Distribution of the expenditure made by foreign visitors on Visits to Spain according to Actual Destination Autonomous Community and Country of Residence

Technical Project

experimental

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1 Introduction and Objectives

In our society, organizations such as governments, companies and economic and social institutions require information on the population's preferences, needs and behaviour in order to carry out their activities and action plans. Due the importance of *tourism* as an economic driving force that generates economies of scale and favours regional economic and social development, we also need a complete and efficient *system of tourism statistics*.

Each economic-social agent has their own information needs: analysis of the receiving and issuing market, efficiency in marketing, evaluation and design of pricing policies, investments, etc... It is thus necessary to analyse tourism from different points of view, such as the **tourism offer** (tourist companies, hotel infrastructure, accommodation capacity, quality and diversity of tourist services, transport, restaurants, etc.) and the **tourism demand** (number of trips, origin of the trip, destination, reasons, type of accommodation, means of transport used, frequency of travel, length of stay, age and sex of the visitor, etc…).

The demand approach consists of obtaining information from the units that consume goods and services: in the case of tourism, tourists. From the point of view of supply, it is about characterizing and analysing the tourist industry's economic variables.

The three operations included in the National Statistical Plan from the demand point of view are: the Survey on Border Movement (FRONTUR), the Tourist Expenditure Survey (EGATUR) and the Resident Tourism Survey (RTS).

On the other hand, from the point of view of the offer, we can look at the Tourist Accommodation Occupancy Surveys (Hotel Occupancy Survey, Holiday Dwelling Occupancy Survey, Campsite Occupancy Survey, Rural Tourism Accommodation Occupancy Survey, and Hostel Occupancy Survey).

The demand for tourism-related is very high, and is increasingly "demanding" in terms of data related to the operation variables studied by the National Institute of Statistics. These variable characterize travellers arriving from different countries of the world to Spain, travellers residing in the national territory who travel within Spain or abroad; and the overnight stays made by these travellers and their expenditures during their visits (trips and excursions).

We thus carry out continual analyses and studies to measure the feasibility of incorporating new statistical procedures - as well as other sources of additional information - into the processes already used in the creation of tourism-related statistical operations. This allows us to improve the efficiency of these operations and to reach the highest-possible level of disaggregation, in order to respond to different users' demand for information.

A first step in improving the efficiency of statistical operations related to tourism was taken (as indicated in the EGATUR and RTS operation methodology) by incorporating the calibration process for the overnight stays provided by the Tourist Accommodation Occupancy Surveys into the EGATUR overnight stays and the RTS overnight stays. This has allowed for greater efficiency when estimating EGATUR and RTS statistical operations: exogenous information with recognized quality, wide coverage and excellent precision is integrated into the estimators, such as the information provided by the Tourist Accommodation Occupancy Surveys. Coherence is also achieved between the

Tourist Accommodation Occupancy Surveys, from the supply point of view, and tourism-related operations, from the demand side, EGATUR and RTS. The results between different sources related to the same target variables are consistent.

The next step, which has been studied and whose results are given in this publication, is to incorporate information from auxiliary data sources that allow for improvement of the INE's tourism-related statistical operations.

One of the additional information sources that has been analysed is the bank transactions made by visitors who use cards on their trips and excursions; both those of non-resident visitors in the national territory of Spain, as well as those made abroad by Spanish travellers who reside in the national territory. These bank transactions include transactions made through a card in person - payments made through the Point of Sale or POS Terminal-, as well as cash withdrawals at ATMs.

Taking advantage of this additional information and focusing on the Tourist Expenditure Survey - EGATUR, an experimental statistic has been carried out that has made it possible to determine *how much foreign visitors spend on their trips and excursions to Spain, depending on the visitor's country of residence, and in which autonomous communities this expenditure is made.* All communities visited are considered, not just the one assigned as the main destination.

In accordance with the methodology used by EGATUR, the total expenditure made by foreign visitors on their trips and excursions to Spain (obtained as the sum of the expenditure made in the country of residence - "expenditure at origin" - plus the expenditure made in the destinations visited in Spain - "destination expenditure" -) is assigned to the main destination. That implies that the expenditure made in certain autonomous communities that are not generally the main destination for trips and excursions is underestimated; while it is overestimated in the communities that are usually the main destination. There are also countries for which, based solely on the information provided by the survey, it is not possible to provide data.

Based on the information on the aforementioned banking transactions, spending models have therefore been defined to correlate the autonomous community of destination and the visitor's country of residence. These models have made it possible to improve the information provided by the statistical operation:

– Looking at all autonomous communities in which foreign visitors have made a bank transaction with a card (face-to-face payments card payments or cash withdrawal), we have been able to distribute the destination expenditure made on the trip or excursion by foreign visitors, considering all destinations visited (assigned to the autonomous community of the main destination, together with the expenditure at origin in the EGATUR survey). In other words, the actual destination expenditure made in each of the autonomous communities visited on the trip or excursion by non-residents has been obtained.

– In turn, for each of the autonomous communities, the actual destination expenditure has been distributed among the different visitor nationalities. In other words, the information provided by bank transactions using cards has been employed to obtain data on actual destination spending for nationalities that it was not possible to provide based only on the EGATUR survey, due to the lack of sampling units associated with certain nationalities.

Taking into account the premises of secrecy and statistical significance, this experimental statistic thus provides information on the actual destination expenditure made by foreign visitors on their visits to Spain. It allows for a greater disaggregation of the countries of residence as well as a greater disaggregation of the destination autonomous communities, compared to the information that can be provided using only the data obtained through the Tourist Expenditure Survey (EGATUR).

2   Law and international reference framework

The EGATUR statistical operation is included in the National Statistical Plan. To date, there are no international regulations on the preparation of these statistics, but their results are highly useful, for the preparation of both the Balance of Payments and the National Accounts - operations that are regulated at the international level.

While there are no European regulations that require its implementation, EGATUR is used for the requirements included in *Regulation (EU) No. 692/2011 of the European Parliament and of the Council, of July 6, 2011, regarding European statistics on tourism*[1]. Specifically, it is used to comply with the information requirement of Section 4 (*Domestic tourism in non-market accommodation*) of Annex I (*Domestic Tourism*), which requests the 'number of overnight stays in non-rented accommodation in the reference year'. This is broken down by country of residence, if it belongs to the European Union, and the category 'Rest of the world' is added, which would include the overnight stays for the rest of the countries.

It is optional to send this information, but Spain sends it to Eurostat on an annual basis.

This opeeration, together with the Statistics on Border Movement (FRONTUR), follow the definitions, classifications, recommendations and best practices of the World Tourism Organisation (WTO), a United Nations agency, which are contained in the following documents: "International Recommendations for Tourism Statistics 2008 (IRTS-2008) [2] "and "Tourism Satellite Account. *Recommendations on the Conceptual Framework 2008* [3]

3   Scope of research

3.1   POPULATION SCOPE

These experimental statistics are focused on improving the efficiency of the EGATUR statistical operation, relying on the information provided by the card-based banking transactions carried out by non-resident visitors on their trips and excursions to Spain; including transactions carried out in person in Spain, that is to say, payments made through POS - Point of Sale Terminal, and cash withdrawals at ATMs located in the Spanish territory. Therefore, the population scope is made up of:

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[1] Regulation (EU) No 692/2011
[2] IRTS-2008
[3] Tourism Satellite Account.

- The "expenditure at destination" made by non-resident visitors in Spain provided by EGATUR and obtained through the surveys carried out in the different routes of access to Spain:

  - Road: the survey is carried out for lightweight vehicles and full buses that are exiting Spain, in accordance with the sample sizes provided by the operation design, at each border point with the neighbouring countries - France and Portugal - whether they are tourists, passers-by, or non-resident excursionists.

  - Airports: the survey is carried out with non-residents in the departure lounge of the selected flight, upon departure from the country.

  - Ports: the survey is carried out with non-residents in the departure lounge of the selected cruise ship or liner, upon departure from the country.

  - Trains: the survey is given to non-resident travellers transported across the border on different international railway lines, upon their departure from the country.

- The information provided regarding the card-based banking transactions carried out by non-resident visitors on their trips and excursions to Spain; including transactions carried out in person in Spain, that is to say, payments made through POS - Point of Sale Terminal, and cash withdrawals at ATMs located in the Spanish territory.

3.2 SCOPE OF STUDY

The scope of study is the destination expenditure made by non-resident visitors (tourists and same-day visitors) on their visits to Spain.

3.3 GEOGRAPHICAL SCOPE

This experimental statistic focuses on the EGATUR statistical operation, and its geographical scope is therefore comprised of the geographical scope of this operation. That is to say, the destination expenditure made on visits, trips and excursions by non-residents bound for an autonomous community or city in Spain.

3.4 TEMPORAL SCOPE

The reference period is quarterly.

3.5 STUDY AND CLASSIFICATION VARIABLES

The study variable is the destination expenditure made by non-resident visitors on trips and excursions to Spain.

The classification variables are: autonomous community and country of residence.

4   Basic concepts

4.1   COUNTRY OF RESIDENCE

According to the EGATUR methodology, the visitor's country of residence is defined in exactly the same way as in the Balance of Payments and the System of National Accounts. The *resident population* in a given geographic area is considered to be those persons who, at the time of the interview, have their regular residence there.

Regular residence or environment is defined as the place where a person normally stays during daily rest periods, considering the period of the last twelve months, without including travels for leisure, holidays, visits to relatives and friends, business, medical therapies and religious pilgrimages.

The countries of residence considered in the study are the following::

– Alemania   – Estados Unidos

– Bélgica   – Argentina

– Francia   – Brasil

– Irlanda   – Chile

– Italia   – México

– Países Bajos   – Colombia

– Dinamarca   – Canadá

– Finlandia   – Japón

– Noruega   – China

– Suecia   – Corea del Sur

– Portugal   – Turquía

– Reino Unido   – Israel

– Rusia   – India

– Suiza   – Arabia Saudita

– Austria   – Filipinas

– Polonia   – Emiratos Árabes

– Andorra   – Australia

– Rumanía

In addition, three categories have been added, formed by *Rest of Europe*, which brings together the European countries not explicitly included in the previous list; the *Rest of America*, for the countries on that continent not explicitly referred to in the list; and, finally, the *Rest of the World*, for the rest of the countries not included in the list and not included in either of the two previous categories.

4.2 TRIP

The term *trip* designates any movement by a person outside of their regular residence environment, from the moment of their departure until their return. It involves at least one overnight stay outside the aforementioned environment and lasts less than one year, provided that the main reason for the trip - including business, leisure or other personal reasons - is distinct from a job assignment at a company located in the place visited. A trip can be made up of visits to different places.

4.3 VISITOR

Someone who travels to a main destination outside their usual environment, lasting less than one year, for any main purpose (leisure, business or other personal reasons) other than to be employed by a company established in the country or place visited.

A visitor is classified as a *tourist (or overnight visitor)* if their trip includes an overnight stay, or as a *same-day visitor (or day-tripper)* otherwise.

4.4 MAIN DESTINATION OF THE TRIP OR EXCURSION

The main destination of a trip or excursion is the destination that was decisive in travel organisation. The possible trip destinations are the 17 Spanish autonomous communities and the two autonomous cities:

- Andalucía
- Aragón
- Principado de Asturias
- Illes Balears
- Canarias
- Cantabria
- Castilla y León
- Castilla la Mancha
- Cataluña
- Comunitat Valenciana
- Extremadura
- Galicia
- Comunidad de Madrid
- Región de Murcia
- Comunidad Foral de Navarra
- País Vasco
- La Rioja
- Ceuta
- Melilla

4.5 TRIP LEGS/STOPOVERS

Each of the destinations where there is at least one overnight stay will be considered a leg of the trip.

That is, a leg is each of the stops with an overnight stay during the trip. A trip has as many stopovers as intermediate destinations where the traveller has stayed at least one night.

4.6 TRAVEL TIME

Travel time is measured in the number of nights a person spends while travelling in Spain; that is, the number of overnight stays.

4.7 DURATION OF EACH LEG OF THE TRIP

The duration of each leg of the trip is measured by the number of nights that have been spent; that is, the number of overnight stays for each portion of the trip.

4.8 DAY TRIPS/EXCURSIONS

Day trips are visits that do not include overnight stays; that is, they begin and end on the same day (see definition of journey above). In other words, a day trip is considered to be any visit without an overnight stay made outside of the regular environment; and which has, as a starting point, the traveller's regular environment.

4.9 TRIP OR EXCURSION EXPENDITURE

The concept of tourism expenditure conforms to the international recommendations, according to which "tourism expenditure" refers to the amount paid for the purchase of consumer goods and services and valuable objects, for own use or for gifts, before and during tourist visits. It includes expenses incurred by visitors themselves, as well as expenses paid or reimbursed by others.

The expenditure items taken into account when collecting information on expenditure in the EGATUR survey are:

– Expenditure on package holiday

– Expenditure on accommodation

– Expenditure on transport

– Expenditure on leisure, culture and sports activities

– Expenditure on clothing, jewellery, souvenirs, etc.

– Expenditure on groceries, drinks and others (cleaning, pharmacy, etc.)

– Expenditure on food and beverages in cafes or restaurants

– Expenditure on durable goods and valuables

4.10 TRIP OR EXCURSION EXPENSES AT DESTINATION

The expenditure made for the aforementioned items may have been carried out at the place of origin, or at the destination of the trip or excursion. For each expenditure, the EGATUR questionnaire asks the place where the payment was made: origin or destination.

Since the project is based on how to take advantage of the additional information provided by bank transactions, payments made in person through POS and cash withdrawals at ATMs located in Spain, made through cards by non-resident visitors (that is, payments made at the trip or excursion destination), the project focuses on the expenses collected in the EGATUR questionnaire declared as "destination expenses."

4.11 TRIP OR EXCURSION EXPENSES AT ACTUAL DESTINATION

In EGATUR, the total expenditure made on the trip or excursion is fully assigned to the main destination. The actual destination expenditure is the expenditure made at the destination of each of the geographical locations in Spain visited on the trip or excursion.

5 Data collection

The information regarding card-based bank transactions used in the experimental statistics is received by the INE as aggregated tables that include the amount of payments made by each card-issuing country, and the Spanish province in which the transaction took place. Therefore, the INE does not have at any time individual information of any kind or information on cardholders, but only aggregate data.

6 Information processing. Indicators

The methodology used to obtain the different defined indicators is described below.

6.1 EXPENDITURE IN ACTUAL DESTINATION BY AUTONOMOUS COMMUNITY

The following hypotheses are considered:

– Only the expenditure declared in the EGATUR questionnaire as expenditure made at the destination is used. Considering an autonomous community of Spain as a possible visit destination.

– The expenditure made on the accommodation item for each of the destinations visited on the trip is available in the EGATUR statistical operation; that is, the expenditure made on accommodations for each leg of the trip. Therefore, this expense is allocated in full to the autonomous community declared as the destination of the stage.

– The expenditure declared in the questionnaire as expenditure made at the destination, except for the expenditure on the aforementioned accommodation, is distributed proportionally among the different destinations (autonomous community) visited on the trip, based on the number of nights spent at each.

– The **expenditure at the actual trip destination** for a specific autonomous community is therefore the accommodation expenditure made in said autonomous community, plus the percentage of the rest of the expenditure items assigned to the main trip destination, and declared as destination expenditure. This is obtained from the nights spent in said community compared to the total nights of the trip.

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- The ***expenditure at the actual day-trip destination*** for a specific autonomous community is the expenditure made in said autonomous community, declared in the questionnaire as expenditure at the excursion destination.

- ***Transits*** - that is, trips made by non-residents in Spain on their way to another country - are counted as day-trippers. The autonomous community where the survey point is located is assigned as the destination of the excursion.

- Regarding the banking transactions corresponding to the withdrawal of cash at ATMs, it is assumed that the cash obtained at an ATM located in a certain autonomous community is used to pay for services in that community.

Thus, the actual destination expenditure by autonomous community for each type of visit is calculated as follows:

- For trips , that is, when overnight stays have been made:

$$Gdestino\ real\_viaje\_ccaa = G_{aloja\_ccaa} + \frac{Ne\_ccaa}{N} * (Gdestino\ principal$$
$$- \sum_{ccaa} G_{aloja\_ccaa})$$

Where:

Ne_ccaa, denotes the overnight stays of the leg of the trip, with destination being the autonomous community *ac*

N, denotes the total overnight stays of the trip

G_{aloja_ccaa}, denotes the expenditure on accommodation made in the leg of the trip, with destination being the autonomous community *ac*

$Gdestino\ principal$, denotes the destination expenditure assigned to the main trip destination.

As shown in the previous expression, the percentage structure associated with the overnight stays made in each leg of a trip with respect to the total overnight stays of the trip, is applied to the expenditure at the destination$Gdestino\ principal$ from which the expenditure made on accommodation in each autonomous community visited at each leg of the trip is subtracted.

- For transit or day-trips, that is, when no overnight stays have been made:

$$Gdestino\ real\_excursión\_ccaa = Gdestino\ de\ la\ excursión$$

Where, $Gdestino\ de\ la\ excursión$is the destination expense made on the excursion.

Therefore, for a given autonomous community, the actual destination expenditure made by non-resident visitors on their trips and excursions to Spain is the sum of the actual destination expenditure of the trips in which said community has been one of the destinations of the legs of the trip, plus the actual destination expenditure made on the excursions for which said autonomous community has been visited:

$$Gdestino\ real\_ccaa = Gdestino\ real\_viaje\_ccaa + Gdestino\ real\_excursión\_ccaa$$

6.2 EXPENDITURE AT ACTUAL DESTINATION ACCORDING TO AUTONOMOUS COMMUNITY AND COUNTRY OF RESIDENCE

The same hypotheses as above are considered, to which the following are added:

– If the card was issued in the foreign country, p, then the banking transactions carried out with said card are made by a visitor whose country of residence is p.

From the actual destination expenditure, $Gdestino\ real\_ccaa$, obtained for each of the autonomous communities visited by non-residents in the national territory, using the previous indicator, and using the additional information provided by the banking transactions made with the cards considered in the study, payments made in person at POS, and withdrawals of cash in ATMs located in Spain, the distribution by country of residence of the destination expenditure is obtained as follows:

From the point of view of bank transactions carried out by card, either in person at POS or through cash withdrawals at ATMs located in Spain, by non-resident visitors on their trips and excursions to Spain, the information available is the autonomous community where the transaction has been made and the foreign country where the card has been issued; then for each autonomous community there are the foreign countries where the cards with which a transaction has been made were issued. This allows us to obtain percentage distribution associated with the banking transactions carried out in each autonomous community by a country other than Spain.

If we use PT_{ccaa} to denote the total amount of the banking transactions carried out in an autonomous community using cards issued abroad and $PT_{p/ccaa}$ to denote the total amount of bank transactions carried out in said community by visitors residing in the country p, different from Spain, then the percentage distribution associated with bank transactions carried out in an autonomous community for each foreign country of residence p is:

$$PT_{ccaa/p} = \frac{PT_{p/ccaa}}{PT_{ccaa}} * 100 = \frac{PT_{p/ccaa}}{\sum_{p,ccaa} PT_{p/ccaa}} * 100$$

Therefore, the actual destination expenditure made in an autonomous community by visitors from a country of residence other than Spain, $Gdestino\ real_{ccaa/p}$, is:

$$Gdestino\ real_{ccaa/p} = Gdestino\ real\_ccaa * PT_{ccaa/p}$$

6.3 AVERAGE DAILY EXPENDITURE BY AUTONOMOUS COMMUNITY OF ACTUAL DESTINATION AND COUNTRY OF RESIDENCE

The additional information gleaned from banking transactions allows us to determine the presence of visitors from foreign countries who have visited an autonomous community. This is not possible using only information from EGATUR. By taking advantage of the additional information provided by bank transactions, we can obtain information on the destination expenditure made by foreign visitors on their trips and excursions to Spain; information that EGATUR alone does not provide us.

To determine the average daily expenditure by autonomous community of actual destination and country of residence, information is required on the number of overnight stays made in each destination visited; that is, for each leg of the trip. However, since excursions are also considered, we must count the day of the visit for each of them.

Therefore, in the calculation of the average daily expenditure by autonomous community of actual destination and country of residence, the denominator is considered as:

– For trips: overnight stays made, according to each country of residence in each destination autonomous community.

– For day-trips: each excursion is assigned a visiting day.

Thus, the denominator for each country of residence and each community of actual destination is the sum of the overnight stays plus the number of excursions made for each crossing {country of residence, actual destination autonomous community}.

In order to obtain the information not provided by EGATUR, the hypothesis is considered that the percentage structure in each destination autonomous community of the overnight stays and excursions made by the different foreign countries is given by the percentage structure of the banking transactions, considered in the study, carried out in the autonomous community by the cards issued in each country.

Therefore, to determine the denominator of the average daily expenditure, $N_{ccaa/p}$, we work with the percentage structures of the number of bank transactions carried out in each community by the cards issued in each country considered in the study.

If we use MT_{ccaa} to denote the total movements of the banking transactions carried out in an autonomous community using cards issued abroad and $MT_{p/ccaa}$ to denote the total movements of bank transactions carried out in said community by visitors residing in the country p, different from Spain, then the percentage distribution associated with the number of bank transactions carried out in an autonomous community by residents of a foreign country is:

$$MT_{ccaa/p} = \frac{MT_{p/ccaa}}{MT_{ccaa}} * 100 = \frac{MT_{p/ccaa}}{\sum_p MT_{p/ccaa}} * 100$$

In which the denominator of the average daily expenditure is given by the expression:

$$N_{ccaa/p} = \left(\sum_p N_{\frac{p}{ccaa}}\right) * MT_{ccaa/p}$$

Where $N_{p/ccaa}$ denotes overnight stays plus excursions made in the autonomous community, ac, by residents in the country, p.

Based on the actual destination expenditure for the autonomous community of destination ac and the country of residence, p, obtained through the previous indicator, the average daily expenditure is defined as follows:

$$GMD_{ccaa/p} = \frac{Gdestino\ real_{ccaa/p}}{N_{ccaa/p}}$$

6.4 AVERAGE EXPENDITURE PER VISITOR BY AUTONOMOUS COMMUNITY OF ACTUAL DESTINATION AND COUNTRY OF RESIDENCE

Based on the same reasoning as the previous indicator, to determine the average expenditure per visitor, by autonomous community of real destination and country of

residence, information is required on the number of visitors, tourists and day-trippers, by autonomous community of real destination and country of residence.

In this case, the denominator will be the sum of the legs carried out by tourists plus the number of day-trippers for each crossing {country of residence, autonomous community of actual destination}.

In order to obtain the information not provided by EGATUR, as with the previous indicator, the hypothesis is considered that the percentage structure in each destination autonomous community of the visitors from different foreign countries is given by the percentage structure of the banking transactions, considered in the study, carried out in the autonomous community by the cards issued in each foreign country.

Therefore, to determine the number of visitors, $V_{ccaa/p}$, in a community for residents in each foreign country, we work with the percentage structures of the number of bank transactions carried out in the community by the cards issued in each country considered in the study.

So:

$$V_{ccaa/p} = \left(\sum_p V_{\frac{p}{ccaa}} \right) * MT_{ccaa/p}$$

Where $V_{p/ccaa}$ denotes visitors in the autonomous community, *ac*, country of residence, *p*

Based on the indicator of destination spending by autonomous community of actual destination and country of residence, the average spending per visitor is defined as follows:

$$GMT_{ccaa/p} = \frac{Gdestino\ real_{ccaa/p}}{V_{ccaa/p}}$$

7   Dissemination of information

When making the results public, the conditions of secrecy and statistical significance that all information supplied by the INE must fulfil are taken into account.

The dissemination plan includes the following detailed results tables, both quarterly and annually:

– Percentage distribution of expenditure in real destination by country of residence of visitors, within each autonomous community.

– Percentage distribution of expenditure in actual destination by autonomous community of destination, for each country of residence of the visitors.

– Average daily expenditure by autonomous community of actual destination and country of residence of visitors.

– Average expenditure per visitor by autonomous community of actual destination and country of residence of visitors.

– Expenditure in actual destination by autonomous community and country of residence of the visitors.

Publication of the experimental statistics is quarterly.

8   Implementation schedule

The information associated with this experimental statistic will initially be made public in the final quarter 2020. It will provide quarterly and annual information for the years 2018 and 2019 - which will be final - and information for the first three quarters of 2020, which will be provisional.

Following this first publication, both provisional and definitive data for the last quarter of 2020 and for subsequent years will be made public.