK towns (and regions)

In cases where an overseas resident hasn't given details of all the towns in the UK they stayed in, an uplift is applied to towns stayed in by similar records, using the same principles as outlined above for the imputation of stay, fares and spend.

Sample size and reliability

IPS estimates are subject to sampling errors that result because not every traveller to or from the UK is interviewed on the survey.

Sampling errors and associated confidence intervals are provided by ONS at a variety of levels to aid interpretation of the robustness of the estimates being considered. Robustness of estimates ranges from a 95% confidence interval of +/- 1.9 per cent of the estimate for total visits to the UK by overseas residents, to confidence intervals of +/- over 50 per cent for some estimates relating to visits to the UK from some countries.

VisitBritain shows the sample size on most of the tables and data we make available. If the sample size for the group you wish to look at is not large enough consider widening the definition or looking at an average over several years.

Overseas visitors to the UK confidence intervals

Year	Relative 95% confidence interval (+/- % of the estimate)		
	Number of visits (000s)	Total earnings (£ million)	Number of visitor nights (000s)
2002	3.2%	2.6%	4.3%
2003	3.2%	3.1%	4.6%
2004	3.0%	3.1%	4.6%
2005	3.0%	2.6%	4.5%
2006	2.9%	3.1%	4.2%
2007	3.0%	1.9%	2.1%
2008	3.1%	2.8%	3.8%
2009	2.7%	3.0%	3.5%
2010	2.0%	3.4%	2.6%
2011	1.9%	2.7%	2.7%
2012	2.2%	2.7%	2.8%
2013	2.0%	2.8%	2.7%
2014	2.3%	3.1%	3.1%
2015	2.1%	3.1%	3.0%
2016	2.2%	3.6%	3.2%
2017	2.3%	3.3%	3.0%

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