

Report on Methods and Quality for Country of Residence Survey

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1 Overview

The Country of Residence Survey forms the basis of the results of the monthly Overseas Travel Release. It collects information on the country of residence of visitors entering and leaving the Republic of Ireland through the ports and airports. However, travel by residents of Northern Ireland into or out of the Republic of Ireland or domestic travel within the Republic of Ireland is excluded. It is a voluntary survey where CSO enumerators interview a sample of passengers from selected flights and sailings inwards and outwards from Ireland. Passengers are interviewed at Dublin, Cork, Shannon, Kerry and Knock Airports as well as the ports at Rosslare, Ringaskiddy, Holyhead and Dublin Port. Data is collected on a daily basis and results are usually published within 28 days of end of the reference period. The sample size, for example, for January 2018 was just over 37,900 passengers. The survey population is the number of passengers on each incoming and outgoing airline and ferry route to/from Ireland. This information is supplied to the CSO by each airport authority and ferry company on a monthly basis. The principal outputs are the number of overseas trips by Irish residents and the number of overseas trips to Ireland by country of residence. It is one of several CSO surveys conducted to comply with the requirements of Regulation (EU) No 692/2011 Of The European Parliament And Of The Council of 6 July 2011 concerning European statistics on tourism and repealing Council Directive 95/57/EC .The data is also used extensively by all tourism agencies (e.g. Failte Ireland, Tourism Ireland), the National Accounts and Balance of Payments Divisions within the CSO, academia and the general public.

2 General Information

2.1 Statistical Category

Primary statistical survey.

2.2 Area of Activity

Tourism and Travel.

2.3 Organisational Unit Responsible, Persons to Contact

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2.4 Objectives and Purpose; History

The primary purpose of the survey is to record the country of residence of all visitors entering and leaving the Republic of Ireland. It is the survey underpinning the monthly Overseas Travel release. The survey commenced in 2000.

2.5 Periodicity

The survey is conducted continuously and results from the survey are published under the heading of the Overseas Travel Release on a monthly basis. The Overseas Travel Release was published on a monthly basis up to survey period June 2010. It was then published on a quarterly basis from survey period Quarter 3 2010 to Quarter 2 2011. It then changed to a monthly rolling three month release from survey period May- July 2011 to October - December 2017. From January 2018 monthly data is being published once again.

2.6 Client

National

Regulation (EU) No 692/2011 of the European Parliament and of the Council of 6 July 2011.

2.7 Users

- Failte Ireland.
- Tourism Ireland.
- Research centres and universities.
- International Embassies in Ireland.
- Balance of Payments section in the CSO.
- Eurostat and other International Tourism Organisations.
- Tourism Northern Ireland.
- The general public.

2.8 Legal basis

The survey is one of a number of CSO Tourism & Travel surveys carried out to meet the requirements of Regulation (EU) No 692/2011 of the European Parliament and of the Council of 6 July 2011.

3 Statistical Concepts, Methods

3.1 Subject of the Statistics

The subject matter is the number of overseas trips taken by Irish residents and the number of trips taken to Ireland by country of residence. A trip is defined as a journey (usually including the return) from one place to another.

The Eurostat methodology, which is applied in this survey, defines a 'Visitor' as 'any person travelling to a place other than that of his/her usual environment for less than twelve months and whose main purpose of trip is other than the exercise of an activity remunerated from within the place visited'. However, as the Country of Residence Survey does not establish the reason for an individual's trip or length of stay, those travelling for reason of remuneration or for more than one year to this country cannot be excluded. Therefore, for the purposes of this survey, 'Trips' includes those travelling for remuneration in Ireland. Commercial Drivers travelling on sea routes are excluded.

Country of residence is defined as the country in which a person has resided during the last year.

3.2 Units of Observation/Collection Units/Units of Presentation

The survey population are individuals arriving and departing on selected flights and sailings in a particular reference month. The unit of collection is the residency of these persons entering and leaving the country. All data is presented in terms of the number of trips taken to Ireland or the number taken abroad by Irish Residents.

3.3 Data Sources

All survey information at the airports/ports is obtained from individuals by interview. Population data, i.e. the total volume of passengers departing and arriving on each flight/sailing at each airport/port is obtained directly from the airports/ferry companies.

3.4 Reporting Unit/Respondents

The reporting units differ from the respondent units in that the former are the number of overseas trips taken by Irish residents and the number of trips to Ireland by country of residence. The respondents are passengers at the ports and airports from whom travel information is obtained by enumerators.

3.5 Type of Survey/Process

Sample survey.

3.6 Characteristics of the Sample/Process

3.6.1 Population and Sampling Frame

The reference population is all persons travelling through Ireland's airports and ports:

- (1) the total volume of passengers on flights to and from various Irish airports broken down by route supplied by the Irish Airports.

plus
- (2) The total volume of passengers on sailings to and from various Irish ports broken down by route (port to port) and type (foot or car).

3.6.2 Sampling Design

A sample of flights and sailings is selected for surveying. This selection is done in such a way as to ensure proper representation of airport/port pairing, day and night and weekday and weekend flights/sailings.

On these flights/sailings, a 1 in 5 systematic sample of passengers is selected and their country of residence is recorded.

Sample results are grossed up to total passenger numbers travelling for each airport or port pairing, as provided by the airports and ferry companies.

Where there was no coverage in a survey month for an airport to airport (e.g. Dublin-Heathrow) or port to port (e.g. Dublin-Holyhead) route, results are imputed on the basis of 'nearest neighbour'.

3.7 Survey Technique/Data Transfer

The survey is carried out using Person assisted paper interviewing (PAPI) by CSO enumerators at airports and ports as listed in Section 1. The enumerators transmit the data back to the CSO by post. Further information can be found in section 4.1

3.8 Questionnaire (including explanations)

The survey questionnaire is completed by the enumerator who interviews one in five passengers from selected flights/sailings. See Section 3.10 for details of information collected:

A copy of the questionnaire is available at the following link

<http://www.cso.ie/en/media/csoie/methods/countryofresidencesurvey/countryofresidence.pdf>

3.9 Participation in the Survey

Voluntary.

3.10 Characteristics of the Survey/Process and its Results

Data collection

The enumerator interviews one in five passengers from selected flights and sailings and the following are the main information collected by personal interview and a questionnaire (form) is completed for each flight or sailing:

- Date.
- Scheduled time of flight/sailing to be sampled.
- Direction (i.e. in or out of Ireland).
- Destination: country code and airport code.
- Stratum (combination of port, route, mode of travel and type of carrier)
- Flight or sailing type (flight – scheduled/unscheduled, sailing – foot/coach passengers).
- Port code.
- Residency of respondent.

The sample is then grossed according to the total passenger numbers provided by the Airport Authorities and Ferry companies. Results are published according to the principal categories listed in section 3.11.

Data published

The number of overseas trips taken by Irish residents for the reference period.

The number of trips taken to Ireland broken down by country of residence for the reference period.

3.11 Classifications used

The principal categories published are

- ◆ The number of Irish trips overseas
- ◆ The total number of trips to Ireland, which is further broken down by Residency into the following
 - Trips to Ireland by residents of Great Britain
 - Trips to Ireland by residents of Other Europe
 - Trips to Ireland by residents of North America
 - Trips to Ireland to residents of Other Areas

Table 5 of the monthly release gives a further detailed breakdown of the number of trips to Ireland by residency. The main country groupings are as follows:

Other Europe Other Europe includes the following countries:

EU	
Austria	Latvia
Belgium	Lithuania
Bulgaria	Luxemburg
Croatia	Malta
Cyprus	Netherlands
Czech Republic	Poland
Denmark	Portugal
Estonia	Romania
Finland	Slovakia
Greece	Slovenia
Hungary	Sweden

Other countries included are:

Aland Islands
Albania
Andorra
Belarus
Bosnia and Herzegovina
Faroe Islands
Gibraltar
Guernsey
Iceland
Isle of Man
Jersey
Kosovo
Liechtenstein

Macedonia, the Former Yugoslav Republic of
Moldova, Republic of
Monaco
Montenegro
Norway
Russian Federation
San Marino
Serbia
Switzerland
Svalbard and Jan Mayen
Turkey
Ukraine
Vatican City

Other Areas Other Areas includes the following groups of countries:

Africa
Australia, New Zealand and Other Oceania
Central, South and Other Americas
Asia

Central, South and Other Americas Central, South and Other Americas includes the following countries:

Anguilla
Antigua and Barbuda
Argentina
Aruba
Bahamas
Barbados
Belize
Bermuda
Bolivia
Bonaire, Sint Eustatius and Saba
Brazil
Cayman Islands
Chile
Colombia
Costa Rica
Cuba
Curacao
Dominica
Dominican Republic
Ecuador
El Salvador
Falkland Islands (Malvinas)
French Guiana
Greenland
Grenada
Guadeloupe
Guatemala
Guyana
Haiti
Honduras

Jamaica
Martinique
Mexico
Montserrat
Nicaragua
Panama
Paraguay
Peru
Puerto Rico
Saint Kitts and Nevis
Saint Lucia
Saint Pierre and Miquelon
Saint Vincent and the Grenadines
Saint Martin
Saint-Barthelemy
Sint Maarten
Suriname
Trinidad and Tobago
Turks and Caicos Islands
Uruguay
Venezuela
Virgin Islands, British
Virgin Islands, US

Africa

Africa includes the following countries:

Algeria	Mauritania
Angola	Mauritius
Benin	Mayotte
Botswana	Morocco
Burkina Faso	Mozambique
Burundi	Namibia
Cameroon	Niger
Cape Verde	Nigeria
Central African Republic	Reunion
Chad	Rwanda
Comoros	Saint Helena, Ascension and Tristan da Cunha
Congo	Sao Tome and Principe
Congo, the Democratic Republic of the	Senegal
Cote d'Ivoire	Seychelles
Djibouti	Sierra Leone
Egypt	Somalia
Equatorial Guinea	South Africa
Eritrea	South Sudan
Ethiopia	Sudan
Gabon	Swaziland
Gambia	Tanzania, United Republic of
Ghana	Togo
Guinea	Tunisia
Guinea-Bissau	Uganda
Kenya	Western Sahara
Lesotho	Zambia
Liberia	Zimbabwe
Libya	
Madagascar	
Malawi	
Mali	

Asia

Asia includes the following countries:

Afghanistan	Lebanon
Armenia	Macao
Azerbaijan	Malaysia
Bahrain	Maldives
Bangladesh	Mongolia
Bhutan	Myanmar
British Indian Ocean Territory	Nepal
Brunei Darussalam	Oman
Cambodia	Pakistan
China	Palestine, State of
Georgia	Philippines
Hong Kong	Qatar
India	Saudi Arabia
Indonesia	Singapore
Iran, Islamic Republic of	Sri Lanka
Iraq	Syrian Arab Republic
Israel	Taiwan, Province of China
Japan	Tajikistan
Jordan	Thailand
Kazakhstan	Timor Leste
Korea, Republic of	Turkmenistan
Korea, Democratic People's Republic of	United Arab Emirates
Kuwait	Uzbekistan
Kyrgyzstan	Vietnam
Lao People's Democratic Republic	Yemen

**Australia,
New Zealand
And Oceania**

Australia, New Zealand and Oceania
includes the following countries:

American Samoa
Antarctica
Australia
Christmas Island
Cocos (Keeling) Islands
Cook Islands
Fiji
French Polynesia
French Southern Territories
Guam
Heard Island and McDonald Islands
Kiribati
Marshall Islands
Micronesia, Federated States of
Nauru
New Caledonia
New Zealand

Niue
Norfolk Island
Northern Mariana Islands
Palau
Papua New Guinea
Pitcairn Islands
Samoa
Solomon Islands
South Georgia and the
South Sandwich Islands
Tokelau
Tonga
Tuvalu
United States Minor Outlying Islands
Vanuatu
Wallis and Futuna

3.12 Regional Breakdown of Results

The enumerators do not ask passengers which regions in Ireland were visited by overseas visitors (if interviewed on departure) or which regions they plan to visit (if interviewed on arrival). For this reason regional data is not available in the Overseas Travel Release.

4 Production of the Statistics, Data Processing, Quality Assurance

4.1 Data Capture

Data is collected continually by Tourism Enumerators at all airports and ports in the State by means Personal Assisted Papering Interviewing (PAPI). The CSO enumerator enters the relevant details from respondents on a form at airports/ports. These completed forms are sent back to the Tourism and Travel Section in CSO, Cork. The forms are then scanned and verified using Teleform by members of the Tourism and Travel Section of the CSO.

4.2 Coding

The population data is received from the airports and ports. Staff in Tourism and Travel Section will code missing values for any missing codes e.g. Irish port/airport code, foreign port/airport, country code (of foreign port/airport).

The enumerators interview passengers at the ports and airports. They write this data on the CRS (Country of Residence) form and also code the form as required e.g. insert country code (of foreign port), airport/port code, airline, sailing (car or foot), country of residence code, direction (in or out). Staff in Tourism and Travel Section will insert any missing codes as required.

4.3 Data Editing

At a micro level, SAS edit programmes are run to test for inconsistencies within the data (e.g. ensuring that each foreign airport code has the correct matching country code). The corrections are done manually on the data file and these programmes are run again to ensure all inconsistencies are cleared up. At a macro level, final monthly figures are checked for plausibility against the results for previous months and also against the results for same month in the previous year.

4.4 Imputation (for Non-Response or Incomplete Data Sets)

In any given month, it is not possible to survey all flights coming in and leaving the country. As a result, the population data supplied by the airports will contain flight information for which we do not have matching sample data from the survey in that month. In such cases, the proportion of passenger numbers for each residency is imputed.

Imputation for item non-response is carried using nearest neighbour methodology. For example, if the country of residency breakdown for the outward journey of a particular route (for example Dublin-Heathrow route) was missing from the sample data, then this figure is imputed by taking the inward residency proportions for this route/pairing. If this is not available then the next most appropriate method of imputation is selected.

4.5 Grossing and Weighting

For each month, sample results are summarised into different strata (these strata are the various combinations of Irish port, foreign port, country (of foreign port), trip type (air, sea (foot) and sea (car/coach), direction (inwards and outward) and residency grossed up to the total passenger numbers travelling for each airport or airport pairing as provided by the airport and ferry companies.

4.6 Computation of Outputs, Estimation Methods Used

The grossed figures are aggregated by country of residence and direction. The overall number of trips taken by each country of residence is taken as the average of the number of trips to and from Ireland.

Seasonally adjusted monthly data is also available in one of the tables in the Overseas Travel release. Visitor numbers to Ireland are subject to a high degree of seasonality. To facilitate interpretation of underlying trends, visitor numbers are adjusted to remove these seasonal trends. The adjustments are completed by applying the X-12-ARIMA model, developed by the U.S. Census Bureau to the unadjusted data.

4.7 Other Quality Assurance Techniques Used

Results for each month are checked against the same month from the previous year for consistency. In analysing the results for each month, account is taken of once off events in Ireland which may cause the figures to differ substantially from the corresponding period in the previous year. Examples of this are major sporting events such as the Heineken Cup or International Rugby games.

5 Quality

5.1 Relevance

The survey is one of several surveys conducted by the CSO to satisfy EU regulatory needs. It is a monthly indicator of the number of foreign trips taken by Irish residents and of the main foreign visitor markets for Irish Tourism. The data is used extensively by Tourism agencies such as Failte Ireland and Tourism Ireland. The data is also used for compilation of National Accounts and Balance of Payments estimates for Tourism by the CSO.

5.2 Accuracy and Reliability

5.2.1. Sampling Effect & representivity

Estimation of survey results using the above sampling design introduces a statistical variability which would not be present if all passengers for every flight/sailing had been sampled. This means that the survey results are best estimates based on the information collected for the sample.

5.2.2. Non-Sampling Effects

5.2.2.1 Quality of the Data Sources used

Data on the total volumes of passengers on flights/sailings to and from various Irish airports/ports broken down by route is the only external data source to the survey. This data is received from all the ports and airports.

5.2.2.2 Register Coverage

The sampling frame is:-

- (1) the total volume of passengers on flights to and from various Irish airports broken down by route supplied by the Irish Airports.

And

- (2) The total volume of passengers on sailings to and from various Irish ports broken down by route (port to port) and type (foot or car).

5.2.2.3 Non-response (Unit and Item)

The effect of item non-response is not quantifiable. It is impossible for the CSO to preselect passengers on flights/ferry sailings for interview for the survey. Instead, the Tourism enumerator will select 1 in every 5 passengers from the selected flights and sailings. If a passenger does not wish to take part in the survey the enumerator will simply move on to the next passenger. It is not possible to determine what effect, if any, this would have on the overall estimates.

5.2.2.4 Measurement Errors

Data supplied from the airports/ports is the actual number of persons travelling through each airport/port each month so therefore it is very reliable. At the moment, there is no actual indication of the level of non sampling error but the following issues may contribute:

a) Questionnaire

- The CRS form is completed by the CSO enumerator and the questions on it are short and quite straightforward so that the risk of misinterpretation is quite low.
- Many of the details required, for example, flight number, airline code are readily available from passengers' travel tickets and boarding passes.
- All responses categories are mutually exclusive.

b) Data collection method

- The data collection method is by PAPI.
- The survey form is quite straightforward and has not changed significantly over time. Enumerators are briefed of any changes if they arise.
- The information collected is factual and generally is not open to interpretation, for example, specific details on airline and flight code, country of residence etc.

c) The Interviewer

Enumerators at the airports and ports report directly to the Tourism and Travel section of the CSO. The likelihood of interpretational error by the enumerator is quite low due to the nature of the survey form as described above.

d) Respondent

- It is a voluntary survey. Response is usually best at departure gates where the respondents have more time. At arrival gates it is very difficult to ask passengers to stop and answer questions on their travel. For this reason the enumerators usually go to an area in arrivals suitable for interviewing passengers.
- All the information requested of the passenger is readily available from their documentation. Issues such as recall or personal questions should not arise.
- Questions asked of respondents are specific and not subject to interpretational issues.

5.2.2.5 Processing Errors

a. Data capture errors

All valid survey forms are scanned and verified when they are returned to the office. Any information not identified by the scanning process are shown as edits and are checked by Tourism Section staff.

b. Data editing

A series of edit programs are then run to test for inconsistencies and especially missing values within the data, examples include:

- incorrect airport code.
- incorrect country code.

Some missing data is imputed (e.g. routes not surveyed) and nearest/next neighbour imputations are performed based on the current month's results.

c. Coding error

The population data is received from the airports and ports. Staff in Tourism and Travel Section will code missing values for any missing codes e.g. Irish port/airport code, foreign port/airport, country code (of foreign port/airport).

The enumerators interview passengers at the ports and airports. They write this data on the CRS (Country of Residence) form and also code the form as required e.g. insert country code (of foreign port), airport/port code, airline, sailing (car or foot), country of residence code, direction (in or out). Staff in Tourism and Travel Section will insert any missing codes as required.

5.2.2.6 Model-related Effects

The imputation process using nearest neighbour assumes that the profile of flights used by country of residence is similar. The effect on data quality is unknown.

5.3 Timeliness and Punctuality

5.3.1 Provisional Results

Provisional results are not published for the Country of Residence Survey.

5.3.2 Final Results

Final results are published on a monthly basis within 28 days of the end of the reference period.

5.4 Coherence

The total number of trips taken is the average of the number of passengers entering and leaving the country by air or sea. The total number of passengers is obtained directly from the data received from the airports and ferry companies. The residency breakdown comes from the survey data and it is not possible to check the quality of this as there is no comparable data

5.5 Comparability

The survey has been carried out continuously since 2000. The following factors may also have an effect on the results over time.

1. Seasonality

The number of trips taken to Ireland and those by Irish residents abroad will vary according to the time of the year.

2. Events – one off – sports etc

As mentioned previously, once off events for a particular month will give rise to inconsistency with the same month for the previous year. For example, an event like the Special Olympics will lead to an increase over and above what would normally be expected for visitors to Ireland for that period in question.

3. Easter

Easter falls each year on a Sunday between March 22nd and April 25th, inclusively. In 2018 Easter Sunday is on April 1st, while in 2017 it fell on April 16th. Visitor numbers each year are greatly influenced by when Easter falls.

5.6 Accessibility and Clarity

5.6.1 Assistance to Users, Special Analyses

The monthly Overseas Travel release is available on the CSO website (see section 5.6.3.1). The background notes in the release provide some detail on the survey. Some methodological information is also available at:

<http://www.cso.ie/en/methods/qualityreports/overseastravel/>

5.6.2 Revisions

The data in the Overseas Travel Release is revised as required.

5.6.3 Publications

5.6.3.1 Releases, Regular Publications

The Overseas Travel results are published on a monthly basis. The latest release can be found at:

<http://www.cso.ie/en/statistics/tourismandtravel/>

5.6.3.2 Internet

Copies of latest releases are at

<http://www.cso.ie/en/statistics/tourismandtravel/>

5.6.4 Confidentiality

The confidentiality of all information provided to the CSO by individual respondents is guaranteed by law under the Statistics Act 1993. All CSO office and field personnel become 'Officers of Statistics' on appointment and are liable to penalties under this Act if they divulge confidential information on any individual or organisation to any outside person or body. Since the questionnaires that are completed at airports/ports do not contain any information on the individual, it is therefore not possible to identify anybody from the disaggregated data. Results are published at an aggregated level by country of residence. Data received from the airports/ports is in aggregated form and thus it is not possible to identify any person from this data. Data on the Airport Pairings database is released with a two month time lag to protect any commercial sensitivities and this is with the express agreement of all the Airport Authorities.

6 Additional documentation and publications

Details of the survey methodology can be found at the back of the monthly release, further details are located at:

<http://www.cso.ie/en/methods/qualityreports/overseastravel/>

Airport Pairings Database:

This data relates to the total volume of passengers on every direct flight in and out of Ireland by airport pairing (e.g. Dublin – JFK New York). The data is obtained from the Airports in Ireland and is available by month from January 2006 to most recent month. For details please go to:

<http://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=CTM01&PLanguage=0>

Statistical Yearbook of Ireland:

<http://www.cso.ie/en/statistics/statisticalyearbookofireland/>