

INSTITUTO NACIONAL DE ESTADISTICA



Youth Hostel Occupancy Survey (YHOS)

Methodology

Year 2025

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1 Presentation

This publication presents the results of the Hostel Occupancy Survey.

The data provided reflects the dual facets of what is considered in the tourism study: the demand, which gathers information on travellers, overnight stays and the average stay distributed by country of residence of these travellers, or by Autonomous City or Country of origin in the case of Spanish residents; and the supply, which estimates the number of open establishments, bed-places, rooms, occupancy rates and information on employment in the sector.

This information is obtained nationally and by autonomous city/community on a monthly basis.

The National Statistics Institute (INE for its Spanish initials) would like to thank all the professionals, businesspeople and organisations related to the tourist industry for their collaboration, which is absolutely essential for conducting this survey.

2 Objectives

The main objective of the Youth Hostel Occupancy Survey (YHOS) is to ascertain the behaviour of a series of variables that make it possible to describe the fundamental characteristics of this type of tourist accommodation, from the viewpoint of both supply and demand, thus meeting the needs for knowledge regarding the sector by National Institutions and the requirements of International Organisations.

3 Statistical unit

These are the tourist youth hostels registered as such in the corresponding registry of each Autonomous Community and the youth hostels belonging to the Spanish Network of Youth Hostels (REAJ for its Spanish initials).

A **youth hostel** is defined as an establishment that offers the public accommodation, mostly in rooms lodging many people, with or without additional services and commonly with the option of doing some sort of activity related to the surrounding area.

4 Scope of the survey

All the tourist youth hostels in the entire national territory are researched, with the exception of Ceuta, where there are no establishments of this kind.

5 Definition of variable

5.1 ESTIMATED OPEN YOUTH HOSTELS

Number of open seasonal youth hostels estimated by the survey.

Open seasonal youth hostels considered as those which are open during the reference month.

5.2 ESTIMATED BED-PLACES

Number of bed-places estimated by the survey of the open seasonal youth hostels.

The number of bed-places of a youth hostel is understood as the number of permanent beds it has available; it therefore does not include spare beds and double beds are considered as two bed-places.

5.3 TRAVELLERS CHECKED IN

All persons who stay overnight for one or more consecutive nights in the same accommodation.

Travellers are classified by their place of residence. In the case of Spanish residents, information is requested about their Autonomous City/Community of residence.

5.4 OVERNIGHT STAYS OR OCCUPIED BED-PLACES

An overnight stay or occupied bed-place is understood to be each night that a traveller lodges at the youth hostel.

For example, a group of 6 persons which lodges at the establishment for 2 days will give rise to 12 overnight stays or occupied bed-places.

As with travellers checked in, the occupied bed-places are itemised according to the place of residence.

5.5 AVERAGE STAY

This variable is an approximation of the number of days, on average, that travellers lodge in youth hostels, which is calculated as the ratio between overnight stays and the number of travellers.

5.6 OCCUPANCY RATE BY BED-PLACES

Ratio, as a percentage, between the total number of overnight stays and the product of the bed-places by the number of days considered in the overnight stays.

By this definition, it may occur that a youth hostel has an occupancy rate below one hundred percent and yet have no free bed-places, as a double room or bed could be occupied by only one person, which results in only one overnight stay, although the room itself has a larger capacity.

5.7 WEEKEND OCCUPANCY RATE BY BED-PLACES

Ratio, as a percentage, between the total number of overnight stays and the product of the bed-places by the two days considered in the overnight stays (Friday and Saturday).

By this definition, it may occur that a youth hostel has an occupancy rate below one hundred percent and yet have no free bed-places, as a double room or bed could be occupied by only one person, which results in only one overnight stay, although the room itself has a larger capacity.

5.8 STAFF EMPLOYED

Defined as the set of people, paid or unpaid, who contribute by means of their work, to the production of goods and services during the survey reference period, even though they may work outside the premises.

6 Survey framework and sample design

The framework used for the selection of reporting units is the directories of the Autonomous Community Tourist Boards and the directories of the Spanish Network of Youth Hostels (REAJ), which list the following data for each establishment, among others: name, address, regular opening times, number of bed-places.

These directories are continuously updated.

The survey sample design is defined by the (stratum) {Autonomous Community, TYPE, Size}.

The survey is conducted by sampling the strata, which are detailed in the document [Sampling Fractions](#).

In addition, there are establishments which, although they belong to a non-exhaustive stratum due the Autonomous Community where they are located and the type they are associated with, are considered as exhaustive because they have a high number of bed-places compared to the total number of bed-places there are in their stratum {Autonomous Community, type}.

7 Estimators

The **variables** used are:

- E = no. of establishments listed in the directory that are open in the month
- e = no. of establishments that respond to the survey using the usual questionnaire method (incidences 1 and 2)
- c = no. of establishments in the sample that are closed within their opening period (incidence 3)
- D = no. of days in the reference month (28, 29, 30, 31)
- D^{fs} = no. of Fridays and Saturdays in the reference month
- dm = no. of days that the establishment has been open in the reference month
- P = no. of bed-places in open establishments, according to the directory
- V = no. of travellers checked in
- N = no. of occupied bed-places or overnight stays
- ES = average stay
- T = employed staff
- H = no. of rooms in open establishments, according to the directory
- GP = Occupancy rate by bed-places

The **sub-indexes** used are:

- i = establishment
- j = AC (Autonomous Community)
- k = type of accommodation (part of the REAJ, the Camino de Santiago, *Albergue Turístico* [Tourist Youth Hostel])
- t = size
- m = place of residence

Estimators obtained considering monthly information

The estimators samples by stratum are listed below, that is, for the crossover of AC x type of accommodation x size. In addition, examples are shown of the more aggregated estimators, which are calculated by adding together the corresponding sub-indexes:

1. Estimated number of establishments open in the reference month

$$\widehat{EM}_{jkt} = E_{jkt} * \frac{\sum_{i=1}^{e_{jkt}} \frac{dm_{ijkt}}{D}}{e_{jkt} + c_{jkt}}$$

$$\widehat{EM}_{jk} = \sum_t \widehat{EM}_{jkt}$$

$$\widehat{EM}_j = \sum_k \widehat{EM}_{jk} = \sum_k \sum_t \widehat{EM}_{jkt}$$

2. Estimated number of bed-places in establishments open in the reference month

$$\widehat{P}_{jkt} = \sum_{i=1}^{E_{jkt}} P_{ijkt} * \frac{\sum_{i=1}^{e_{jkt}} P_{ijkt} * \frac{dm_{ijkt}}{D}}{\sum_{i=1}^{e_{jkt}} P_{ijkt} + \sum_{i=1}^{c_{jkt}} P_{ijkt}}$$

$$\widehat{P}_{jk} = \sum_t \widehat{P}_{jkt}$$

$$\widehat{P}_j = \sum_k \widehat{P}_{jk} = \sum_k \sum_t \widehat{P}_{jkt}$$

3. Estimated number of travellers checked in during the month

$$\widehat{V}_{jktm} = \left[\sum_{i=1}^{e_{jkt}} V_{ijktm} \right] * \frac{\widehat{P}_{jkt}}{\sum_{i=1}^{e_{jkt}} P_{ijkt} * \frac{dm_{ijkt}}{D}}$$

$$\widehat{V}_{jkm} = \sum_t \widehat{V}_{jktm}$$

$$\widehat{V}_{jm} = \sum_k \widehat{V}_{jkm} = \sum_k \sum_t \widehat{V}_{jktm}$$

$$\widehat{V}_j = \sum_m \widehat{V}_{jm} = \sum_k \sum_t \sum_m \widehat{V}_{jktm}$$

4. Estimated of occupied bed-places or overnight stays

$$\widehat{N}_{jktm} = \left[\sum_{i=1}^{e_{jkt}} N_{ijktm} \right] * \frac{\widehat{P}_{jkt}}{\sum_{i=1}^{e_{jkt}} P_{ijkt} * \frac{dm_{ijkt}}{D}}$$

$$\widehat{N}_{jkm} = \sum_t \widehat{N}_{jktm}$$

$$\widehat{N}_{jm} = \sum_k \widehat{N}_{jkm} = \sum_k \sum_t \widehat{N}_{jktm}$$

$$\hat{N}_j = \sum_m \hat{N}_{jm} = \sum_k \sum_t \sum_m \hat{N}_{jktm}$$

5. Estimated number of overnight stays at the weekend

$$\hat{N}_{jktm}^{fs} = \left[\sum_{i=1}^{e_{jkt}} N_{ijktm}^{fs} \right] * \frac{\hat{P}_{jkt}}{\sum_{i=1}^{e_{jkt}} P_{ijkt} * \frac{dm_{ijkt}}{D}}$$

6. Estimated average stay

$$\widehat{ES}_{jkt} = \frac{\hat{N}_{jkt}}{\hat{V}_{jkt}}$$

$$\widehat{ES}_j = \frac{\hat{N}_j}{\hat{V}_j}$$

7. Estimated staff employed

$$\hat{T}_{jkt} = \left[\sum_{i=1}^{e_{jkt}} T_{ijkt} \right] * \frac{\hat{P}_{jkt}}{\sum_{i=1}^{e_{jkt}} P_{ijkt} * \frac{dm_{ijkt}}{D}}$$

8. Estimated number of existing rooms in open establishments

$$\hat{H}_{jkt} = \left[\sum_{i=1}^{e_{jkt}} H_{ijkt} \right] * \frac{\left(\sum_{i=1}^{e_{jkt}} H_{ijkt} * \frac{dm_{ijkt}}{D} \right)}{\left(\sum_{i=1}^{e_{jkt}} H_{ijkt} + \sum_{i=1}^{c_{jkt}} H_{ijkt} \right)}$$

9. Estimated occupancy rate

- a) Occupancy rate by bed-places

$$\widehat{GP}_{jkt} = \frac{\hat{N}_{jkt}}{D * \hat{P}_{jkt}} * 100$$

$$\widehat{GP}_j = \frac{\hat{N}_j}{D * \hat{P}_j} * 100$$

- b) Weekend occupancy rate by bed-places

$$\widehat{GP}_{jkt}^{fs} = \frac{\hat{N}_{jkt}^{fs}}{D^{fs} * \hat{P}_{jkt}} * 100$$

$$\widehat{GP}_j^{fs} = \frac{\widehat{N}_j^{fs}}{D^{fs} * \widehat{P}_j} * 100$$

8 Information Collection

The basic data on youth hostels refer to a period of one month.

The information is provided to the National Statistics Institute by the youth hostel on a monthly basis, by means of a questionnaire. It is likewise possible to submit the information by Internet using the IRIA system, filling in the on-screen questionnaire.

If during the information gathering period it is not possible to obtain the data from a given establishment, the data will continue to be requested for the following two months.

If no information can be obtained from a given establishment in the data gathering period, the data is imputed according to the data from other youth hostels within its stratum which have responded to the survey, according to the expressions of the above estimators.

9 Dissemination of Information

The information is presented at different levels, disaggregated geographically by autonomous community and nationally.

10 Statistical secret

Information can be given on all the stratum (or geographical data groupings) in which the number of establishment with incidence 1 (open with activity) is the same or above 3.

11 Coefficients of variation

The coefficients of variation or relative sampling errors are calculated and published for the estimators for total travellers checked in during the month, \widehat{V}_{jkt} , and for the total bed-places (overnight stays), \widehat{N}_{jkt} .

Being \widehat{Y}_{jktm} the estimator for any of these variables, for each province, island, j, modality (type of establishment), k, size group, t, and residence (residents or non-residents) m.

The estimated relative sampling error (in percentage) is calculated as follows:

$$\widehat{CV}(\hat{Y}_m) = \frac{\sqrt{\hat{V}(\hat{Y}_m)}}{\hat{Y}_m} * 100$$

where:

$$\hat{V}(\hat{Y}_m) = \sum_h \hat{V}(\hat{Y}_{jktm})$$

and h denotes the stratum (jkt) and $\hat{V}(\hat{Y}_{jktm})$ is calculated as followed:

$$\hat{V}(\hat{Y}_{jktm}) = (1 - f_{jkt}) \cdot \frac{e_{jkt}}{e_{jkt} - 1} \cdot \frac{\hat{P}_{jkt}^2}{\left(\sum_{i=1}^{e_{jkt}} P_{ijkt} \cdot \frac{dm_{ijkt}}{D}\right)^2} \cdot \sum_s (Y_{ijktm} - \hat{R}_{jktm} P_{ijkt})^2$$

where

$$f_{jkt} = \frac{e_{jkt} + c_{jkt}}{E_{jkt}}$$

and s = e, and

$$\hat{R}_{jktm} = \frac{\sum_{i=1}^{e_{jkt}} Y_{ijktm}}{\sum_{i=1}^{e_{jkt}} P_{ijkt}}$$

12 Empty strata treatment

Empty strata are understood as a stratum that is 100% refusals and/or closed, with selected establishments in the sample.

Stratum filling refers to the application of the empty strata treatment to obtain an estimate from a donor.

If a stratum only contains refusals and closed establishments, the estimate is zero, since all refusals are assumed to be closed establishments.

If there are only refusals, all refusals are assumed to be open establishments (since we have no record of any closed establishments), and the stratum must be filled.

Before performing the empty stratum treatment, the non-empty strata are estimated, since the gaps are filled from their estimates.

If a stratum is empty, the stratum is filled as follows:

The variables for establishments, bed-places, and rooms are estimated using the directory value.

For the variables for overnight stays and travellers, generically X, the values are estimated as follows:

$$\hat{X}_{Vm} = \hat{X}_{Dm} \cdot \frac{\hat{P}_{Vm}}{\hat{P}_{D1m} - \hat{P}_{D2m}}$$

where:

\hat{X}_{Vm} is the estimate made from the empty stratum.

\hat{X}_{Dm} is the estimate previously made from the donor stratum.

\hat{P}_{Vm} are the estimated bed-places of the empty stratum (directory value).

\hat{P}_{D1m} are the estimated bed-places of the donor stratum from non-empty strata.

\hat{P}_{D2m} are the estimated bed-places of the donor stratum from empty strata.

Note: if there were another relevant variable to fill (i.e. weekend overnight stays), the same method is applied.

The donated information from the empty strata (AC-type-size) is done as follows. Being the empty stratum is AC j, type k and size t (according to the notation of sub-indexes adopted in the estimators), where

$t = 1 \text{ ó } 2, \text{ si hay subestratificación}$

$t = 0, \text{ si no hay subestratificación}$

1. If the empty stratum is jk1 (or jk2), the donating stratum will be jk2 (or jk1). That is, the stratum from the same AC and the same type that is empty, but from another size, provided that too is not empty. If this last variable is also empty, then proceed as in b).
2. If the empty stratum is jk0 and both strata jk1 and jk2 are empty, a donor in the other types of youth hostel in the same AC will be sought, according to the following search order (this search does not account for difference in size).

Empty stratum	First donor	Second donor
TU	RE	CS
RE	TU	CS
CS	TU	RE

The case where no establishment within a given Autonomous Community has answered is not contemplated.