

Case study: Border survey for foreign travellers in Finland

Introduction

Tourism is a significant sector of the economy in Finland, generating about 2.7% of the gross domestic product in 2019 and employing about 5.8% of the workforce before the pandemic (Finland's tourism accounts for 2020-2021, 2023). Understanding the economic impacts of tourism is essential for supporting the industry and political decision-making.

Visit Finland, the national tourism promoting organization, launched a new border survey in March 2023 to collect data on the visits, expenditure, and characteristics of foreign visitors in Finland. The data is obtained by interviewing travellers at the point of leaving Finland, such as airports and ports. The objective of the border survey is to provide reliable and comprehensive information about the volume, economic significance, regional structure and characteristics of inbound tourism in Finland to support the industry and political decision-making. The information is needed to allow for the better targeting of tourism marketing, for the development of tourism services and the preparation and evaluation of strategies. The information is utilized by regional tourism organizations, tourism companies, Visit Finland, Statistics Finland, municipalities and ministries. (Koskela, ym., 2021)

Visit Finland collaborates with Statistics Finland, Norstat Finland Oy and TAK Oy. Statistics Finland plans the sample, processes the data for analysis, and publishes the data as database tables and open data. Norstat handles the field work: recruiting, training and supervising interviewers, and controlling the quality of interviews. TAK takes care of the planning and technical requirements for data collection, such as translating and implementing the questionnaires. (Matkailijamittari, 2024)

The results of the survey are published monthly in Visit Finland's web service Rudolf and a short report is published in Visit Finland's website in each month. The survey data is also published monthly as open data in Finnish open data portal avoindata.fi.

Methods

The border survey is a systematic and comprehensive study of the travel and spending patterns of foreign travellers in Finland. The survey uses various selection criteria and methods to form the sample from the population that is travellers who leave Finland by flight or ferry. The survey collects data from passengers through interviews conducted in a limited time window before departure.

The aim of the survey sampling is to form a representative and random sample of the population. Thus, the sampling aims to give as unbiased a picture as possible of the distribution of trips in the target group according to the traveller's country of residence, purpose of the trip and time of travel, for example.

The interviewer resources planned for the survey have been allocated by month and by border crossing point. No specific target number of interviews has been set, as this depends on several factors such as the number of passengers and flight and ferry departure times. However, the annual target is around 8 000 to 10 000 interviews with foreign visitors.

The data collection method of the survey is a personal interview, in which the interviewer records the target person's answers on a data collection form using a tablet. (Matkailijamittari, 2024), (Matkailijamittari Perustamisvaiheen loppuraportti, 2022)

Sample

The population from which the sample is drawn consists of travellers leaving Finland via various border crossing points. The target population, which is the focus of the study, is the subset of travellers who are permanent residents of foreign countries, thus excluding those who are permanent residents of Finland, from the target population.

The planning phase of the survey involved collecting statistical data on the passengers who departed Finland through different border crossing points from 2019 to 2021. The data sources were Statistics Finland, Finnish Border Guard and Finnish Customs. The main difficulty in the analysis was the lack of direct information on the share of passengers who were not residents of Finland at each border crossing point.

To cover the diversity of travellers' travel and spending patterns, we selected various border crossing points for the survey. The passenger volume and the estimated percentage of foreign travellers were considered as selection criteria for the border crossing point. We estimated the percentage of foreign travellers from the source data, using seasonal variations, destinations and flight types (scheduled or charter) as indicators (Matkailijamittari Perustamisvaiheen loppuraportti, 2022).

The final selection of border crossing points and their departing passengers can be seen from Figure 1.

Border crossing point	Type	Continuous or seasonal	Departing passengers 2019	Departing passengers 2020	Departing passengers 2021	Departing passengers 2022
Helsinki-Vantaa	Airport	continuous	9 546 212	2 003 171	1 721 955	5 655 077
Helsinki	Port	continuous	6 360 859	2 351 319	1 876 097	4 102 187
Turku	Port	spring-autumn	1 272 928	406 207	503 007	1 024 156
Tampere-Pirkkala	Airport	summer	68 025	9 121	3 934	81 258
Ivalo	Airport	winter	27 902	9 794	16 148	29 622
Kuusamo	Airport	winter	18 084	12 496	9 787	24 761
Kittilä	Airport	winter	73 480	41 314	29 902	81 975
Rovaniemi	Airport	winter	60 580	26 030	27 557	79 662
Passengers in selected airports and ports			17 428 070	4 859 452	4 188 387	11 078 698
Passengers in all airports and ports			18 505 675	5 229 655	4 604 426	11 848 334
Share of passengers in selected airports and ports			94 %	93 %	91 %	94 %

Figure 1. Selected border crossing points.

The questionnaire

The survey provides basic information on the demographic characteristics of foreign travellers, their expenditures related to the trip, timing and duration of trips, destinations within Finland, purpose of the trip, types of accommodation and other travel characteristics.

Data

TAK oy, the company that implements the data collection technically, submits the raw interview data to Statistics Finland every month. Statistics Finland processes the raw data into a representative dataset that describes the whole target population and is ready for analysis. The data process involves adding weighting coefficients to each respondent to indicate how many people in the target population they represent. The data is classified with the necessary categories such as the municipal and provincial classifications of destinations in Finland, based on administrative regions, and grouping the detailed information into broader categories such as the respondent's age into age groups. Derived information is added from the

responses to the data such as the carbon footprint of the trip. The missing data such as partially missing data on expenditures is completed with statistical methods for example by filling in the missing data with data from other similar trips. Missing data are common in all surveys and completing them is essential for the data's representativeness.

Results

The results of the survey are published through Visit Finland's Rudolf web service, where one table is updated every month and seven tables every quarter. The processed survey data set is available as open data in open data portal avoindata.fi. Additionally Visit Finland publishes a visual and interactive report based on the open data.

The monthly results provide information on various aspects of foreign visits to Finland, such as the purpose, the mean of transport, the duration, the number, the expenditure, and the carbon footprint of the trips.

The quarterly results provide more detailed information on the characteristics and behavior of foreign visitors to Finland. They include finer classifications by the visitor's country of residence and the main destination in Finland. They also include more information on the expenditure categories and the other destinations besides the main one in Finland.

Between March and September 2023 foreign travellers made 2.7 million trips to Finland and spent the total of 1.9 billion euros. Average expenditure per trip was 716 euros. Average carbon footprint per trip was 441 kg of CO₂, consisting of the transport to and from Finland, transport within Finland, accommodation, and meals.

Discussion

Border surveys are common in many countries to obtain information about the economic significance of tourism and the travel behavior of visitors. Border surveys usually have similar principles, such as complementing the interview data with the data on the number of passengers, to generalize the survey data to the population level. The method of interviewing passengers leaving the country is suitable for countries with few border crossing points or passport controls, as this allows for random sampling and aims for high response rates.

In this border survey, the locations of the interviews depend on the travellers' mode of transport. At the airports, the interviews are conducted at the departure gates, while at the ports, the interviews are conducted at the terminal, before the travellers board the ferry. We plan the sample carefully to ensure the sample is random and representative. The capacity of departing seats per destination is essential to estimate the number of interviews per destination. This ensures the representativeness of the sample. We prioritize the representative distribution of interviews across destinations more than the total number of interviews. In other words, destinations with less capacity should have a lower proportion of interviews than destinations with more capacity. Norstat, the company in charge of the field work, monitors the interviews as the month progresses and modifies the instructions on destination quota accordingly.

Challenges

The border survey has some recognized challenges and limitations. One of the main challenges is to achieve the required number of interviews for reliable results, especially for some specific segments and markets. Pace of collecting the data is slow, as the interviewers can only conduct a limited number of interviews per day due to the challenging locations in airports and very limited time windows for the interviews.

Additional data sources

We have collected the data for 2023 (from March to December) and we are about to conduct crosschecks and investigations to validate our results. That is, we need to explore additional data sources, such as the card payment data from Bank of Finland, which we can compare with the border survey results. The trends in the card payment data from Bank of Finland should align with the results from border survey. There are also other potential card payment data sources, such as credit card companies. This data contains more granular information, for instance payments by product and by region.

The Report on the research design by the Ministry of Economic Affairs and Employment of Finland (Koskela, ym., 2021) already mentioned additional data sources. However, these data sources are not straightforward to use. Card payment data has potential, but it also has some challenges. We need to ensure the consistency of the key concepts and definitions to verify we are considering the same group in both data sources.

For further development, we plan to crosscheck the distribution of foreign travellers by flight destination against other administrative or commercial data sources that include the traveller's country of residence. These may include data from Finavia, the airport management company of Finland, or commercial data collected from flight reservation systems.

References

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