BACHELOR'S THESIS

OVERTOURISM: REALITY OR MYTH?

Elena Gordo Mollar

Degree in Economics and Tourism

Faculty of Tourism

Academic Year 2021-22

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Key words:

Overtourism, Spain, local's life, accommodation capacity, housing prices, tourists.

Thesis Supervisor's Name: Ivan Murray Mas

Summary
This research analyses the question of Overtourism in different Spanish cities. Different parameters have been analyzed in order to determine and investigate if it truly exists a situation of Overtourism in the Spanish cities studied. In this case the city capitals of the provinces of Spain have been analyzed. To carry out the quantitative research, real data from the National Institute of Statistics (INE), as well as from the company Idealista, have been used.

During the investigation, the concept of Tourism and Overtourism has been analyzed using a literature review method. It has also been developed an overview of the background and evolution of tourism during the last years. Secondly, this study has used quantitative data from 2012 to 2019 to approach the issue of Overtourism and check whether the cities with most conflicts and academic papers published respond to those with the highest scores in the quantitative analysis. Then, a synthetic Index has been created to determine the degree of possible Overtourism in each of the cities, classifying all the cities in six groups according to the analysis' results.

The results reveal that four of the twenty-four cities are in a crucial situation, not only due to the results of the quantitative research but also the citizen's reactions and interest in academic publications. It is interesting to highlight the case of Teruel, which, despite not being a very big city in terms of population and tourists, displays a high position in our final ranking.

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1. Introduction

In December 2019 we started to hear the word “Coronavirus” and, although it seemed to be far away, in a globalized world, what started in China spread throughout the world in a few months. This exceptional situation led to exceptional measures and behaviors. Moreover, it created a new and unknown scenario in the world of tourism.

According to the World Tourism Organization (WTO) (2020), although many sectors depend on tourism, such as transportation, construction or advertising, this crisis will have a more fatal impact on the tourism sector in which the prevision previous to 2019 will not almost certainly be accomplished (Castello, 2020). All the perspectives of growth in the tourism industry had been destroyed with this pandemic, given that travelling was prohibited for months by the governments and authorities. In fact, the UNWTO (Castello, 2020) “expected the 2020 international tourist arrivals to a negative growth of between 1% and 3%, which represents an estimated loss of between 30 billion and 50 billion dollars in revenue”.

According to Castello (2020), “the globalization of the economy, the revolution in new technologies - communication, information, transport -, the growing integration processes and cooperation initiatives between regions, reveal the interdependence to which the sector is subject”. This proves that nowadays, all the sectors and activities in an economy are interrelated and what happens on one activity will have consequences on many others. That is why a health crisis had such a big impact on all the activities, included tourism.

Today, year 2022, although we are still recovering from the Covid crisis, tourism is beginning to reactivate. Even though the level of tourists is not as high as before the pandemic, Overtourism is still a concept of interest among many professionals.

Right before the pandemic outbreak, one major concern in tourism organizations and academia was the issue of Overtourism. In some urban areas, social movements revolt against this phenomenon; and authorities and organizations such as the European Commission or the World Tourism Organization (WTO), had paid particular attention to that question. Overtourism was one of the hot topics in tourism, particularly on the internet and many newspapers. However, it was never clear if an area suffered or not Overtourism.

This study has been carried out with the objective to clarify what it is and if it can be determined whether it exists or not. The main motivation to carry out this analysis is to determine if Overtourism can be conceptualized from a quantitative approach. Since Overtourism does not depend on one single data, but on many factors, it cannot be determined with certainty which cities suffers from it, but only make an estimate.

In this work, the main objective is to contrast the results from the quantitative analysis with the newspapers and academic articles to see if there exists a relationship between the quantitative results and the social impact of Overtourism in the cities analyzed. Moreover, it is also provided a classification of all the city capitals analyzed according to its degree of Overtourism.

Firstly, a definition of tourism is provided, considering different authors and publications. Following that, the concept of Overtourism is developed, determining the conditions necessaries to consider a possible situation of Overtourism in an area. Then, a background and evolution are shortly developed to provide an overview of tourism activity over the last years and the relationship between tourism and infrastructures is introduced. Next, to understand and deepen on Overtourism, three concepts are explained, which are: Carrying Capacity, Tourism Area Life Cycle and Doxey's irritation Index.

Secondly, the empirical analysis begins. Five variables and nine parameters are analyzed for different Spanish cities. The data collected goes from 2012 to 2019 and has been obtained from Idealista and from the INE. From Idealista the housing prices data have been collected, from January 2012 and January 2019. From the INE, the data has been extracted from the Hotel Occupancy Survey, Apartments Occupancy Survey, Tourist houses data and from the continuous census. With this information, it has been possible to develop data for accommodation capacity (including hotels and apartments), demand (in terms of tourists staying one or more nights), the Tourism Function Index (accommodation capacity/population), the Tourism Penetration Index (tourists/population) and the percentage of tourist houses.

Once all the data is collected, ordinals values are assigned, from the lowest to the highest, to the cities for each of the parameters and an Overtourism index is developed. Finally, the case of Teruel is analyzed since the data revealed some unexpected information.

2. Methodology

The purpose of this study is to prove or disprove if it really exists a situation of Overtourism that is causing a deterioration in the Spanish cities. The Spanish cities have been chosen following the classification of Enterat (2022), selecting the cities who had, in 2019, 962.974 tourists or more. Some of the cities did not accomplish this requisite, but they have chosen to have representation of other autonomous communities.

The data collected for the analysis goes from 2012 to 2019. This range of years has been selected given that they are the most significant to describe the actual situation, avoiding unusual situations. After 2019, Covid appears, and the data is not representative. "The term Overtourism was first used on Twitter as #overtourism back in August 2012" (Dhiraj, A. & Kumar, S., 2021). Moreover, it was in 2013 when the term Overtourism became popular with the publication of Elizabeth Becker's book "Overbooked: The Exploding Business of Travel and Tourism" (Cañada, 2018). In some cases, it is only used the data from 2019 and in others the change between these years.

Different sources have been used to obtain the data needed: the Instituto Nacional de Estadística (INE) for the accommodation capacity, number of tourists, population and percentage of tourist houses out of the total; the company Idealista for housing prices; different local newspapers, to exemplify and prove if the results from the data are reflected in what is happening in the cities; webpages of councils are also used to prove examples of the regulations applied, as well as other papers published.

Five variables are analyzed: housing price, percentage of tourism houses, accommodation capacity, Tourism Function Ratio (TFR), demand and Tourism Penetration Index (TPI). However, the total number of parameters are nine: the housing price values for 2019 and the change between 2012 and 2019; the percentage of tourism houses in 2020; the accommodation capacity change between 2012 and 2019; the TFI value in 2019 and change between 2012 and 2019; the change in demand between 2012 and 2019; and the TPI value in 2019 and the change between 2012 and 2019.

As mentioned above, all the information collected belongs to the period 2012 and 2019. Regarding the population data, it has been collected from the continuous census on 1st of January from 2012 and 1st of January 2019; for the demand, the number of tourists in hotels and apartments, staying one or more nights, in each city during the month of august 2012 and 2019; for the housing prices, data from January of 2012 and December of 2019 has been used, corresponding to renting houses and apartments. The housing prices are analyzed due to the enormous increase of Airbnb, which affects the prices.

Finally, for the percentage of tourist houses, the value of 2020 is used. According to the INE (n.d.),

> "To obtain the information, we used web scraping, which through software programs extracts the data from the three most used tourist accommodation platforms in Spain. Regarding the accommodations extracted, the tourist dwellings are first selected in accordance with the regulations on this matter of each autonomous community, and then, those dwellings present on more than one platform are eliminated by means of an algorithm that eliminates duplicates".

To calculate the Tourism Function Ratio (TFR), the formula used is the one proposed by Pérez-Dacal et al. (2014), which is the accommodation capacity of an area in relation to the number of inhabitants (Pérez-Dacal et al., 2014). The data used is from August 2012 and 2019 for tourist beds (accommodation capacity) and the population the 1st of January of both years.

$$TFR = \frac{Accommodation\ capacity}{Resident\ population}$$

For the Tourism Penetration Index (TPI), the formula proposed by Pérez-Dacal et al. (2014) is also used, which analyzes the demand (tourists) divided by the population.

$$TPI = \frac{Tourists\ (demand)}{Resident\ population}$$

Once all the data is calculated, an "Overtourism index" is created. First, positional values are assigned to every city for every parameter (first position for the lowest value and last position to the highest value). Then, all the positional values for each city are summed up. There are 24 cities (N=24) and with the Huntsberger formula the calculation of the number of groups will be:

$$1 + 3{,}3 \cdot log_{10}(24) = 5{,}554$$

Rounding up, there will be 6 groups of cities. The range is calculated through the method of equal intervals:

$$Highest\ index\ value - lowest\ index\ value = 181 - 47 = 134$$

Next, the groups width is calculated:

$$\frac{range}{N} = \frac{134}{24} = 24{,}12$$

Finally, the six groups are determined:

Group	Frequency	Lower limit	Upper limit
G1	3	47	71
G2	7	71	95
G3	4	95	119
G4	4	119	143
G5	2	143	168
G6	4	168	192

Table 1. Groups according to the equal intervals and Huntsberger formula. Source: own elaboration.

3. Tourism

Tourism is a complex concept that involves many agents around the world. According to the UNWTO glossary of terms (2008),

> Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors and tourism has to do with their activities, some of which involve tourism expenditure (UNWTO, 2008).

Tourism is usually described as a phenomenon related to movement of people. However, it is not just about people moving from one place to another. Tourism is an economic activity, given that people moving away from their place of residence usually involves some expenditure (Aziri & Nedelea, 2013). Furthermore, tourism is one of the most important activities impacting the economic growth and development of societies (Aziri & Nedelea, 2013).

For tourism to exist, a space for people who come from abroad to stay, conveyance, activities to do and places to visit must be created. To accomplish this, the most important asset is infrastructure. If good infrastructure exists, the country will likely become more competitive, and this will attract more customers (Aziri & Nedelea, 2013).

4. Overtourism: state of the issue

During the last years, especially after the economic crisis of 2008, tourism has increased considerably in view of the fact that it was seen as an important driver for economic recovery and growth (Russo, A.P., & Scarnato, A., 2018). This growth goes along with an increase in infrastructures and facilities, coinciding as well with the increase of online accommodation services (Koens, K., Postma, A.,

& Papp, B., 2018). All these developments have led to tourists joining everyday life of residents and, consequently, protest have raised in several destinations, such as Venice or Barcelona. It is in this context, where Overtourism appears. It relates to excess of tourists; however, it must not be confused with mass tourism. According to Norbert Vanhove (1997) mass tourism implies a large quantity of people in tourism and with a standardized, rigid, and inflexible holiday package (Vanhove, N., 1997).

The fact that a destination receives large quantities of tourists, does not mean we can talk about Overtourism, given that some destinations can cope with large number of tourists (Koens et al., 2018). In this regard, according to Koens et al. (2018) talking about Overtourism means "talking about tourism encounters, environmental changes and infringements on people's lives" (Koens et al., 2018).

Seraphin, H., (2019) defined Overtourism as "the excessive growth of visitors leading to overcrowding in areas where residents suffer the consequences of temporary and seasonal tourism peaks, which have caused permanent changes to their lifestyles, denied access to amenities and damaged their general well-being" (Seraphin, H., 2019).

According to the European Parliament (2018), Overtourism can be defined as "the situation in which the impact of tourism, at certain times and in certain locations, exceeds physical, ecological, social, economic, psychological, and/or political capacity thresholds" (Peeters, P., Gössling, S., Klijs, J., Milano, C., Novelli, M., Dijkmans, C., Eijgelaar, E., Hartman, S., Heslinga, J., Isaac, R., Mitas, O., Moretti, S., Nawijn, J., Papp, B. & Postma, A., 2018).

It is thought that Overtourism appeared recently and affects a whole destination, nevertheless it usually affects a certain part of the destination, a specific period or during certain events (Koens et al., 2018). Moreover, this phenomenon is not only observed in cities, but also in rural areas or even islands, such as Mallorca (Blazquez M., Cladera M., & Sard M., 2021).

As mentioned above, Overtourism can be caused by the increase of facilities, tourists visiting a destination causing an overuse of resources. Accordingly, we cannot speak of Overtourism as a tourism-only problem (Koens et al., 2018), but as a whole society problem, including all stakeholders and residents.

Depending on the destination, Overtourism will manifest in several ways and hence, one solution may not be suitable for different destinations. It will be necessary to analyze the specific context of the destination and design particular solutions.

Overtourism has three big approaches to be faced. The first one, defended by the UNWTO supports to continue growing, just managing this growth. According to the UNWTO (2022), it reflects challenges of managing growing tourism flows into urban destinations and the impact of tourism on cities and its residents. "Tourism will only be sustainable if developed and managed considering both visitors and local communities" (UNWTO, 2022). Some solutions proposed by UNWTO (2022) are community engagement, congestion management, reduction of seasonality, careful planning respecting the capacity limits and product diversification.

As claimed by the European Commission (2007), the main principles to mitigate Overtourism are: taking a holistic and integrated approach; long-term planning; achieving an appropriate rhythm of development; involving all stakeholders; minimizing and managing risk; using the best and latest available knowledge; user and polluter pay principles; respect limits of carrying capacity; and undertaking continuous monitoring (European Commission, 2007).

According to this approach, Overtourism is not a problem, but is a matter of redistribution. Claudio Milano (2018) proposes the 5D strategy: deseasonalization, decongestion, decentralization, diversification, and deluxe tourism.

The second approach raises due to the social unrest and defends the intervention of the government and restriction of several aspects, such as the housing prices or the supply of Airbnb.

Finally, the last approach is related to social movements. “Excessive tourist pressure in some European cities has legitimized the entry of tourism on the agenda of social movements, producing what we could call a touristification of social movement” (Milano, C., 2018). Tourism has now become part of the social movements’ agenda and they start claiming tourism degrowth policies and urban policies that promote the right to the city. This implies thinking of a city for the local people and not a city-commodity aimed at tourists.

Another important element in the raise of Overtourism are online platforms for accommodation, such as Airbnb. The expansion of Airbnb currently extends to a large part of the cities all around the globe (Martínez-Caldentey, M. A., Murray-Mas, I., & Blázquez-Salom, M., 2020). Nevertheless, “it is in the cities of the European continent where Airbnb has the largest volume of accommodation offered” (Crommelin et al., 2018; Gurran, 2017). In the case of Spain, is in Barcelona and Madrid where the greatest activity of Airbnb is concentrated (Martínez-Caldentey, M. et al., 2020). In Madrid, for example, there are a total of 22,909 tourist housing offered only on Airbnb (Martínez-Caldentey, M. et al., 2020). Moreover, as seen on Image 1, almost all the offered houses are in the city center. This will be a very important detail on the analysis. This enormous increase in 8 years, is a reason to study this phenomenon as a possible consequence of the increase in the housing prices and, therefore, a possible cause of Overtourism.

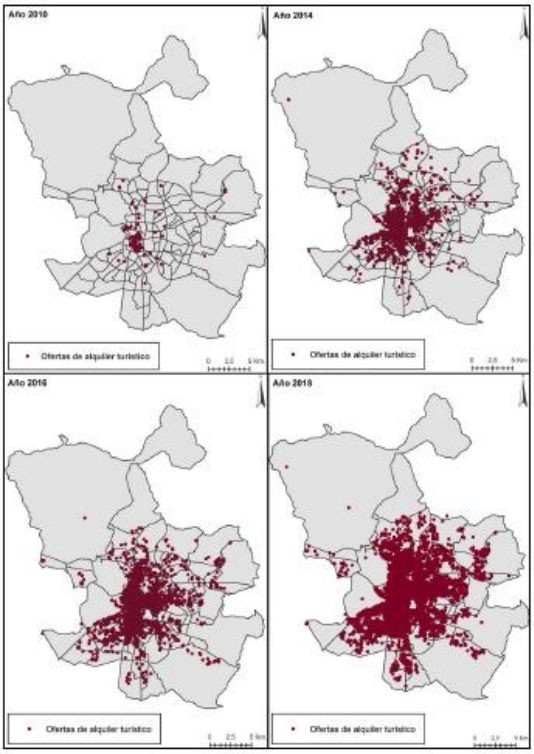

Image 1 - Map on the tourist rentals offered on Airbnb in the city of Madrid, 2010, 2014, 2016 and 2018. Source: Martínez-Caldentey, M. et al., 2020.

5. Background

For tourism to be attractive and feasible, infrastructure is needed. As stated by Popesku, J., & Pavlovic, D., (2013), it can be distinguished between infrastructure and suprastructure. Infrastructure includes everything a destination needs to be operative; this goes from roads, airports and railways to hospitals. On the other hand, suprastructure includes everything that it is specially created and constructed for tourism activities. For example, accommodation facilities such as hotels and campsites. (Popesku, J., & Pavlovic, D., 2013). Knowing this, it could be justifiable that the better and, sometimes, more infrastructure will make a destination more competitive.

“Tourism has been a major growth industry globally for over five decades. Factors underpinning this growth include the growth of incomes and wealth, improvements in transport, changing lifestyles and consumer values, increased leisure time, international openness, and globalization, …” (Matias et al., 2007 cited by Ilić, J., 2016).

5.1. Evolution

As mentioned above, tourism has suffered a large increase during the last decade causing, among others, the discontent of local population in many destinations. The development of unsustainable mass tourism practices has generated in the literature world a change. Whether many scholars have kept their interest on classical terms, other have started using new concepts such as Overtourism or Tourismphobia (Milano et al., 2019). In fact, as mentioned above, the term Overtourism was firstly mentioned in the social media, Twitter, in August 2012 (Dhiraj, A. & Kumar, S., 2021).

Saarinen (2006, pp. 1121) claims that in order to face the rapidly growing tourism economies, governmental and inter-governmental policies and regulations will be needed. This corresponds to the second approach mentioned above to face Overtourism (See “Overtourism: a state of issue”).

The term Tourismphobia emerged in some Spanish tourism centers, including Barcelona and Palma de Mallorca. According to Milano (2017a) it has been “imprecisely and exploitatively adopted by Spanish mass media, used to describe the emergence of social discontent with the pressures linked to tourism growth” (Milano, 2017a).

Although an increasing number of studies on “Overtourism” and “tourism overcrowding” in destinations have been published, coming to terms with Overtourism remains a work in progress (Milano et al., 2019).

Tourism Area Life Cycle, Carrying Capacity and Doxey’s Irritation Index are some concepts that will help to determine the concept of Overtourism.

5.2. Tourism area life cycle

The tourism area life cycle (TALC) is a concept which was introduced by Butler in 1980 to outline the evolution of a tourist area, describing all the stages it goes through since it is discovered (see Image 2).

The exploration stage is characterized by a low number of visitors attracted mainly because of natural physical features. Moving on to the involvement stage, it starts to be interaction between the tourists and the local community. (Bojanic D., 2005).

During the development stage, the number of tourists grows exponentially as well as the development of tourist facilities (Bojanic D., 2005). In occasions, during peak seasons, the number of tourists exceed the residents, and non-acceptance feeling for tourists may appear. (Bojanic D., 2005).

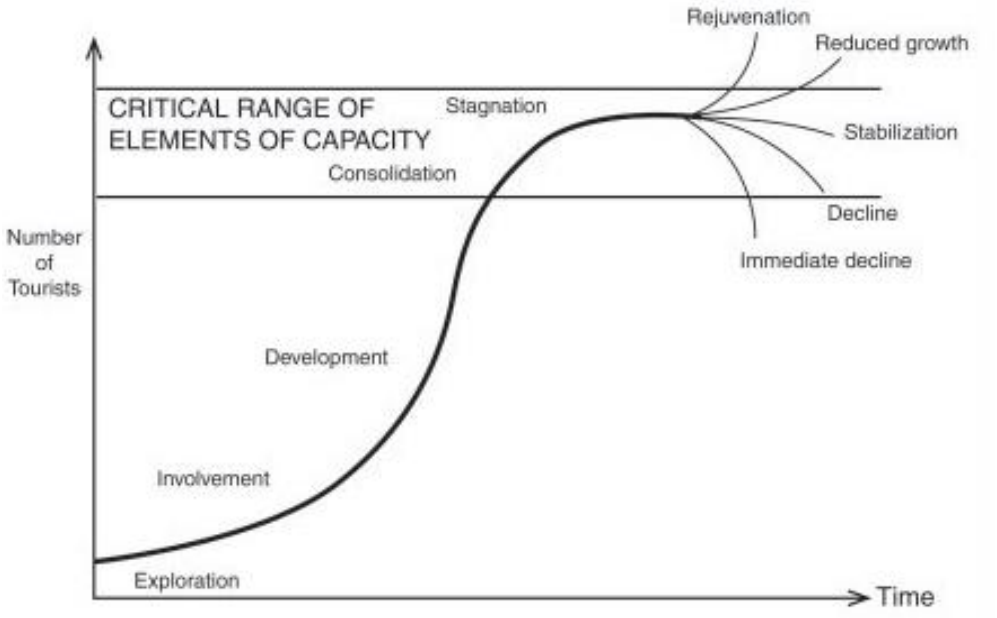

Image 2 – Tourism Area Life cycle – Source: Butler, R. W. (1980)

Once the arrival of tourists stabilizes, the destination enters in the consolidation stage, where tourism is an important component of the local economy. Some facilities become obsolete, and the main goal is to extend tourist season. This points the way to the stagnation stage, where peak levels of tourists are reached. The destination is no longer popular and eventually it reaches the post-stagnation stage. The options are now to rejuvenate, continue with a reduced growth, stabilize, decline, or immediately decline. The result will depend on "the destination's ability to position itself and find a viable market". (Butler, R.W., 1980).

This concept will help to determine if an area is suffering from Overtourism given that depending on the life cycle stage that area is in, the physical, socio-cultural and economic environments will be more or less depreciated, and the relationship locals-tourists will be different.

5.3. Carrying capacity

Carrying capacity was firstly introduced in the 80's and according to the WTO is "the maximum number of people that may visit a tourist destination at the same time, without causing destruction of the physical, economic, socio-cultural environment and an unacceptable decrease in the quality of visitors' satisfaction". (UNEP/MAP/PAP, 1997).

According to the Dictionary of Human Geography (2009), carrying capacity can be defined as:

> "A concept […] that commonly refers to the maximum number of a given species that a given environment can support indefinitely. Developed with respect to animal populations that grow quickly and then crash precipitously when they exceed their environment's carrying capacity, […] (e.g., […] the maximum human population that the Earth can support). Such applications frequently neglect more relevant questions regarding the complex social dynamics of resource use, issues of distributive justice and technological change." (Gregory, D., Johnston, R., Pratt, G., Watts, M., & Whatmore, S., Dictionary of Human Geography, 2009, pp.65).

Pearce (1989) suggested three types of carrying capacity: environmental, physical, and perceptual or psychological. All of them refering to negative impacts from tourism activity (cited by Coccossis & Mexa 2002).

Carrying capacity is important in our study since in tourism planning it is the maximum acceptable level of tourist development in an area (Gold, 1980 cited by Coccossis & Mexa 2002) and knowing this will be useful to determine if that level is being exceed and, therefore, there are signs of Overtourism.

5.4. Doxey's irritation index

Doxey's irritation index (1975) analyzes the attitude of a destination's residents towards tourists and the tourism activity. The different phases identified are consequence of the social, environmental, and economic impacts. (Pavlić I., & Portolan A., 2015).

He stated four stages, starting with a feeling of euphoria for the arrival of tourists (see image 3). In this phase, the number of tourists is low and local community

welcomes tourists and the potential benefits of tourism activity. There is little planning. In the apathy stage, the number of tourists increases, and the tourist-local resident relationship becomes formal. In the irritation stage, the number of tourists reaches the peak (see "Carrying Capacity"), and it is not expected to stop growing. At this point, residents are concerned about the possible negative consequences of tourism, such as the rise in prices or increasing competition for resources. Finally, there comes a point where local people blame tourists for the negative consequences and the relationship between them becomes hostile. (Reisinger, PhD, Y., & Dimanche, F., 2012).

Finally, the Doxey's Irritation Index, will help in our analysis to contextualize the situation of Overtourism an area is coping with. At the beginning, locals will be more tolerant and progressively they become reticent to the arrival of big amounts of tourists.

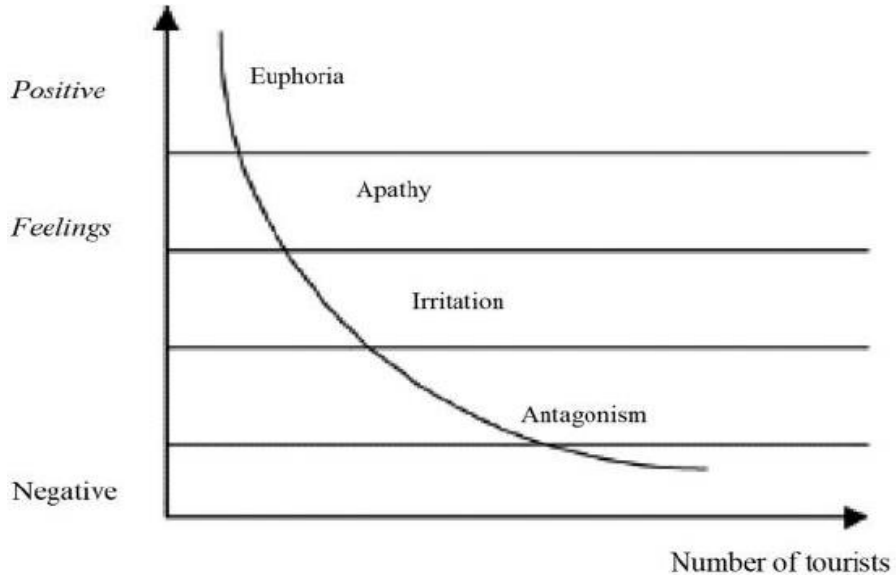

Image 3 – Doxey's Irritation Index – Source: Doxey, G. (1975)

6. Analysis

To develop the analysis of Overtourism, there have been determined five variables to analyze in several cities of Spain. The cities selected are: A Coruña, Oviedo, Santander, Bilbao, León, Valladolid, Burgos, Barcelona, Valencia, Alicante, Palma, Málaga, Granada, Cádiz, Sevilla, Madrid, Murcia, Logroño, Pamplona, Cáceres, Toledo, Tenerife, Zaragoza and Teruel. These cities have been chosen according to the ranking of the most visited cities in 2019 (see "Methodology").

6.1. Tourism-Demand analysis

To analyze the demand side, there have been selected the tourists staying in hotels and apartments for more than one night in the cites analyzed each month of the year 2012 and 2019. It has been distinguished between resident and non-resident tourists (see "annex: tables 9-18").

The cities with more tourists in 2012 were Madrid, Barcelona, Sevilla, Palma, Granada, and Valencia (see "annex: table 19"). In 2019, those cities are still

among the most visited; however, other cities become popular and receive a higher number of tourists. Those cities are Málaga, Zaragoza, Bilbao, and Alicante. Even so the two cities with more tourists are Madrid and Barcelona. It is important to mention that Madrid and Barcelona are two of the biggest cities in Spain, with the highest numbers in terms of population and of accommodation capacity. Therefore, this allows them to receive higher number of tourists.

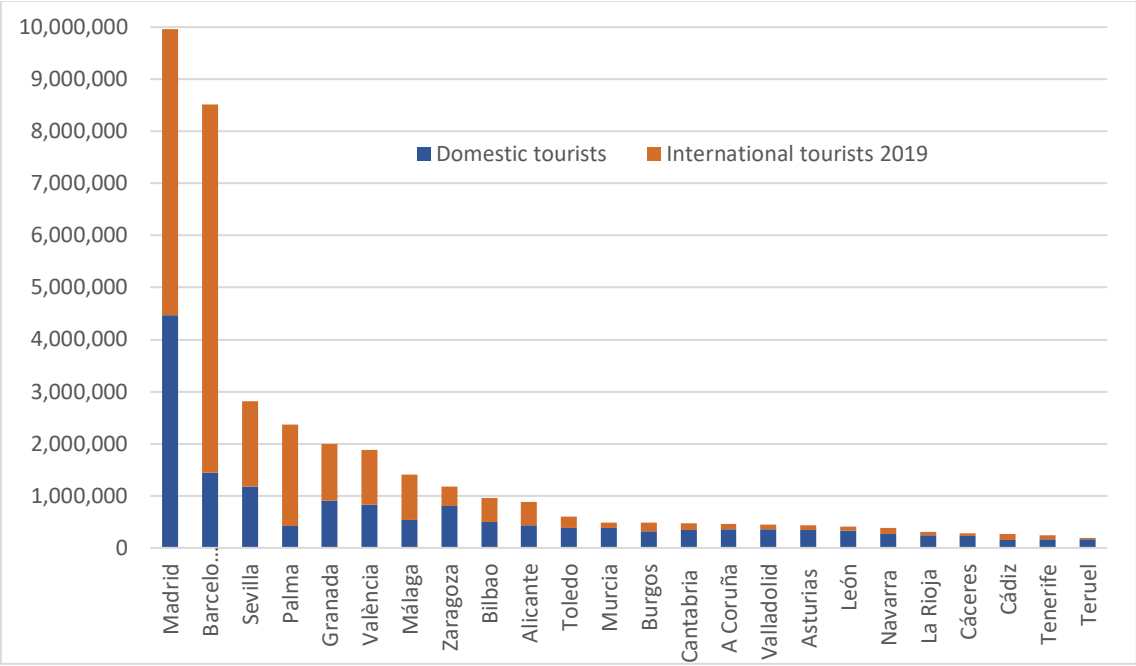

Figure 1. Tourist demand in cities differentiating domestic and international tourists, 2019. Source: own elaboration from the INE data.

Analyzing the change in the number of tourists between 2012 and 2019, Teruel is the city with a highest change (68,14%) and notwithstanding has the lowest values in terms of tourists.

Related to the Tourism Area Life Cycle, we could determine that during this gap of seven years, “big cities” such as Barcelona, Palma, Valencia, or Madrid are more consolidated destinations and do not suffer such a big increase in the number of tourists – the increase is lower than 40% (see figure 2). In those the cities, the tourist sector represents an important fraction of their economy, and the main goal is to extend the tourism season, rather than increase the number of tourists.

On the other hand, Teruel has clearly gone through a development phase, characterized by a growth in the number of tourists exponentially (116,922 in 2012 to 196,594 in 2019) and in 2019 the number of tourists exceed local people (196,594 tourists > 134,137 residents). This excess can be seen on the Tourism Penetration Index (see figure 3), which in the case of Teruel is above 1 (1.46 tourist/inhabitant). The case of Teruel will be later analyzed (see “Teruel”).

Zaragoza is the second city with a highest change in the number of tourists (see figure 2) and that increase is even higher than in Teruel (772,795 tourists in 2012 and 1,176,983 in 2019). However, in the case of Valladolid for example, in 2019 the number of tourists does not exceed the number of residents. So, we could

say Valladolid is still in the involvement stage, moving through the development stage.

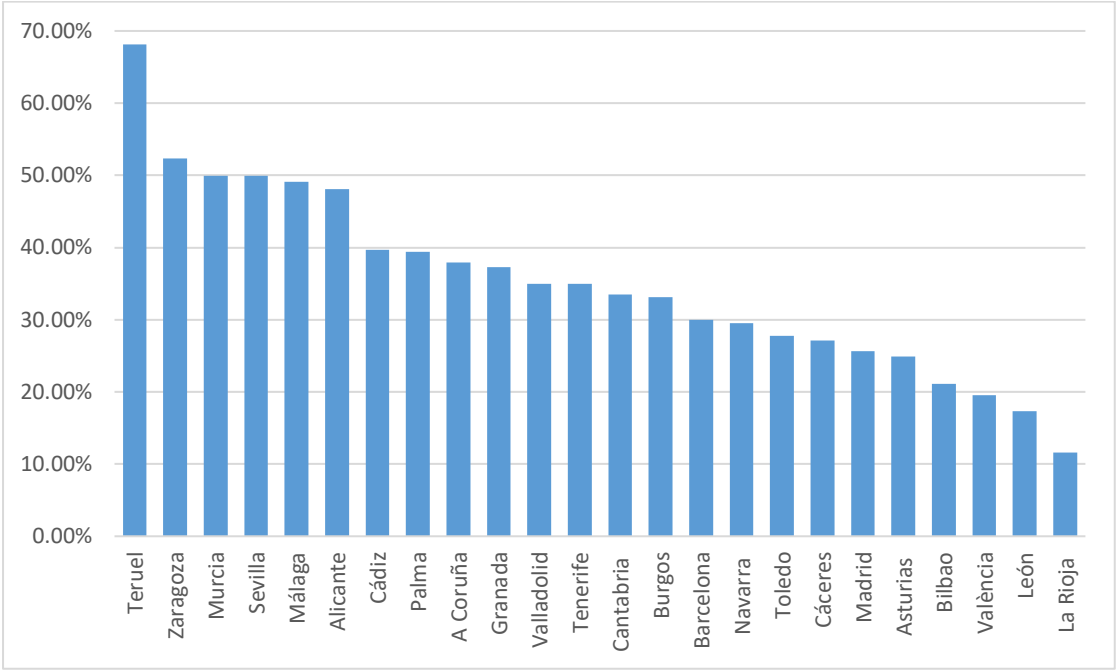

Figure 2. Demand change between 2012 and 2019 (in percentage). Source: own elaboration from the data from the INE.

6.1.1. Tourism Penetration Index

Having the demand data, the calculation of the Tourism Penetration Index is developed (see figure 3). The highest values of the index in 2019 are in Palma, Bilbao, Granada, and Tenerife and the lowest in Cádiz, Murcia, and A Coruña. Palma has the highest value because despite not having the highest number of tourists (see figure 1), they have a lower population, and this makes this ratio higher. In the case of Bilbao, Granada, and Tenerife there is also a big difference between both values, even though not as high as in Palma.

It is interesting to highlight that Madrid, despite being the city with more accommodation capacity and tourists, does not have such a high TPR. This is due to the fact that the population is also very high, and the effect is diluted.

When analyzing the changes in the rate between 2012 and 2019, Teruel, Alicante and Murcia suffer the highest change (see annex table 8). This big increases, in the case of Granada and Bilbao, are due to the huge increase in tourists compared to the small increase in population. In the case of Teruel, the increase is enormous (80.16%) because the increase in tourists is considerable high and moreover, there is a decrease in its population.

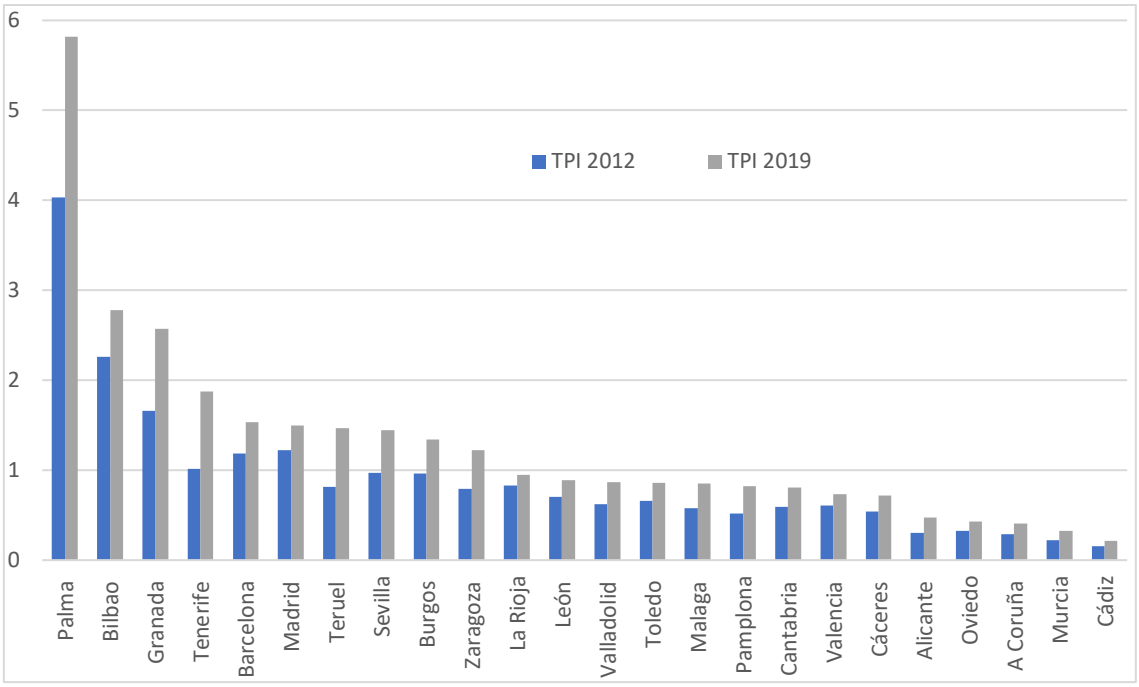

Figure 3. Tourist Penetration Index (tourists/inhabitant), 2012-2019. Source: own elaboration from INE data.

6.2. Tourism-supply Analysis (tourism accommodation)

Analyzing the supply, it has been collected data from hotels and touristic apartments (see "Methodology"). Here, there are some cases of degrowth. In León, Zaragoza, Toledo and Asturias, the number of tourist accommodation capacity decreases comparing August 2012 and August 2019. This can happen because of some regulation imposed by the government that requires to reduce the places or due to "natural" circumstances (there was no need/demand for that number of places). On the other hand, Málaga increased its tourist beds in more than 50% and Alicante and Sevilla have also a high increase.

It is interesting to highlight that big cities such as Palma, Barcelona, Madrid, or Valencia have not had such a big increase. This can be explained since governments have been working to maintain the number of accommodation beds with different regulations on each city. However, despite not having a big increase, they already had high values in 2012.

In the 6th march of 2017, the *"Plan Especial Urbanístico de Alojamientos Turísticos (PEUAT)"* was approved in Barcelona, which establishes the guidelines for the touristic apartments, as well as for hotels, youth hostels and collective residences for temporary accommodation. The main objective is "to reconcile the interests of the owners and managers of tourist accommodation and those of the citizens in order to achieve a balanced urban model" (Checkin, 2018). Barcelona has been divided in four zones depending on the tourism intensity and in each zones different operations are allowed.

Before the approval of the PEUAT, there was little regulation in this area, and it was possible to open any tourism accommodation throughout the city. In 2015, the city council announced a temporary suspension of accommodation licenses. And, in 2017 the plan was approved. Zone 1, area of degrowth, is the area of

most tourism concentration (50% tourism accommodation) and it is not allowed the creation neither enlargement of any accommodation. Even if an establishment closes, any other cannot be open. In the area 2, the maintenance area, it is not allowed to increase the number of establishments. However, if an establishment closes, another one can be opened with the same capacity. The area 3, area of content growth, is located far from the touristic areas. In this area it is allowed to increase the capacity and to open new establishments as long as the maximum density of places established for each area is not exceeded. Finally, area 4, development area, is where specific locations are classified that need to follow specific capacities regulations (Ajuntament de Barcelona, 2017).

This is the case of Barcelona; however other cities such as Valencia, Madrid or Palma are also starting to regulate the accommodation capacity. In 2017, Valencia suspended the granting of licenses for tourist accommodation in the old town, also temporarily, until the approval of the "*Plan Especial de Protección de la Ciutat Vella*". The same happened in Madrid (Mapt, 2017).

Although, during the years analyzed, Palma does not change the regulation, the government has recently published a law limiting this capacity. Among many measures such as reducing energy and water, improving working conditions, waste management, modernized establishments, and the progressive elimination of fossil fuels in the establishments, this decree law limits the growth of accommodation places. (EFE, 2022 – see "Annex: news").

6.2.1. Tourism Function Ratio

Analyzing the Tourism Function Ratio of 2019 (figure 4), the highest ratio is for Palma, followed by Bilbao and Granada. This high ratio is due to the high values in accommodation capacity. Nevertheless, the highest values are for Palma, which have a very high number of tourist beds compared to the population (50,138/407,648 – see "annex: table 7"). Moreover, it is also important to highlight that Palma not only has tourism accommodation in the city, but one of the most important Spanish tourist coastal resorts belongs to the municipality: i.e., Playa de Palma. After Madrid, Palma is the second city with more accommodation capacity, however in terms of population is beyond most of the other cities analyzed. That is the reason why the TFR is so high.

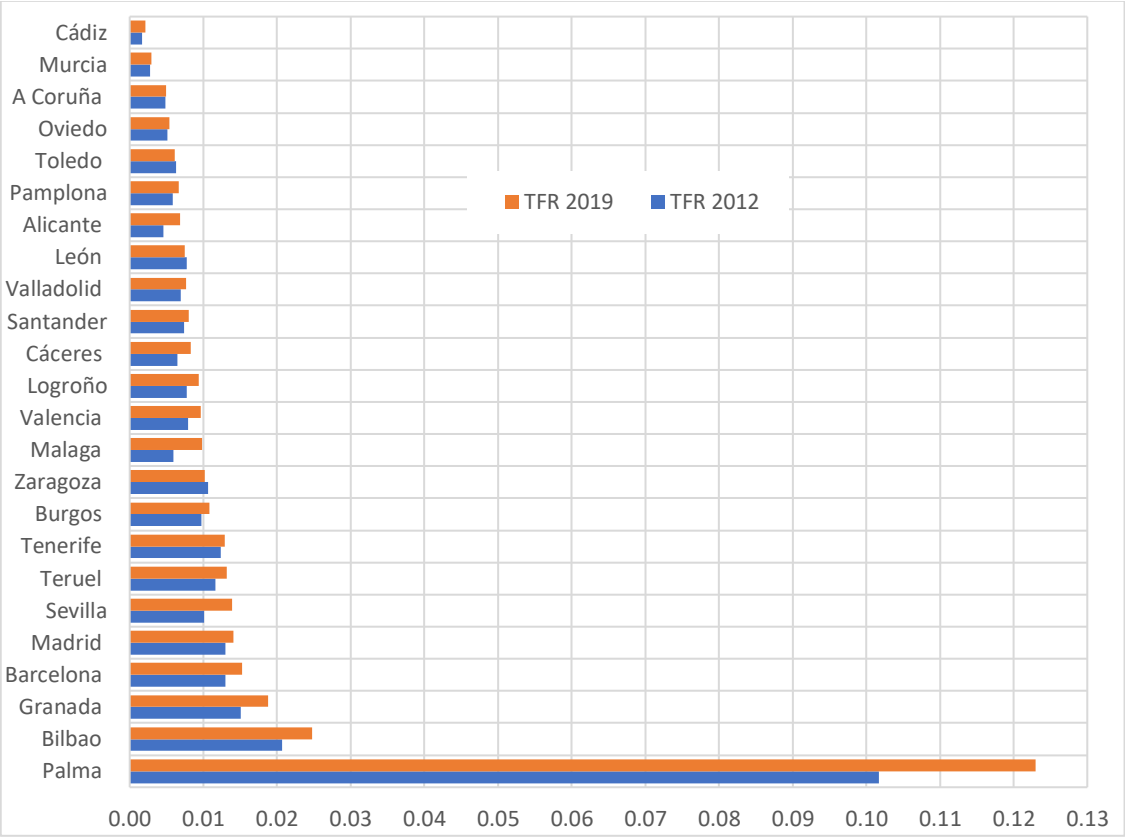

Figure 4. Comparison of the Tourist Function Ratio (tourist beds/inhabitant), 2012-2019. Source: own elaboration from the INE data.

When analyzing the change of the ratio between 2012 and 2019, the highest increase is for Málaga (66.4%), followed by Alicante (49.21%) and Sevilla (37.28%); while Zaragoza and León suffer a decrease. In the TFR change analysis, Málaga and Alicante are the ones suffering a higher change due to the high increase of supply accommodation. On the other hand, Zaragoza and León suffer a decrease due to the reduction in accommodation places and population.

6.3. The impact of tourist houses

In this section, the percentage of tourist homes out of the total homes of each city is analyzed. All the data has been extracted from the INE (2020) (see “Methodology”).

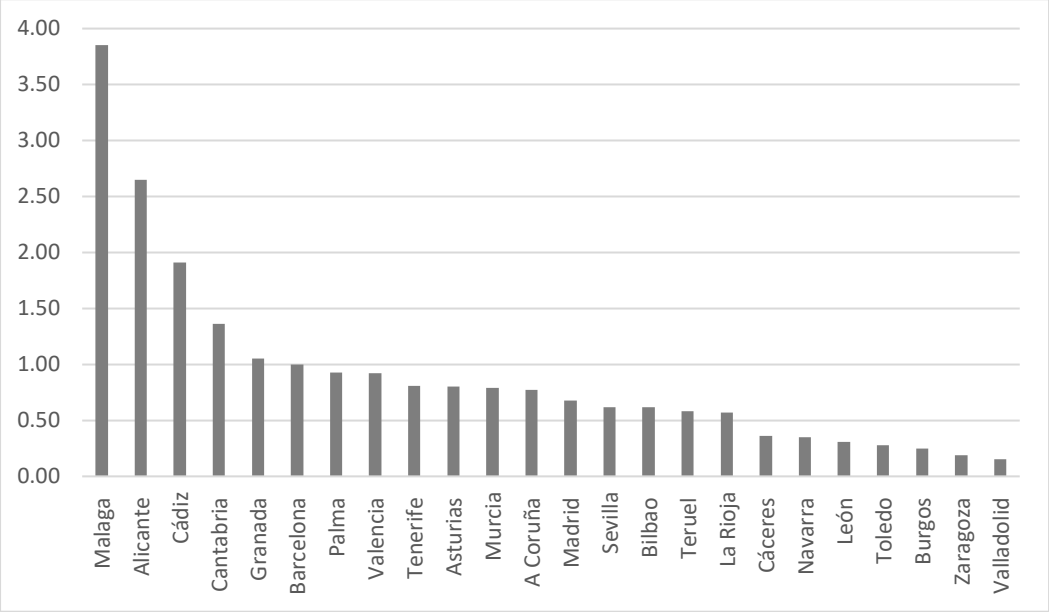

Figure 5. Percentage of tourist houses in relation to total homes, 2020. Source: Own elaboration from the INE data.

According to this indicator (see figure 5), the cities with a highest proportion are Málaga (3.85%), Alicante (2.65%) and Cádiz (1.91%). Málaga is the highest one and with a quite far ratio from the next one. Therefore, we can conclude that Málaga is the city that dedicates more of its homes for tourism purposes.

On the map from Spain (see image 4), we can see the cities with more percentage in red and the cities with less percentage in white.

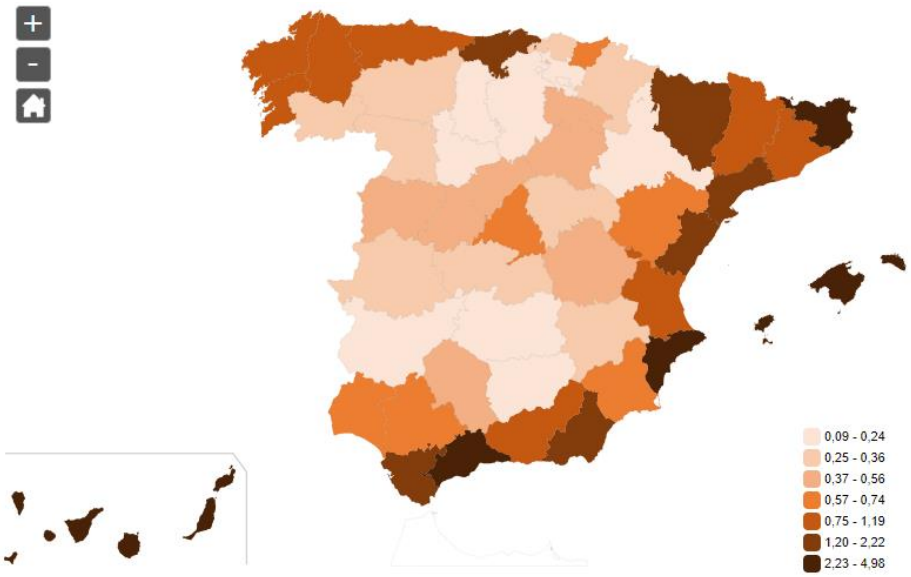

Image 4. Percentage of tourist houses in the Spanish provinces. Source: INE

On the other hand, when combining the information of the proportion of tourism homes and housing prices, it can be concluded that dedicating the most homes for tourism purposes, does not mean having neither the highest prices nor the higher increase in prices since the cities with a higher increase in prices are different from the ones with a higher percentage in this section. This can be proved through the calculation of the coefficient of determination, also known as r-squared, which is quite low, R2= 0,017 (see figure 6). The r-squared is a "statistical measure representing the proportion of the variance for a dependent variable that is explained by one or more independent variables in a regression model" (Data Science, 2020). R-squared explains "the extent to which the variance of one variable explains the variance of another variable" (Data Science, 2020). So, if R2 is 0,017 means that only 1,7% of the housing prices are explained by the tourist homes dedicated for tourism.

Conversely, the cities with the lowest ratio are Valladolid, Zaragoza, and Burgos (see figure 5). Again, cities with less density of population and international tourists (see "annex: tables 9-18"). They receive more national tourists than international.

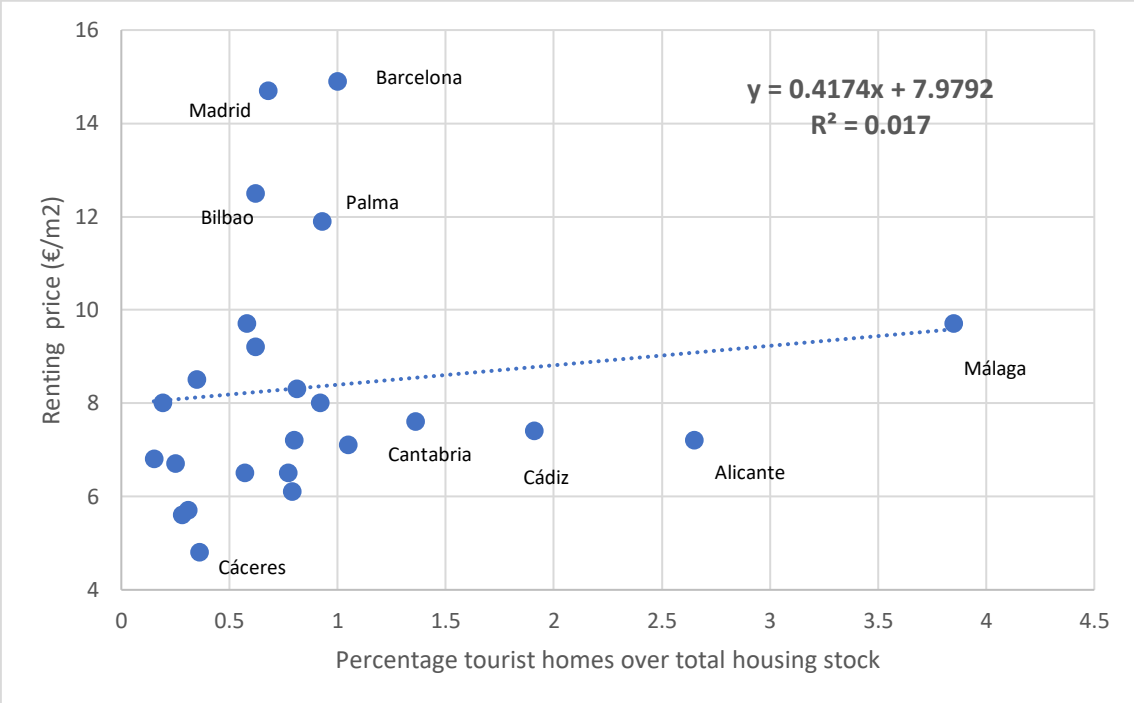

Figure 6. Correlation between Renting Price (2019) and percentage of tourist homes over total housing stock (2020). Source: own elaboration from the INE data.

6.4. Renting Housing Price

The data for renting housing prices has been extracted from the Idealista's website about prices for renting apartments in January 2012 and January 2019 (expressed in euros per square meters). Then, it has been calculated the change in percentage to see in which touristic points it has increased the most.

The demand data distinguishes between residents and non-residents tourists (see annex tables 9-18). It can be observed that those cities with less international (non-residents) tourists have suffered a lower impact on the price,

that is, the price increase has been lower than in those cities in which the international tourists exceed the national tourists (see figure 1 and 7).

Analyzing this information, it can be seen that the highest increase of price has occurred in Barcelona, followed by Palma, Teruel and Málaga. These are cities that receive many tourists (see "annex: tables 9-18"), especially international tourists and it has a high impact on the prices offered. This situation can explain all the flutter and discontent of the inhabitants of those cities about the excessive prices to rent a house to live in. The case of Teruel reveals unexpected results, given that Teruel does not receive many international tourists and still has suffered one of the highest changes in price. This case will be later analyzed (see "Teruel").

On the other hand, Cáceres, Bilbao, and Asturias are the cities suffering the lowest change in price. Also, cities receiving fewer international tourists (see tables 9-18).

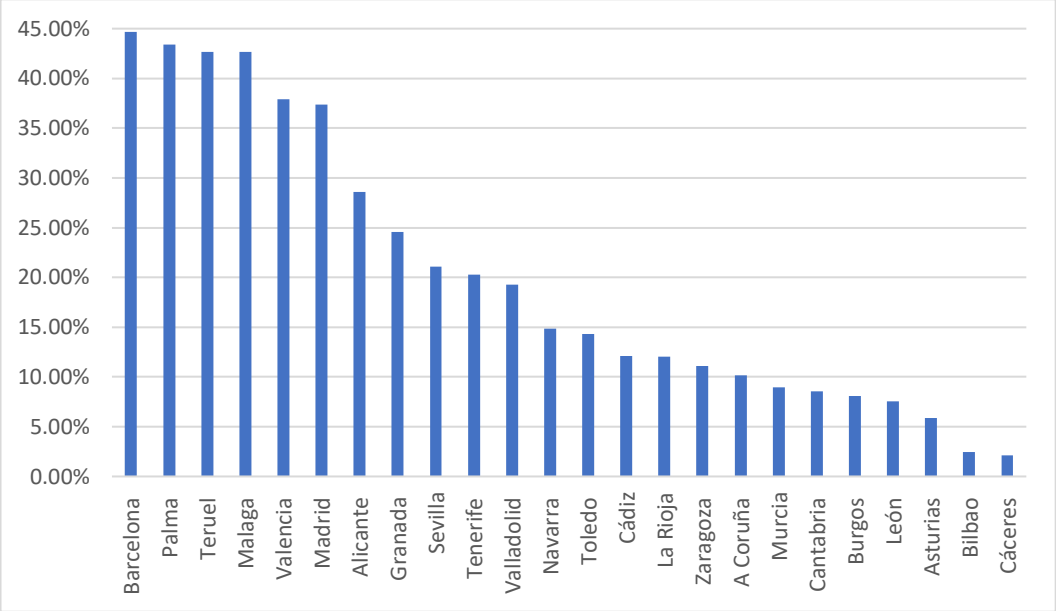

Figure 7. Change in renting price, 2012-2019. Source: own elaboration from Idealista.com

The high prices of renting houses in Palma are a real problem and the government is already working on it (Efe, 2019). It is specially a problem for the residents in Palma trying to rent or buy a house, given that they cannot afford it. Nowadays, the portion of budget allocated to housing is 20% more of the usual percentage. For the government, this is one of the priorities to address (Efe, 2019).

One of the consequences of the high prices is that young people cannot emancipate and live by themselves because they cannot afford paying a house (Efe, 2019). And this situation is no longer only for young people but also for entire families who cannot afford paying a house (Domblás, N., 2019). Besides the high prices, low salaries and unemployment also affect (Crespí, M., 2019). This situation creates tension among the citizens of Palma, and in 2018 some people manifested against the government claiming for a reduction and

regulation in the prices (see “annex: news”). This is a prove of discontent due to the intense tourism activity in the city of Palma.

In the interior of Spain, the prices have not suffered that much (Crespí, M., 2019). What this piece of paper explains has also been proved with our analysis. The most touristic cities, in terms of international tourists, have suffered a higher increase, contrary to those in the interior of Spain and less touristic.

Palma is always taken as one of the most expensive cities, but of course it depends on the areas and neighborhoods (Crespí, M., 2019).

We could say that the locals of Palma are, according to the Doxey’s Irritation Index, in an intermediate point between the irritation and antagonism stage. They start to be concerned about the negative consequences, in this case specially about the increase in prices, and there are chances that the relationship becomes hostile. Many people and families cannot afford to buy or rent a new house due to the increase in prices. This is one of the main characteristics of Overtourism: the locals’ life is altered by tourists.

A new government instrument will be developed, by which each autonomous community will be responsible for deciding whether they want to declare their area a stressed market or not. If they declare their area a stressed market, they will be able to limit and intervene in rental prices (Sedeño, V., 2021).

In Barcelona, the constitutional court has estimated the appeal of unconstitutionality by which the law, permitting the limitation and regulation of housing prices, will be left without effect (Pérez, M., 2022).

On the other hand, the cities with a lowest price increase are Cáceres, Bilbao, Asturias and León. Those cities are not as touristic as the mentioned above, in terms of international tourists, given that they usually receive more national tourists (see “annex: tables 9-18”). In all of them the resident tourists are higher than the non-residents. It is also interesting to highlight that even Cáceres, the city whose price has changed less, increases a 10% (see figure 7). There is no city, from the ones analyzed, that suffers a decrease in the price.

6.5. Integrated Analysis: The Overtourism Index

This section presents the final results synthesized in the table 3. It presents each city ranked ordinarily, where score 1 belongs to the city with the lowest value and score 24 to the city with the highest value. Finally, a synthetic index has been calculated, this is what we have called the Overtourism Index. This index corresponds to the sum of all the ranking’ values of each city in all the variables (see “Methodology”). The results go from the highest scored city, Palma with 178, to the lowest scored, León with 47.

To develop the analysis overview, the cities have been classified in different groups depending on the degree of tourism and Overtourism. To classify the cities, it has been used the methodology of equal interval classification and the Huntsberger formula (see “Methodology”). The groups have also been assigned from the lowest to the highest, each group corresponding to a certain level of tourism (see table 2).

Group	Tourism - Overtourism situation
G1	Little tourism; no Overtourism
G2	Some tourism; no Overtourism
G3	Relevant tourism; no Overtourism
G4	Risk Overtourism
G5	Overtourism
G6	High Overtourism

Table 2. Groups according to the value of the Overtourism index. Source: own elaboration from table 1.

Palma is the first city in the ranking of the Overtourism Index, given that it ranks very high in all the variables (see table 3). Cities in a similar situation are Málaga, Barcelona and Granada. Those cities belong to Group 6, meaning ranking high in Overtourism. Besides the results of the quantitative analysis, the news mentioned above, prove that the tourism activity is affecting negatively to the life of locals, and this is a symptom of Overtourism. Moreover, these cities have been object of attention by academics in papers, such as Blanco-Romero, A., Blázquez-Salom, M., Morell, M., & Fletcher, R., (2019) in the case of Palma; Milano, C., & Mansilla, J.A., (2018) in the case of Barcelona; Salguero-Montaño, O., Sánchez-Cota, A., & Rodríguez-Medela, J., (2019) for the case of Granada; and García, J., & Bakhat, R., (2021) for Málaga. The high score of the Overtourism index helps to confirm the situation of Overtourism that has been analyzed in academic papers, denounced by social movements, and that has been covered by mass media.

The cities in group 5, Sevilla and Alicante, despite not suffering such a big degree in our Overtourism Index, rank also quite high in all the variables. In the case of Sevilla there are many academic publications such as Díaz-Parra, I., (2009) or Díaz-Parra, I., & Jover, J., (2021). However, in the case of Alicante, even with the high rankings, it has not been object of many academic papers published.

Group 4 of the Overtourism Index (see table 3) is made up by Madrid, Teruel, Bilbao, Valencia and Tenerife. Madrid, which is the biggest city in terms of tourists, population, and tourism accommodation capacity, belongs to this group 4, being at risk of Overtourism, but not experiencing it yet. This can be due to the dilution effect (see “TPI analysis”) and the capital effect. By capital effect it is meant that most of the tourism activity is concentrated in the city center, while Madrid is of big dimensions (see Image 1). Therefore, it could be possibly spoken of Overtourism in the city center. This proves that Overtourism does not need to happen in the whole city but can also happen just in concrete areas. About these cities, there are also several academic papers published such as for example Sequera, J. & Gil, J., (2018) in the case of Madrid.

Cities	Renting price 2019	Renting price change	Tourist houses	Tourism supply 2019	Tourism supply change	TFR 2019	Change TFR	TPI 2019	Change TPI	Overtourism Index	Classification
Palma	21	23	18	22	14	24	17	24	15	178	Group 6
Málaga	19	21	24	18	24	14	24	10	16	170	Group 6
Barcelona	24	24	19	23	17	21	14	20	6	168	Group 6
Granada	9	17	20	19	20	22	19	22	20	168	Group 6
Sevilla	18	16	11	21	22	19	22	17	18	164	Group 5
Alicante	10	18	23	17	23	7	23	5	21	147	Group 5
Madrid	23	19	12	24	12	20	8	19	3	140	Group 4
Teruel	20	22	9	1	8	18	12	18	23	131	Group 4
Bilbao	22	2	10	15	16	23	15	23	4	130	Group 4
Valencia	14	20	17	20	18	13	18	7	2	129	Group 4
Tenerife	16	15	16	2	6	17	6	21	24	123	Group 4
Pamplona	17	13	6	10	13	6	13	9	22	109	Group 3
Cádiz	12	11	22	3	21	1	21	1	13	105	Group 3
Santander	13	6	21	12	9	10	9	8	10	98	Group 3
Zaragoza	15	9	2	16	2	15	1	15	19	94	Group 2
Logroño	6	10	8	4	15	12	16	14	1	86	Group 2
Burgos	7	5	3	7	7	16	11	16	12	84	Group 2
Valladolid	8	14	1	8	10	9	10	12	11	83	Group 2
Cáceres	1	1	7	5	19	11	20	6	9	79	Group 2
Murcia	4	7	14	11	11	2	7	2	17	75	Group 2
A Coruña	5	8	13	14	5	3	4	3	14	69	Group 1
Oviedo	11	3	15	13	4	4	5	4	8	67	Group 1
Toledo	2	12	4	9	3	5	3	11	7	56	Group 1
León	3	4	5	6	1	8	2	13	5	47	Group 1

Table 3. Synthesis of the final results. Source: own elaboration.

6.6. Teruel

Teruel does not receive many international tourists (see “annex: tables 9-19”) and does not have a very high accommodation capacity; however, it ranks high in the other variables studied. This places her in group 4 from our classification -risk of Overtourism- (see Table 3).

The citizens of Teruel started in November 1999 a platform and movement called “Teruel existe”. It is a movement aimed to raise conscience about this city claiming its uniqueness. It was firstly initiated to fight against depopulation, “la España vaciada”, which is a phenomenon occurring in several rural cities around Spain, in which young people emigrate to the big cities looking for work opportunities and only older people remains. According to Rodríguez, M.A. (2021) “an area will be considered “empty” when they lose inhabitants between 1950 and 2019 and have a population density lower to the national average”.

On the map below (see image 5), the provinces with more grade of depopulation are showed, from yellow (more depopulation) to dark green (less depopulation) in 2019. Teruel is a province yellow, therefore we can conclude is one of the most depopulated cities in Spain.

The increase in the number of houses dedicated for tourism purposes, has caused an increase in the housing prices (see “annex: table 4”). This poses a difficulty for young people, especially students, to rent houses (Campo, S., 2019).

"The supply of housing in Teruel is limited and given the tourism increase, the owners prefer to get a higher return in less time”. The number of these type of accommodations has tripled in the last two years. The Real Estate Agencies confirm “that most of the apartments, especially those in the center, are reserved for vacation rentals and not for permanent housing” (Campo, S., 2019).

“From Inmonival Teruel they explain that there is much more demand than supply because most of the properties are dedicated to tourist use. Moreover, individuals have increased the price of leases” (Sánchez, R., 2018).

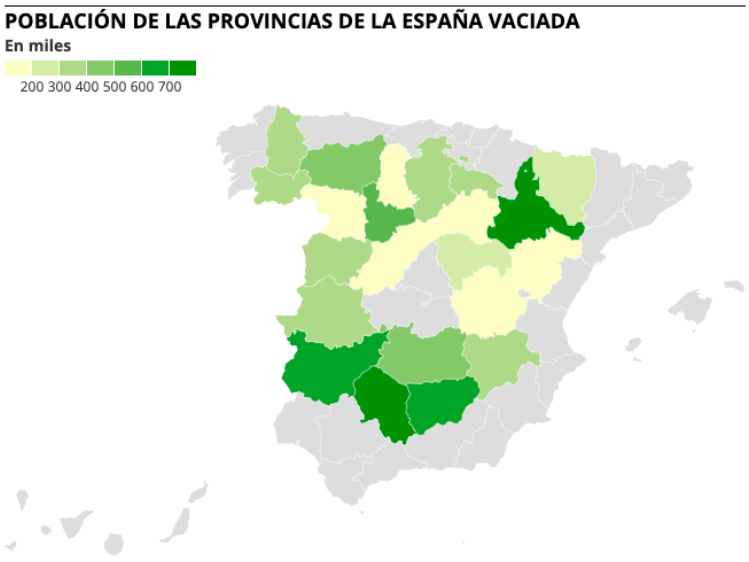

Image 5: Depopulation in Spain – Source: Rodríguez, M.A., 2021

7. Conclusions

Tourism is a phenomenon involving people travelling outside from their usual environment, whether for personal or business purposes. During the last years, tourism has increased up to a point in which it is one of the main activities of the economy. This growth implies an increase in the infrastructures. Locals are affected by this situation, creating in occasions discontent and rejection. This is one of the keys for Overtourism to exist: tourism causing changes in the environment and on locals' lives.

Although the Covid-19 pandemic, slowed and even stopped for a few months the tourism activity, it is already being reactivated. Despite the levels of tourism travelers and tourists are not on levels before the pandemic, Overtourism is a concept that remains on the main debates for tourism.

Carrying Capacity helps in determining how many people can visit a destination without depreciating it. Tourism Area Life Cycle is the concept describing the stages by which a destination goes through since its discovery as a touristic destination until its consolidation. Depending on the stage where the destination is, the relationship between locals and tourists is different. The Doxey's Irritation Index analyzes this relationship between locals and tourists, evaluating the opinion of locals towards tourists.

To carry out an analysis of Overtourism in Spain, different city capitals have been selected and five variables have been developed. The housing prices show that the cities with more tourists, specifically international tourists, have higher prices, such as Madrid, Barcelona, Bilbao and Palma. However, when talking about price change between 2012 and 2019, other cities suffer bigger changes, such as Teruel or Málaga.

The high housing prices in Palma are one of the main concerns among the citizens and the government. In 2018, a hundred of people demonstrated claiming for a reduction in prices, among other measures. Moreover, the government is working to limit and intervene in the prices.

Regarding the percentage of tourist homes, is surprising to see that the most popular cities in term of tourists and high prices, do not dedicate as many houses to the tourism industry. This is also supported by the coefficient of determination, r-squared, which is low.

Those cities with more tourism accommodation capacity in 2012 and 2019 are the ones who received more tourists in that year. This is understandable since the more tourists they receive, the more places they need to have to stay. However, as we have seen, the governments are starting to take a role in this situation and in the main cities they have released laws to regulate this situation.

It is also remarkable the situation of Teruel, who despite suffering depopulation, lately, with the help of the platform "Teruel existe", promoted by its government and citizens, they have managed to stand out in our analysis, and they are suffering consequences of the increase in tourism.

After calculating the Overtourism Index, it can be concluded that Palma, Málaga, Barcelona and Granada are the Spanish cities with high risk of Overtourism. This

can be proved by the locals' reaction to the consequences (observed in the news published) and the several academic papers published. The number of academic papers published related to these cities is much higher than in any other group. Then, with lowest risk, but still with high results in the analysis, are Sevilla and Alicante. The case of Sevilla is also studied by several academics. The cities on group 4 are at risk of Overtourism, according to our Index; however, they are still not experiencing it. Those cities are Madrid, Teruel, Bilbao, Valencia and Tenerife. Despite not having very high values in our analysis, they still have several investigation and academic papers dedicated to them.

On the other hand, the rest three groups do not experience Overtourism. Group 3 suffers from an intense tourism activity, and cities belonging to this group are Santander, Cádiz and Pamplona. Next, with no Overtourism and just some tourism are Zaragoza, Logroño, Burgos, Valladolid, Cáceres and Murcia. And, finally, León, Toledo, Oviedo and A Coruña are the cities which, according to our analysis, have little tourism and have the lowest risk of suffering Overtourism.

The results of this investigation proves that Overtourism cannot be completely quantified; however, an approximate approach has been developed and this has enabled to fulfill our objective: proving that there exists a relationship between the quantitative results and the social impact of Overtourism in the cities analyzed.

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9. Annex

TABLE 4 - Housing Price (€/m^2)

Cities	January 2012	December 2019	Change	Change %
A Coruña	5.9	6.5	0.101694915	10.17%
Alicante	5.6	7.2	0.285714286	28.57%
Oviedo	6.8	7.2	0.058823529	5.88%
Barcelona	10.3	14.9	0.446601942	44.66%
Bilbao	12.2	12.5	0.024590164	2.46%
Burgos	6.2	6.7	0.080645161	8.06%
Cáceres	4.7	4.8	0.021276596	2.13%
Cádiz	6.6	7.4	0.121212121	12.12%
Santander	7	7.6	0.085714286	8.57%
Granada	5.7	7.1	0.245614035	24.56%
La Rioja	5.8	6.5	0.120689655	12.07%
León	5.3	5.7	0.075471698	7.55%
Madrid	10.7	14.7	0.373831776	37.38%
Málaga	6.8	9.7	0.426470588	42.65%
Murcia	5.6	6.1	0.089285714	8.93%
Pamplona	7.4	8.5	0.148648649	14.86%
Palma	8.3	11.9	0.43373494	43.37%
Sevilla	7.6	9.2	0.210526316	21.05%
Tenerife	6.9	8.3	0.202898551	20.29%
Teruel	6.8	9.7	0.426470588	42.65%
Toledo	4.9	5.6	0.142857143	14.29%
Valencia	5.8	8	0.379310345	37.93%
Valladolid	5.7	6.8	0.192982456	19.30%
Zaragoza	7.2	8	0.111111111	11.11%

Source: own elaboration from Idealista.com

TABLE 5 - Tourist houses out of the total

Cities	% in 2020
A Coruña	0.77
Alicante	2.65
Oviedo	0.8
Barcelona	1
Bilbao	0.62
Burgos	0.25
Cáceres	0.36
Cádiz	1.91
Santander	1.36
Granada	1.05
La Rioja	0.57
León	0.31
Madrid	0.68
Málaga	3.85
Murcia	0.79
Pamplona	0.35
Palma	0.93
Sevilla	0.62
Tenerife	0.81
Teruel	0.58
Toledo	0.28
Valencia	0.92
Valladolid	0.15
Zaragoza	0.19

Source: own elaboration from the INE data.

TABLE 6 - Supply – accommodation capacity

Cities	Hotels 2012	Apartments 2012	Total 2012	Hotels 2019	Apartments 2019	Total 2019	Change %
A Coruña	5170	341	5511	5275	250	5525	0.254%
Alicante	8205	757	8962	8317	4469	12786	42.669%
Oviedo	5543		5543	5473		5473	-1.263%
Barcelona	68024	4273	72297	82609	3527	86136	19.142%
Bilbao	7272		7272	8046	544	8590	18.124%
Burgos	3667		3667	3847		3847	4.909%
Cáceres	2570	108	2678	2488	791	3279	22.442%
Cádiz	2086		2086	2690		2690	28.955%
Santander	4361		4361	4644		4644	6.489%
Granada	13062	845	13907	15036	2122	17158	23.377%
La Rioja	2520		2520	2590	370	2960	17.460%
León	3738	74	3812	3428	0	3428	-10.073%
Madrid	77723	7003	84726	83946	10002	93948	10.884%
Málaga	9413	282	9695	11843	4487	16330	68.437%
Murcia	4075		4075	4464		4464	9.546%
Pamplona	3308	448	3756	3391	940	4331	15.309%
Palma	40824	2140	42964	48518	1620	50138	16.698%
Sevilla	17961	1695	19656	22420	4612	27032	37.525%
Tenerife	2554		2554	2678		2678	4.855%
Teruel	1419	249	1668	1765		1765	5.815%
Toledo	4441	56	4497	4259		4259	-5.292%
Valencia	17539	2805	20344	18386	6415	24801	21.908%
Valladolid	3721		3721	3979		3979	6.934%
Zaragoza	9946	490	10436	9767	59	9826	-5.845%

Source: own elaboration from the INE data.

TABLE 7 - Tourist Function Ratio

Cities	Supply 2012	Supply 2019	Population 2012-01	Population 2019-01	TFR 2012	TFR 2019	Change	Change %
A Coruña	5,511	5,525	1,143,911	1,119,596	0.00	0.00	0.02	2.43%
Alicante	8,962	12,786	1,943,910	1,858,683	0.00	0.01	0.49	49.21%
Oviedo	5,543	5,473	1,077,369	1,022,800	0.01	0.01	0.04	4.01%
Barcelona	72,297	86,136	5,552,050	5,645,759	0.01	0.02	0.17	17.16%
Bilbao	7,272	8,590	351,629	346,843	0.02	0.02	0.20	19.75%
Burgos	3,667	3,847	374,970	356,958	0.01	0.01	0.10	10.20%
Cáceres	2,678	3,279	413,597	394,151	0.01	0.01	0.28	28.48%
Cádiz	2,086	2,690	1,245,164	1,240,155	0.00	0.00	0.29	29.48%
Santander	4,361	4,644	593,861	581,078	0.01	0.01	0.09	8.83%
Granada	13,907	17,158	922,928	914,678	0.02	0.02	0.24	24.49%
La Rioja	2,520	2,960	323,609	316,798	0.01	0.01	0.20	19.99%
León	3,812	3,428	494,451	460,001	0.01	0.01	-0.03	-3.34%
Madrid	84,726	93,948	6,498,560	6,663,394	0.01	0.01	0.08	8.14%
Málaga	9,695	16,330	1,641,098	1,661,098	0.01	0.01	0.66	66.41%
Murcia	4,075	4,464	1,474,449	1,493,898	0.00	0.00	0.08	8.12%
Pamplona	3,756	4,331	644,566	654,214	0.01	0.01	0.14	13.61%
Palma	42,964	50,138	422,587	407,648	0.10	0.12	0.21	20.97%
Sevilla	19,656	27,032	1,938,974	1,942,389	0.01	0.01	0.37	37.28%
Tenerife	2,554	2,678	206,965	207,312	0.01	0.01	0.05	4.68%
Teruel	1,668	1,765	143,728	134,137	0.01	0.01	0.13	13.38%
Toledo	4,497	4,259	711,228	694,844	0.01	0.01	-0.03	-3.06%
Valencia	20,344	24,801	2,580,792	2,565,124	0.01	0.01	0.23	22.65%
Valladolid	3,721	3,979	534,280	519,546	0.01	0.01	0.10	9.97%
Zaragoza	10,436	9,826	978,130	964,693	0.01	0.01	-0.05	-4.53%

Source: own elaboration from the INE data.

Table 8. Tourism Penetration Index

Cities	Tourists 2012	Tourists 2019	Population 2012-01	Population 2019-01	TPI 2012	TPI 2019	Change	Change %
A Coruña	331,701	457,503	1143911	1119596	0.289970986	0.408632221	0.409217616	40.92%
Alicante	593,967	879,433	1943910	1858683	0.305552726	0.47314846	0.548500209	54.85%
Barcelona	6,590,640	8,672,929	5552050	5645759	1.187064238	1.536184772	0.294104163	29.41%
Bilbao	794,943	962,973	351629	346843	2.260743568	2.776394507	0.228089088	22.81%
Burgos	360,209	479,605	374970	356958	0.960634184	1.343589442	0.398648376	39.86%
Cáceres	223,071	283,485	413597	394151	0.539343854	0.719229432	0.333526705	33.35%
Cádiz	189,432	264,523	1245164	1240155	0.152134177	0.213298338	0.402040898	40.20%
Cantabria	352,026	470,024	593861	581078	0.592775077	0.808882801	0.364569517	36.46%
Granada	1,534,403	2,350,841	922928	914678	1.662538139	2.570129598	0.54590715	54.59%
La Rioja	268,556	299,665	323609	316798	0.829878032	0.945918219	0.139828002	13.98%
León	349,191	409,536	494451	460001	0.706219625	0.890293717	0.260647092	26.06%
Madrid	7,927,409	9,963,194	6498560	6663394	1.219871633	1.4952131	0.225713476	22.57%
Málaga	947,713	1,413,227	1641098	1661098	0.577487146	0.850778822	0.473242874	47.32%
Murcia	322,447	483,405	1474449	1493898	0.218689829	0.323586349	0.479658887	47.97%
Oviedo	352,399	440,049	1077369	1022800	0.327092203	0.430239539	0.315346358	31.53%
Palma	1,702,293	2,373,020	422587	407648	4.028266369	5.821247743	0.445100003	44.51%
Pamplona	333,271	538,852	644566	654214	0.517047129	0.823663205	0.593013786	59.30%
Sevilla	1,875,375	2,811,352	1938974	1942389	0.967199663	1.447368164	0.496452303	49.65%
Tenerife	209,735	388,324	206965	207312	1.013383905	1.873138072	0.848399271	84.84%
Teruel	116,922	196,594	143728	134137	0.813494935	1.46562097	0.801635028	80.16%
Toledo	468,636	598,903	711228	694844	0.658911066	0.861924403	0.308104306	30.81%
Valencia	1,575,564	1,882,916	2580792	2565124	0.610496313	0.734044826	0.202373889	20.24%
Valladolid	333,342	450,063	534280	519546	0.623908812	0.866262083	0.388443417	38.84%
Zaragoza	772,795	1,176,983	978130	964693	0.790073917	1.220059646	0.544234812	54.42%

Source: own elaboration from the INE data.

DEMAND – HOTELS

TABLE 9 - Demand – hotels –domestic tourists 2012

Cities	2012-12	2012-11	2012-10	2012-09	2012-08	2012-07	2012-06	2012-05	2012-04	2012-03	2012-02	2012-01
A Coruña	17,656	20,334	25,942	25,448	37,761	30,232	23,320	19,052	23,407	19,341	16,422	15,963
Alicante	23,560	20,985	21,992	27,027	35,467	36,583	34,870	27,626	25,610	26,924	22,701	17,835
Oviedo	20,909	23,696	30,265	28,092	34,745	26,853	22,712	24,223	26,358	20,997	17,501	15,730
Barcelona	109,692	123,886	123,700	113,862	101,587	125,455	118,098	121,360	119,471	154,443	131,139	123,303
Bilbao	34,513	38,684	47,492	39,766	49,199	44,546	42,424	42,901	41,487	43,224	31,900	31,537
Burgos	17,907	17,950	22,109	23,843	30,183	23,751	20,849	20,910	20,688	17,509	15,122	12,451
Cáceres	12,331	15,107	18,983	16,485	19,190	15,313	15,870	17,306	21,406	16,607	12,185	11,681
Cádiz	11,225	9,081	10,841	11,790	13,416	12,889	11,876	11,042	11,238	9,963	12,207	7,362
Cantabria	14,135	15,554	24,409	27,030	31,884	29,378	26,692	22,270	23,151	24,018	14,959	14,288
Granada	63,982	59,512	61,986	57,327	51,213	47,156	53,385	57,410	67,865	68,257	69,089	59,667
La Rioja	14,273	18,813	20,528	19,859	26,276	19,245	19,321	18,677	21,544	20,069	15,058	13,519
León	18,629	20,584	24,826	24,927	31,768	27,281	23,720	22,240	25,483	21,597	17,854	14,873
Madrid	356,837	339,777	358,409	337,061	259,942	301,203	343,069	372,619	348,208	349,757	336,257	326,863
Málaga	31,530	29,829	38,727	40,565	48,821	44,004	41,745	36,469	43,492	36,421	33,739	30,221
Murcia	22,828	24,887	26,518	25,398	13,604	18,927	20,972	28,498	27,463	23,889	22,804	17,954
Pamplona	14,125	16,794	21,093	19,086	22,189	17,753	19,437	19,172	18,861	16,965	14,308	12,250
Palma	16,844	27,718	30,187	31,191	31,915	31,706	35,260	31,768	29,407	45,013	24,195	20,551
Sevilla	64,310	78,457	83,098	74,427	56,271	58,884	71,549	84,015	89,373	84,706	79,453	59,473
Tenerife	9,569	11,440	12,467	9,584	7,975	10,718	12,151	11,475	10,215	12,276	12,612	10,596
Teruel	7,097	7,408	10,048	10,418	14,470	8,643	8,416	8,890	10,894	8,156	6,648	4,678
Toledo	24,551	27,160	31,176	27,226	31,422	25,174	24,225	24,234	30,685	26,909	24,950	17,554
Valencia	53,812	66,276	63,436	66,245	75,600	78,327	75,212	71,255	77,188	84,231	67,952	52,863
Valladolid	20,389	23,197	28,852	27,604	21,478	22,989	22,880	24,905	24,426	22,040	18,743	21,213
Zaragoza	38,795	43,843	59,201	52,235	42,826	45,532	46,309	53,043	53,532	48,989	48,887	40,169

Source: own elaboration from the INE data.

TABLE 10 - Demand – hotels –international tourists 2012

Cities	2012-12	2012-11	2012-10	2012-09	2012-08	2012-07	2012-06	2012-05	2012-04	2012-03	2012-02	2012-01
A Coruña	3,002	3,183	4,292	7,242	8,590	6,769	5,462	5,184	3,693	3,516	3,525	2,365
Alicante	15,881	18,055	24,611	33,804	36,659	33,940	26,748	23,538	20,278	15,458	12,566	11,249
Oviedo	2,450	3,262	5,561	6,956	10,095	7,465	6,701	5,774	4,571	3,848	2,269	1,366
Barcelona	264,296	341,963	491,021	499,345	527,591	549,030	477,388	477,172	487,361	404,746	315,726	254,017
Bilbao	14,247	17,624	30,034	35,803	42,451	39,412	28,453	28,752	27,383	18,181	12,690	12,240
Burgos	2,853	4,628	11,680	16,186	20,860	16,839	12,241	12,608	9,525	4,088	3,158	2,271
Cáceres	1,875	2,512	2,344	2,850	3,268	2,795	3,006	3,401	3,227	2,123	1,373	1,833
Cádiz	1,930	4,433	5,965	7,640	6,358	5,857	5,035	5,429	5,751	3,822	2,382	1,900
Cantabria	3,538	4,686	7,006	11,412	10,739	11,019	10,312	7,103	7,967	4,209	3,294	2,973
Granada	38,849	44,579	77,557	84,179	62,753	58,321	73,213	88,911	82,325	59,666	32,599	37,686
La Rioja	1,758	2,117	4,725	6,652	3,466	4,051	3,882	6,614	3,345	1,895	1,518	1,351
León	1,600	2,721	7,159	12,555	8,494	8,415	10,383	10,953	5,994	3,617	2,012	1,506
Madrid	231,901	283,525	392,713	375,357	318,931	381,415	375,969	369,916	361,350	306,628	258,718	240,984
Málaga	24,963	31,932	50,731	51,470	54,975	53,689	47,929	50,195	46,812	31,167	25,304	22,983
Murcia	2,599	4,251	4,506	4,219	4,616	4,209	4,453	4,670	4,336	3,871	3,756	3,219
Pamplona	2,582	4,651	7,270	12,192	11,732	13,677	7,574	10,500	6,444	4,421	2,862	2,345
Palma	19,900	25,635	124,997	196,673	199,649	201,065	185,963	163,567	115,437	54,383	36,932	22,250
Sevilla	52,624	58,239	102,610	116,294	96,125	79,701	92,946	113,493	109,970	73,026	47,839	48,492
Tenerife	6,482	5,834	4,497	2,772	2,895	2,616	1,562	2,567	2,490	3,415	4,429	4,110
Teruel	504	390	1,094	1,430	1,391	1,646	1,198	1,352	706	640	318	487
Toledo	7,296	7,670	13,794	18,906	15,202	13,650	18,206	17,953	15,362	10,451	5,809	9,071
Valencia	35,121	48,881	72,808	78,301	98,048	79,281	71,838	65,655	68,581	53,160	40,460	31,033
Valladolid	3,054	3,642	4,195	5,786	8,643	6,616	5,404	4,080	4,135	4,046	2,802	2,223
Zaragoza	9,296	21,514	28,517	19,279	19,316	20,719	15,358	16,336	13,359	14,312	11,583	9,845

Source: own elaboration from the INE data.

TABLE 11 - Demand – hotels –domestic tourists 2019

Cities	2019-12	2019-11	2019-10	2019-09	2019-08	2019-07	2019-06	2019-05	2019-04	2019-03	2019-02	2019-01
A Coruña	27,008	26,334	30,221	32,018	43,172	38,355	30,837	31,632	26,858	25,216	24,545	23,417
Alicante	31,969	33,363	32,115	29,017	43,087	42,048	44,085	37,532	38,357	37,344	32,779	26,441
Oviedo	24,728	24,940	33,387	35,066	45,481	35,305	29,750	27,465	27,095	27,365	21,925	17,214
Barcelona	134,669	131,817	116,403	100,159	87,713	119,663	122,589	122,128	119,895	136,002	126,931	126,475
Bilbao	45,027	45,022	41,396	31,844	47,833	40,769	39,365	38,052	40,114	46,614	37,911	38,255
Burgos	24,336	23,013	28,687	28,269	38,036	29,112	27,222	26,045	26,996	27,752	18,798	16,268
Cáceres	15,298	18,336	20,010	19,111	28,476	21,878	21,367	18,580	22,720	18,303	13,448	12,440
Cádiz	9,078	10,371	11,220	11,764	14,292	15,378	12,460	11,330	13,569	15,917	13,768	9,548
Cantabria	25,505	24,567	30,545	30,730	35,431	34,938	31,808	29,259	30,718	28,146	21,943	16,394
Granada	80,142	74,068	74,774	75,152	83,258	64,579	70,013	68,717	78,776	79,348	83,225	69,361
La Rioja	16,900	20,368	21,355	21,339	30,683	20,730	20,564	20,903	19,367	18,912	16,115	14,423
León	22,174	24,769	35,559	28,121	36,689	30,889	28,676	28,230	29,375	26,058	19,506	19,555
Madrid	407,351	400,236	383,711	324,720	294,656	343,914	380,280	381,585	372,467	408,305	393,522	375,017
Málaga	50,249	45,555	41,731	41,431	53,921	50,985	47,764	42,189	40,915	46,072	40,956	37,527
Murcia	33,068	34,429	36,546	31,748	24,467	28,018	36,205	37,428	34,878	33,440	30,075	25,187
Pamplona	20,040	24,937	25,585	24,329	28,357	19,524	21,709	26,486	23,744	21,917	18,629	15,404
Palma	15,716	26,263	38,410	43,811	46,907	44,641	45,851	39,308	40,758	36,018	27,352	17,444
Sevilla	106,706	107,357	96,708	93,982	88,619	80,486	95,766	106,410	96,640	114,964	104,170	89,098
Tenerife	14,629	16,875	14,682	12,682	10,338	14,948	12,570	12,951	10,717	15,357	13,747	11,288
Teruel	12,525	12,577	13,450	13,049	21,391	17,200	15,218	14,174	16,543	14,614	10,545	8,074
Toledo	33,832	31,997	33,763	33,060	39,418	30,748	31,991	28,765	34,751	34,330	29,827	23,625
Valencia	71,467	74,250	61,800	57,925	65,271	72,870	77,311	73,195	68,343	81,469	67,761	55,271
Valladolid	29,313	34,316	31,582	32,264	28,616	28,219	31,443	35,251	30,072	30,496	26,313	25,518
Zaragoza	65,876	63,693	71,438	70,853	73,729	64,422	70,286	71,027	72,823	68,513	57,546	50,962

Source: own elaboration from the INE data.

TABLE 12 - Demand – hotels –international tourists 2019

Cities	2019-12	2019-11	2019-10	2019-09	2019-08	2019-07	2019-06	2019-05	2019-04	2019-03	2019-02	2019-01
A Coruña	4,610	5,391	8,653	11,728	12,838	11,513	10,608	9,378	8,390	5,122	4,703	4,956
Alicante	27,064	30,649	43,847	47,711	45,170	45,647	38,821	45,975	37,804	31,779	29,667	27,162
Oviedo	4,436	3,521	7,022	12,454	14,612	10,566	10,479	12,055	7,180	3,226	2,452	2,325
Barcelona	453,609	525,420	661,177	628,567	689,235	703,145	656,861	664,812	642,915	564,164	457,317	428,750
Bilbao	23,812	27,825	46,817	57,609	57,313	56,619	46,369	48,603	43,515	26,378	18,962	16,949
Burgos	5,541	6,083	15,518	21,569	28,897	22,856	15,180	18,774	12,640	8,330	4,731	4,952
Cáceres	2,894	3,104	5,256	5,766	6,145	5,664	4,013	6,839	5,908	3,505	2,010	2,414
Cádiz	4,168	9,997	15,175	12,891	9,531	11,104	9,905	11,689	12,636	7,311	5,424	5,997
Cantabria	5,611	7,060	15,294	17,309	14,710	14,495	16,010	14,243	11,030	5,568	4,481	4,229
Granada	68,514	75,988	119,613	110,179	98,573	87,804	103,486	124,517	107,368	84,777	59,582	59,647
La Rioja	2,062	3,129	6,847	9,095	5,116	5,570	6,084	7,803	5,717	2,665	2,123	1,795
León	2,659	3,073	9,323	12,502	10,128	8,377	9,633	11,077	5,961	3,052	1,978	2,172
Madrid	367,849	434,305	533,535	505,331	464,042	539,022	530,673	541,308	461,469	445,641	349,520	324,735
Málaga	53,958	59,443	83,334	86,223	85,967	83,356	76,470	86,692	83,155	67,099	52,936	55,299
Murcia	7,000	7,805	7,958	8,651	12,238	10,161	7,345	8,199	8,372	7,065	6,446	6,676
Pamplona	4,864	4,480	9,951	15,475	16,391	16,893	12,284	12,632	10,240	5,181	3,504	3,783
Palma	44,480	45,983	191,147	253,251	310,726	283,877	257,150	246,466	177,948	76,504	40,201	22,721
Sevilla	103,796	115,033	173,361	164,433	161,178	131,732	144,299	160,487	153,256	128,153	98,962	95,756
Tenerife	9,260	8,627	5,260	4,712	3,997	4,607	3,212	3,822	5,690	8,257	8,052	9,531
Teruel	1,436	1,466	3,823	2,882	2,739	2,308	2,490	2,790	2,339	1,661	1,608	1,692
Toledo	9,377	13,672	23,329	22,881	21,292	20,102	21,729	25,237	18,525	14,565	11,415	10,672
Valencia	58,682	82,964	99,756	100,812	111,837	103,747	100,810	99,910	97,116	76,880	61,702	61,767
Valladolid	3,975	5,129	7,314	8,586	17,174	10,437	7,539	6,841	6,680	5,266	3,828	3,891
Zaragoza	22,439	29,508	37,516	37,482	43,022	36,426	34,233	39,264	29,423	26,973	20,917	18,612

Source: own elaboration from the INE data.

TABLE 13 – Demand – hotels – tourists 2012 and 2019

Cities	Total 2012 residents	Total 2012 non-residents	Total 2019 residents	Total 2019 non-residents	Total 2012	Total 2019	Change	Change %
A Coruña	274,878	56,823	359,613	97,890	331,701	457,503	0.37926325	37.93%
Alicante	321,180	272,787	428,137	451,296	593,967	879,433	0.48060919	48.06%
Oviedo	292,081	60,318	349,721	90,328	352,399	440,049	0.24872375	24.87%
Barcelona	1,465,996	5,089,656	1,444,444	7,075,972	6,555,652	8,520,416	0.29970535	29.97%
Bilbao	487,673	307,270	492,202	470,771	794,943	962,973	0.21137365	21.14%
Burgos	243,272	116,937	314,534	165,071	360,209	479,605	0.33146312	33.15%
Cáceres	192,464	30,607	229,967	53,518	223,071	283,485	0.27082857	27.08%
Cádiz	132,930	56,502	148,695	115,828	189,432	264,523	0.39640082	39.64%
Cantabria	267,768	84,258	339,984	130,040	352,026	470,024	0.33519683	33.52%
Granada	716,849	740,638	901,413	1,100,048	1,457,487	2,001,461	0.37322734	37.32%
La Rioja	227,182	41,374	241,659	58,006	268,556	299,665	0.11583804	11.58%
León	273,782	75,409	329,601	79,935	349,191	409,536	0.17281373	17.28%
Madrid	4,030,002	3,897,407	4,465,764	5,497,430	7,927,409	9,963,194	0.25680333	25.68%
Málaga	455,563	492,150	539,295	873,932	947,713	1,413,227	0.49119723	49.12%
Murcia	273,742	48,705	385,489	97,916	322,447	483,405	0.49917661	49.92%
Pamplona	212,033	86,250	270,661	115,678	298,283	386,339	0.29520958	29.52%
Palma	355,755	1,346,451	422,479	1,950,454	1,702,206	2,372,933	0.39403398	39.40%
Sevilla	884,016	991,359	1,180,906	1,630,446	1,875,375	2,811,352	0.49908792	49.91%
Tenerife	131,078	43,669	160,784	75,027	174,747	235,811	0.34944234	34.94%
Teruel	105,766	11,156	169,360	27,234	116,922	196,594	0.68141154	68.14%
Toledo	315,266	153,370	386,107	212,796	468,636	598,903	0.27797054	27.80%
València	832,397	743,167	826,933	1,055,983	1,575,564	1,882,916	0.19507427	19.51%
Valladolid	278,716	54,626	363,403	86,660	333,342	450,063	0.3501539	35.02%
Zaragoza	573,361	199,434	801,168	375,815	772,795	1,176,983	0.52302098	52.30%

Source: own elaboration from the INE data.

DEMAND – APARTMENTS

TABLE 14 - Demand – apartments –domestic tourists 2012

Cities	2012-12	2012-11	2012-10	2012-09	2012-08	2012-07	2012-06	2012-05	2012-04	2012-03	2012-02	2012-01
Palma	295	294	74	164	334	103	322	305	230	358	430	293
Barcelona	3,984	2,878	3,106	2,905	3,755	2,831	3,269	3,270	3,602	3,808	3,049	3,064
Cáceres												
Granada	1,185	1,029	1,585	1,187	1,158	867	1,221	1,550	1,484	1,532	1,549	1,450
Madrid	15,899	14,593	15,647	16,787	15,285	14,073	17,831	16,526	18,216	18,679	17,201	17,030
Málaga												
Pamplona												
Tenerife	3,825	3,509	7,857	8,142	11,418	12,717	11,154	7,572	7,814	6,242	3,444	3,171
Sevilla	3,168	3,257	3,521	3,138	2,525	2,176	2,828	3,381	3,755	2,807	2,694	2,174
Valencia	2,869	3,001	2,721	3,902	3,638	3,208	4,209	3,248	4,051	4,245	2,722	2,572
Zaragoza												

Source: own elaboration from the INE data.

TABLE 15 - Demand – apartments –international tourists 2012

Cities	2012-12	2012-11	2012-10	2012-09	2012-08	2012-07	2012-06	2012-05	2012-04	2012-03	2012-02	2012-01
Palma	527	504	3,986	6,207	7,373	7,264	5,188	5,519	4,945	980	570	333
Barcelona	12,254	13,080	13,741	13,848	16,700	17,175	14,804	13,272	13,902	10,426	8,324	7,182
Cáceres												
Granada	1,039	799	2,004	2,014	2,190	2,334	1,755	1,872	2,451	1,053	849	831
Madrid	8,932	9,529	15,071	14,560	12,953	13,280	13,227	12,519	12,744	11,757	9,311	9,758
Málaga												
Pamplona												
Tenerife	8,935	8,545	6,596	4,114	4,829	4,702	3,571	2,787	5,048	9,094	9,184	10,024
Sevilla	2,590	2,984	5,159	4,976	3,768	3,807	3,608	4,341	4,207	2,560	2,042	1,450
Valencia	2,108	2,649	4,166	6,095	6,342	6,076	5,488	3,810	3,526	2,870	2,435	1,879
Zaragoza												

Source: own elaboration from the INE data.

TABLE 16 - Demand – apartments –domestic tourists 2019

Cities	2019-12	2019-11	2019-10	2019-09	2019-08	2019-07	2019-06	2019-05	2019-04	2019-03	2019-02	2019-01
Palma	351	526	63	147	91	97	214	175	.	715	316	.
Barcelona	2,157	2,356	2,615	2,582	2,520	2,589	2,699	2,481	2,404	2,503	2,084	2,527
Cáceres	3,397	3,491	3,269	3,140	4,934	2,737	2,595	1,731	2,177	2,235	1,689	1,309
Granada	7,751	5,282	5,880	5,060	5,850	3,739	4,364	4,696	4,919	6,762	6,436	4,449
Madrid	26,151	23,309	22,031	20,581	17,045	20,096	20,127	18,952	19,679	21,218	17,778	14,750
Málaga	9,947	7,580	6,580	9,222	10,914	6,778	7,937	8,112	9,573	7,861	5,893	5,299
Pamplona	3,734	3,387	2,956	2,523	3,524	2,694	2,820	3,305	2,879	2,597	1,572	1,234
Tenerife	5,508	4,825	6,448	9,155	11,657	11,128	11,215	9,653	9,159	5,970	2,787	2,672
Sevilla	11,129	11,602	10,655	11,304	9,651	7,874	10,548	13,593	12,435	13,872	10,647	8,833
Valencia	10,366	8,680	7,412	8,339	11,527	9,129	10,094	8,859	10,188	7,695	6,050	5,119
Zaragoza	1,847	1,739	2,398	2,051	2,198	1,578	1,697	1,911	2,206	1,830	1,323	1,253

Source: own elaboration from the INE data.

TABLE 17 - Demand – apartments –international tourists 2019

Cities	2019-12	2019-11	2019-10	2019-09	2019-08	2019-07	2019-06	2019-05	2019-04	2019-03	2019-02	2019-01
Palma	705	574	1,427	3,590	3,767	3,486	3,788	3,025	.	1,827	450	.
Barcelona	12,106	11,948	17,259	19,224	20,034	21,668	20,447	18,532	18,731	15,481	12,101	10,650
Cáceres	296	334	925	654	849	534	635	513	408	217	246	296
Granada	5,070	3,477	9,038	7,842	7,629	8,672	8,022	8,287	9,097	6,177	5,491	5,820
Madrid	21,752	25,036	33,544	30,538	26,765	30,572	32,315	29,693	29,827	24,543	16,966	14,442
Málaga	7,170	9,763	13,824	11,128	12,083	12,481	13,050	14,121	11,944	11,538	10,615	9,538
Pamplona	718	564	1,340	1,710	2,244	2,282	2,211	1,947	985	481	415	738
Tenerife	8,892	8,221	8,530	6,284	7,259	7,492	5,452	4,448	6,816	10,080	8,554	9,633
Sevilla	11,773	14,125	20,633	20,362	20,758	18,787	20,492	18,621	18,532	16,610	13,213	12,874
Valencia	13,389	17,178	22,615	21,385	27,739	23,762	20,506	22,785	21,964	11,971	9,743	9,308
Zaragoza	657	590	996	1,107	2,073	1,783	1,044	1,018	999	812	639	641

Source: own elaboration from the INE data.

TABLE 18 - Demand – apartments –tourists 2012 and 2019

Cities	Total 2012 residents	Total 2012 non-residents	Total 2019 residents	Total 2019 non-residents	Total 2012	Total 2019
Palma	43,396	3,202	23,251	2,695	46,598	25,946
Barcelona	154,708	39,521	205,208	29,517	194,229	234,725
Cáceres	0	0	5,964	32,704	0	38,668
Granada	19,191	15,797	87,325	65,188	34,988	152,513
Madrid	143,641	197,767	330,894	241,717	341,408	572,611
Málaga	0	0	146,361	95,696	0	242,057
Pamplona	0	0	16,028	33,225	0	49,253
Tenerife	77,429	86,865	99,483	90,177	164,294	189,660
Sevilla	41,492	35,424	217,237	132,143	76,916	349,380
Valencia	47,444	40,386	230,055	103,458	87,830	333,513
Zaragoza	0	0	12,764	22,031	0	34,795

Source: own elaboration from the INE data.

TABLE 19 - Demand – hotels and apartments – tourists 2012 and 2019

Cities	Total hotels + apartments 2012	Total hotels + apartments 2019	Tourists change	Change %
A Coruña	331,701	457,503	0.379263252	37.93%
Alicante	593,967	879,433	0.480609192	48.06%
Oviedo	352,399	440,049	0.248723748	24.87%
Barcelona	6,590,640	8,672,929	0.315946403	29.97%
Bilbao	794,943	962,973	0.211373646	21.14%
Burgos	360,209	479,605	0.331463123	33.15%
Cáceres	223,071	283,485	0.27082857	27.08%
Cádiz	189,432	264,523	0.396400819	39.64%
Cantabria	352,026	470,024	0.335196832	33.52%
Granada	1,534,403	2,350,841	0.532088376	37.32%
La Rioja	268,556	299,665	0.115838038	11.58%
León	349,191	409,536	0.172813732	17.28%
Madrid	7,927,409	9,963,194	0.256803326	25.68%
Málaga	947,713	1,413,227	0.49119723	49.12%
Murcia	322,447	483,405	0.499176609	49.92%
Pamplona	333,271	538,852	0.616858353	29.52%
Palma	1,702,293	2,373,020	0.394013839	39.40%
Sevilla	1,875,375	2,811,352	0.499087916	49.91%
Tenerife	209,735	388,324	0.851498319	34.94%
Teruel	116,922	196,594	0.681411539	68.14%
Toledo	468,636	598,903	0.277970536	27.80%
Valencia	1,575,564	1,882,916	0.195074272	19.51%
Valladolid	333,342	450,063	0.350153896	35.02%
Zaragoza	772,795	1,176,983	0.523020982	52.30%

Source: own elaboration from the INE data.

News

“The prices of free housing have risen in the Balearic Islands by 7.3% in the first quarter of 2019 compared to the same period of the previous year, according to the Housing Price Index of the National Institute of Statistics (INE).” (Europa Press, 2019).

“The new Councilor for the City Model, Decent Housing and Sustainability of the Palma City Council, Neus Truyol, assured that during this legislature "Palma will limit the rental price of homes”. In her first press conference, Truyol added that to limit the rental price in Palma "it will be necessary to modify some regional law" […]”. (Efe, 2019).

"Currently, in Palma tourist rental in multi-family homes is already prohibited, but there is still a lot of need". "The first step we are going to take is to manage the limitation of the annual or monthly rental price". (Efe, 2019).

The objective is "to dignify access to housing for Palma residents." “We are in a social emergency situation, and it is a challenge for us to find a solution to this”. (Efe, 2019).

“We have detected that, for example, in the Pere Garau neighborhood, families allocate more than 50% of their budget to housing, when the usual figure should be below 30%”.” (Efe, 2019).

“48% of Balearic people looking for a home cannot find one they can afford and 84% believe that the cost of rent will continue to rise”. (Efe, 2019).

“According to the report, 22% of Spanish people intend to change their property soon, of which 15% are looking for a home owned and 7% for rent and, in both cases, the price is established as a determining factor”. (Efe, 2019).

“In this sense, the II Housing Observatory in Spain in 2019 prepared by Century21 has revealed that, in Spain, “6 out of 10 young people between 18 and 24 years old and 4 out of 10 between 25 and 29 years old continue to live with their parents for the lack of financial resources.”” (Efe, 2019).

“According to the Bank of Spain, there are various conditions that cause the current dynamics of the rental market, among them low income or unemployment.” (Crespí, M., 2019).

“The unstoppable rise in rental prices in the Balearic Islands, […], has significantly increased the phenomenon of shared flats, not only just young people who seek emancipation, but entire families. The Continuous Household Survey published by the (INE) shows this reality. In the Islands there were in 2018 a total of 14,700 households in which two or more families lived. In just one year, the number of families sharing a flat has increased by 60%.” (Domblás, N., 2019).

“Rents in Palma have shot up 50% between 2014 and 2019, which represents the largest increase in Spain, according to data provided by the Bank of Spain (Crespí, M., 2019).

“The financial entity highlights that this rise occurs in large cities such as Madrid, Barcelona and Valencia, as well as in places with a high tourist influx such as Santa Cruz de Tenerife, Las Palmas de Gran Canaria, Malaga and the Balearic capital” (Crespí, M., 2019).

“In contrast, in the interior of Spain is where the price has increased the least.” (Crespí, M., 2019).

“According to data provided by Tecnicasa, the Paseo Marítimo de Palma is the most expensive area of the city in terms of the price of rental housing, with an average cost of 15€/m^2” (Crespí, M., 2019).

“In contrast, Son Gotleu remains at the other extreme as the cheapest area, with an average price of 5.40€/m^2” (Crespí, M., 2019).

“Nearly a hundred people demonstrated in December 2018 in the center of Palma demanding a decent rent, an end to speculation with homes and tourist flats (Palma, 2018).

“Summoned by the entities Rent Digno Mallorca, Stop Evictions Mallorca, Stop Maltrato Reception Center and the CNT union, under the slogan 'Move for a worthy rental', considering that measures should be imposed against abusive prices and "regulate the limit of prices, [...].”” (Palma, 2018).

“The autonomous communities and city councils will be in charge of deciding whether they want to apply in their territory the mechanisms to limit rental prices, which the Government will make available to them in the future housing law” (Sedeño, V., 2021).

“In the same way, it will be the autonomies that must request the declaration of a stressed market area, in order to be able to intervene the rental prices.” (Sedeño, V., 2021).

“The deputy mayor has reiterated that Palma "has all the numbers" so that it is considered a "stressed area" and, consequently, rental prices and access to housing can be limited.” (Capó, J., 2022).

“The Constitutional Court (TC) has upheld the appeal of unconstitutionality presented by the PP to Law 11/2020 of Catalonia. The law limits the prices of housing rentals in the autonomous community” (Pérez, M., 2022).

“According to the Generalitat, the purpose of the law is "to contain and moderate the rental price in certain areas that, due to their characteristics, do not guarantee having rental housing at an affordable price, so that access to the entire population is hindered". (Pérez, M., 2022).

“The estimation of the appeal of unconstitutionality supposes that the Catalan law would be without effect at the moment in which the resolution of the TC is made public”. (Pérez, M., 2022).

“Data from the Sindicat de Llogateres reveal that the law has managed to lower rents by an average of 5% in regulated cities”. (Pérez, M., 2022).

“As announced by the Sindicat, next Saturday a rejection rally has been called in the Plaza de Sant Jaume, in Barcelona, for what they condemn as a "cutting of the right to housing for the benefit of the interests of the real estate lobby"”. (Pérez, M., 2022).

“The objective is to be leaders in quality and not quantity. “4 years are given to be able to make reforms, and the rule allows them to grow 15%, not in height, "but introducing that the growth that is allowed in the reform has to be with a reduction in places of 5%". The Minister of the Environment and Territory, Miquel Mir, considers that "the limit of places is transcendental, essential and cannot be postponed reflecting on the real load capacity of the islands and bet on what tourism model we want, redirecting quality over quantity"”. (EFE, 2022)