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OVERTOURISM IN MALLORCA AND ITS EFFECT ON TOURISTS

Nikol Kirkova Staykova

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Thesis Supervisor's Name Aleix Calveras Maristany

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Author		Supervisor	
Yes	No	Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Abstract

Overtourism concerns have risen in the latest years among popular destinations worldwide, and Venice is par excellence the most known example. Locals from Mallorca, one of the main tourist islands on the Mediterranean Sea, start to suffer the consequences of overtourism, and experts try to explain its causes, impacts, and indicators. This study aims to analyze the effects of overtourism on the different aspects of the island's economy, society, and environment, and the effect it has on tourists itself. The analysis is carried out through literature research and quantitative data research on statistical websites and government reports. It is finally concluded that Mallorca has a great economic dependence on tourism, it increases living costs causing part of the population to have negative feelings toward tourism. The island has limited resources to handle such masses of tourists and the waste that is produced. Finally, tourists are starting to feel the effects of overtourism and might start to consider other destinations.

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1. Introduction

Overtourism, according to the United Nations World Tourism Organization (UNWTO) can be defined as “the impact of tourism on a destination, or parts thereof, that excessively influences the perceived quality of life of citizens and/or quality of visitors' experiences in a negative way” (UNWTO et al., 2018).

“Overtourism” is a concept that has gained importance in the last few years as tourism is being more and more affordable every year and people have the desire to travel. The use of this concept first appeared in publications between 2017 and 2018 (Peeters et al., 2018) to finally name this phenomenon that is affecting many tourist destinations.

Venice is a clear example of overtourism. This Italian city is usually described as overcrowded and there have been many protests by locals. In 2016, Venetians were already protesting against the side effects of overtourism, although the concept was not yet popular. The residents of Venice were protesting as they are forced to leave the city because of high rental prices that result from renting apartments to tourists and causing inflation (“Venice #Venexodus Protesters Oppose Tourist Numbers,” 2016).

However, overtourism does not only have economic impacts but also social and environmental. Having crowds of tourists coexisting with locals can be problematic. This would be the case of binge-drinking tourism that disturbs neighborhoods and their residents, causing discomfort, tension, and ultimately, anger, when the problem is not addressed. Furthermore, masses of tourists going to natural sites, such as beaches, not only cause congestion by making access difficult for locals and themselves but also affects the ecosystem. This results in rubbish that ends up polluting the sea.

This study aims to analyze the state of overtourism in Mallorca and how it affects its tourists, as this island is of big interest and significance for this subject. Therefore, the research questions for this study are:

1. Is overtourism a problem in Mallorca? If so:
2. What are the causes of overtourism in the case of Mallorca?
3. How does overtourism affect Mallorca and what are its impacts?
4. What overtourism indicators can be identified on the island?
5. Has the government taken any actions to address the problems derived from overtourism?
6. Do tourists that go to Mallorca perceive overtourism? Does it affect their experiences and perceptions of the destination?

2. Conceptual framework

2.1. Overtourism concept

The term “overtourism” is relatively new (2017/2018) and started appearing in the media to describe the negative impacts that tourism has on the environment, economy, host communities, and other aspects of destinations.

However, in 1976, Doxey had already created his “irritation index” or “irridex” to explain residents’ attitudes towards tourists during the different stages of the creation of a tourism destination (Kruczek, 2021).

The World Tourism Organization has defined overtourism in one of their 2018 reports as “the impact of tourism on a destination, or parts thereof, that excessively influences the perceived quality of life of citizens and/or quality of visitors experiences in a negative way” (UNWTO et al., 2018).

According to a report of the European Parliament, it is defined as “Overtourism describes 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”. In this definition, psychological capacity means how capable are locals and visitors to cope with overcrowding. Political capacity refers to the incapability of local governments to comprehend, manage and regulate the impacts of excessive tourism growth, while considering the local community’s quality of life and not worsening it (Peeters et al., 2018).

2.2. Overtourism causes

The causes of overtourism depend on the type of tourism destination or tourism offer, such as urban, rural, coastal, islands, attractions, and heritage sites. Most of the literature focuses on the causes of urban destinations, however, most of them can apply also to coastal destinations (Peeters et al., 2018). One of the causes, according to Peeters et al. (2018), is the accessibility and affordability of travel. Traveling has evolved rapidly. In the beginning, it only could be afforded by the elite and high social classes, as it was expensive. Step by step it was made more affordable for everyone. It must be borne in mind, that the working class had to fight for the right of having paid vacations, time that they will dedicate to travel. Later on, the appearance and proliferation of low-cost carriers made flying accessible to even more people. Until now, that we have international flights for under 20€, not even making people think twice about buying that flight. Therefore, another cause of overtourism is the increase in international arrivals, which goes hand in hand with the one mentioned before.

Another cause is the tradition of promoting volume (Peeters et al., 2018). Since the Fordist era, from the 1920s until approximately the 1970s, economies of scale were promoted by mass-producing standardized tourist packages to decrease costs (Blázquez-Salom, 2022a). Because of that, the prices of the packages also dropped for tourists and made them more affordable. At that moment, tourists were inexpert and price-driven, and the internet had not yet appeared, so they arranged their holidays through travel agencies. This causes a concentration of large groups of tourists in the destination, as travel agencies and tour operators have been massively promoting and selling packages to fill their allotments.

Seasonality also plays a big role in overtourism causing a feeling of resentment in locals towards tourists (Deery et al., 2012). Generally, big urban destinations have tourists all year round and do not perceive the difference between low and high season. For example, Barcelona (Spain), is usually said it suffers from overtourism because of the constant masses of tourists. Some sun and sea

destinations have better and worse seasons depending on rainfall, temperature, etc. such as the Balearic Islands (Spain) or, on the contrary, destinations that have sun and sea tourists all year, such as the Canary Islands (Spain). In high season, there is high concentration of tourists, and cultural heritage sites and destinations that become popular start attracting even more visitors.

Regarding environmental causes of overtourism, what makes citizens and tourists negatively perceive experiences, is defined as the overpassing of certain thresholds. There is a moment when the biosphere is affected by tourism. From water shortage to damaging natural sites. High demand for water increases in the high season, and beaches and seashores are polluted due to the high traffic of tourists in the area, among other examples.

The main social cause of overtourism is the locals' attitude towards tourism. It happens when locals start noticing that too many resources are exploited for the activity, or that tourists' behavior is harmful, for example, they are not respecting the rules, the natural environment, or the tranquility because of partying, etc. That is related to the term "tourism-phobia". It is defined as "a feeling of rejection towards tourism that manifests in the form of assaults to restaurants, businesses, and yachts; attacks on tourist buses, bikes damaged in tourist spots, and other acts of vandalism" (Veríssimo et al., 2020).

2.3. Overtourism impacts

The impacts of overtourism are divided into three categories: economic, social, and environmental. Some of them are the deterioration of tourist areas and loss of quality, economic dependence, environmental deterioration, gentrification and increasing prices in city centers, and concentration of large groups of tourists, all of this causing discomfort among locals.

2.3.1. Economic impacts

Gentrification is a very important issue caused by (over)tourism. The degradation and decrease of community services, such as medical centers, schools, small local shops, etc. in tourist areas because of inflation and high costs (Peeters et al., 2018). They are forced to close and are replaced by tourism-oriented businesses that make more profit.

Excessive economic dependence on tourism can be identified when seasonality is high and there is also a high dependency on tourism regarding employment and tourism revenues out of total GDP (Peeters et al., 2018). There is a high level of employment during the high season, but it significantly drops in the low season.

Peeters et al (2018) analyze the following economic impacts: inflation, economic dependence on tourism, infrastructure cost, accessibility of infrastructure due to overcrowding, and the destination image, which might be negatively affected by these impacts and make visitors have a degraded image of the place.

2.3.2. Social impacts

Overcrowding of destinations and shared economies, such as Airbnb, spread tourists into residential areas causing marginalization and discomfort among locals as traditions, activities, and infrastructure are modified and tourism-oriented (Peeters et al., 2018). This can cause confrontation between residents and tourists, and lead to “tourism-phobia”. Criminality is also an important issue, which can come from both sides, visitors, and locals. When tourism is aimed at high-income visitors, criminality increases because of big perceived inequality between visitors and locals. However, criminality can also come from visitors, that are attracted to certain destinations to misbehave and take advantage of alcohol, gambling, prostitution, and drug trafficking in the destination (Peeters et al., 2018).

According to Peeters et al (2018), the main impacts to be analyzed are the degradation of infrastructure and facilities, touristification of residential areas, marginalization of residents, hostility by both visitors and locals, criminality, modification of recreational areas, and loss of cultural identity.

2.3.3. Environmental impacts

These impacts are caused by excessive usage of resources, infrastructure, and facilities, such as water, sites of interest, beaches, and a high generation of waste, mainly in the case of island destinations. In many cases, there is a significant increase in waste in the high season, as tourists double the amount that is already produced by locals (Torres et al., 2021).

The main analyzed impacts by Peeters et al (2018) are pollution (water, land, air, and noise), infrastructure, visual pollution of natural or cultural landscapes, congestion of infrastructure, facilities, and commercial activities, damage to natural, historical, and architectural sites, and, finally, overcrowding at natural, historical, and architectural sites.

2.4. Indicators of overtourism

According to Peeters et al. (2018), although “all indicators vary over a very large range making them less suitable for determining a specific value as a “threshold”, they are useful for making a checklist to determine the risk of overtourism in tourist destinations”. The main indicators of overtourism according to Peeters et al (2018) are tourism intensity and density, the presence of Airbnb, economic dependence, air transport, and closeness to airports, cruise ports, and UNESCO World Heritage Sites.

Tourism intensity, associated with overtourism, refers to the annual number of bed nights per inhabitant of a tourist destination. Whereas tourism density is defined as the annual number of bed-nights per squared kilometer (km²). Both results show how congested a destination is. In the case of Monaco, a 2 km² country and a very popular destination in the south of France, its tourism density in 2015/2016 was 726,000 bed-nights/km², which is a significantly high figure for its small area.

The presence of Airbnb and its location are considered indicators of overtourism as Airbnb is increasing the number of beds for tourists and affecting residential housing markets. Owners prefer to rent their homes to tourists because the revenue is significantly higher in comparison to ordinary residential rentals (as analyzed in section 4.3.2. for the case of Mallorca).

Air transport is also an indicator of overtourism. There is a ratio that measures air transport intensity which is defined as the arrivals by air divided by the number of residents. However, other aspects regarding air transport are of great importance, such as the closeness of the destination to an airport. If a destination is close to an airport, it significantly increases its chances of suffering from overtourism according to Peeters et al. (2018). According to their study, almost 50% of the destinations that suffer from overtourism have an airport within 15km and almost 80% of the destinations that suffer from it have an airport within 50km.

The closeness of a cruise port is a relevant indicator for coastal destinations. The study reveals that “34% of the coastal destinations in a state of overtourism are within 5 km of a cruise port, increasing to 90% within 50 km”. This indicator, exactly like airports, is related to overtourism but they are just two of the many causes of overtourism (Peeters et al., 2018).

Closeness to UNESCO World Heritage Sites is a further important factor. Usually, places that are declared World Heritage Sites by UNESCO start attracting more visitors than before as they become popular. However, this is not going to be relevant to our case study, as Mallorca does only have one, the Serra de Tramuntana.

2.5. Measures taken by local authorities

Peeters et al (2018) have created a table with generalized measures after assessing all their case studies (Annex 1). In this study, we will later analyze which ones of these measures take place in Mallorca.

The 16 measures are (Peeters et al., 2018):

1. Laws and law enforcement directed at tourists (e.g. related to alcohol and drug consumption, forbidding access to certain locations/at certain times)
2. Distributing tourists to other places, such as via promotion, new attractions, better transportation options, and tours
3. Increasing capacities of the destination to deal with higher numbers of people by e.g. improving traffic management, security measures and waste management
4. Increasing prices (at specific times, places, or for specific groups), e.g. via taxation, used to mitigate negative impacts
5. Reducing seasonality (via promotion and new attractions)
6. ‘Green measures’ such as eco-certification, environmental taxes (payable by tourists or accommodation providers), green fuel, and green buildings
7. Stop certain developments; prevent uncontrollable development by measures such as zoning systems, laws, and stops on hotel and Airbnb capacity extensions
8. Improve stakeholder involvement in tourism marketing and development

9. (Real-time) information for tourists on, e.g. crowdedness, transport options, and other times to visit
10. Promoting high-quality tourism (adjusting the tourism offers and attracting different types of tourists)
11. Stimulate developments directed at residents by, e.g. safeguarding availability of affordable housing, shops catering to residents, and improved living working conditions in tourism
12. (Dynamic) caps on access to the destination/attraction
13. Less / No promotion
14. Awareness campaign to prevent/stimulate certain behavior (directed at tourists)
15. Improved monitoring
16. Conduct research

2.6. Effects of overtourism on tourists

Overtourism, apart from affecting the destination, the environment, and residents, it eventually starts negatively affecting tourists' experiences, as tourism-phobia arises, and it can result in bad service and occasionally direct aggression. Tourists' perception of their experience with overcrowding during vacation has been less studied than the locals' attitude towards it. However, some studies can enlighten this work and show some results regarding this topic (Peeters et al., 2018).

In September 2017, a survey was conducted and revealed that around 27% of tourists perceived their destination as "overcrowded" (Peeters et al., 2018). Although this percentage may seem low, it must be taken into consideration that at the time the survey was conducted, there might be tourists that have visited that destination and have, therefore, not returned and cannot answer the survey.

According to the *Research for TRAN Committee - Overtourism: impact and possible policy responses* report, "perceived crowding can influence the way in which visitors construct, recall, and retell their tourist experience, often negatively". It can eventually cause the destination to have a bad image because of their opinion and word of mouth, which is easier nowadays due to online platforms where people post their opinions, such as TripAdvisor. However, there are some cases, where big crowds are expected and desirable. That is the case of big events, such as concerts and festivals. (Peeters et al., 2018).

Furthermore, according to the same report, there are some coping mechanisms for crowding in a destination that happen among tourists. There are two types of coping mechanisms: behavioral strategies, which consist in visiting other areas within or outside the destination or visiting the place at a different the time, and cognitive mechanisms, that result in rationalization and product shift. "Cognitively, tourists might also change their perspective on the experience they were seeking (product shift) or convince themselves that they enjoy the experience more than they actually do (rationalization)" because they might have done a big investment in that vacation or because of the popularity of the destination (Peeters et al., 2018).

In summary, tourists' perception is influenced by several factors and the results are not entirely consistent to prove a relationship between crowding and negative perception (Peeters et al., 2018).

3. Methodology

For the aim of describing the aspects of overtourism and then analyzing the state of overtourism in Mallorca, a mixed approach has been conducted. A literature review has been carried out to gather qualitative information from studies, papers, and reports of importance in the field for the conceptual framework and some of the results. For the results, quantitative data has also been gathered from regional statistics websites, government reports, and other relevant.

Data from 2022 is given as the most recent. However, most of the analyzed data is from 2019, as a reference to pre-covid level with tourism at its highest point, but, when possible, 2022 data will be analyzed. Also, numbers from 2019 are very similar to data in 2022 post-pandemic as Mallorca is returning to pre-pandemic levels and it is recovering from the crisis.

A questionnaire/survey aimed at tourists would have been a good and enriching tool to collect qualitative and quantitative data regarding their perspective of overtourism in Mallorca. However, in terms of this study, it has not been possible as the high season takes place after the delivery of the work. That is why this study is based on literature and information from databases.

4. Analysis of the state of overtourism in Mallorca

4.1. Evolution of tourism in Mallorca

Tourism in its origins was aimed at wealthy and high-status members of European society, and in the case of Mallorca, they came to Palma's middle-class second homes and rented them for tourism-related leisure (Domínguez Mujica et al., 2008). The reasons were the travel expenses; means of transport were limited and took a lot of time to arrive at the destination and flying was expensive. Therefore, low-income families could not afford to travel, not only because of economic insufficiency but also, of time. The working class had to fight for better working conditions, and one of them was having paid vacations. After they accomplished it, they started having the time to travel.

The touristic boom around the 1950s and 60s happened thanks to several revolutions. Those were aviation's rapid development and the appearance of "charter flights", which go hand in hand with the inception of "tour operators" and the product they commercialized, the "all-inclusive-tourist packages" (Cavlek, 2005). All these aspects and the working-class revolution made traveling step by step reachable to everybody.

In the 1960s, Mallorca became a popular destination for sun and sea tourism in Europe, specifically for British and German people. That was the beginning of the tourism sector on the island as we know it nowadays. Tourists are concentrated in the main beach areas of Mallorca, which are Playa de Palma and Magaluf, and

where most of the problem comes from. These have been and still are the hotspots for mainly Germans and the British, respectively. However, Mallorca does also have other types of tourism, such as cultural tourism and nature tourism. Cultural tourism is affecting small towns and Mallorca's capital city, Palma, especially in high season¹, due to its small old town that concentrates thousands of tourists and cruise passengers every day.

The tourism industry began growing all over the world and has never stopped increasing its number of visitors year by year, becoming the most important sector for the Balearic economy. Cheaper flights, more accommodation offer (hotels, hostels, holiday rentals, couchsurfing...), appealing and diverse tourism offer (beautiful beaches, sun, culture, nature...), and good complimentary offer (water sports/activities, excursions...), all these aspects together appeal millions of tourists each year.

Along with this worldwide raising phenomenon, its side effects began to appear in Mallorca. Those effects will be explained in depth in the following sections.

4.2. General information

Mallorca is the biggest of the Balearic Islands archipelago. The island as a whole offers and attracts different types of tourism such as coastal sun and sea tourism, cultural-urban, rural, eco-tourism, and hiking experiences and, also latest trends as transformational tourism for spiritual retreats. However, the biggest segment nowadays still is sun and sea tourism and, in second place, urban-cultural.

For sun and sea tourism, the destinations par excellence are Magaluf and Playa de Palma because they were the first tourism-developed areas and, consequently, entitled as "mature" tourist destinations (Decreto-Ley 1/2020, de 17 de Enero, Contra El Turismo de Excesos Para La Mejora de La Calidad En Zonas Turísticas., 2020). The most important urban-cultural tourism destination in Mallorca is its capital city, Palma.

Mallorca in 2022 had 914,564 inhabitants, accounting for almost 78% of the Balearic Islands' population, which was 1.176.659 inhabitants (Ibestat, 2022). Also, Mallorca welcomed a total of 11,447,401 tourists², and in 2019, 11,651,959 (Ibestat, 2022). These figures do not consider excursionists³, that among others, arrive on cruise ships and spend the day mainly in Palma and the historical city center. These excursionists in 2019 accounted for 2,217,469 in Palma, the most relevant port of Mallorca, as the other amount only around 800 excursionists annually (Agència d'Estratègia Turística de les Illes Balears et al., 2020). It is relevant because both tourists and excursionists concentrate in the high season.

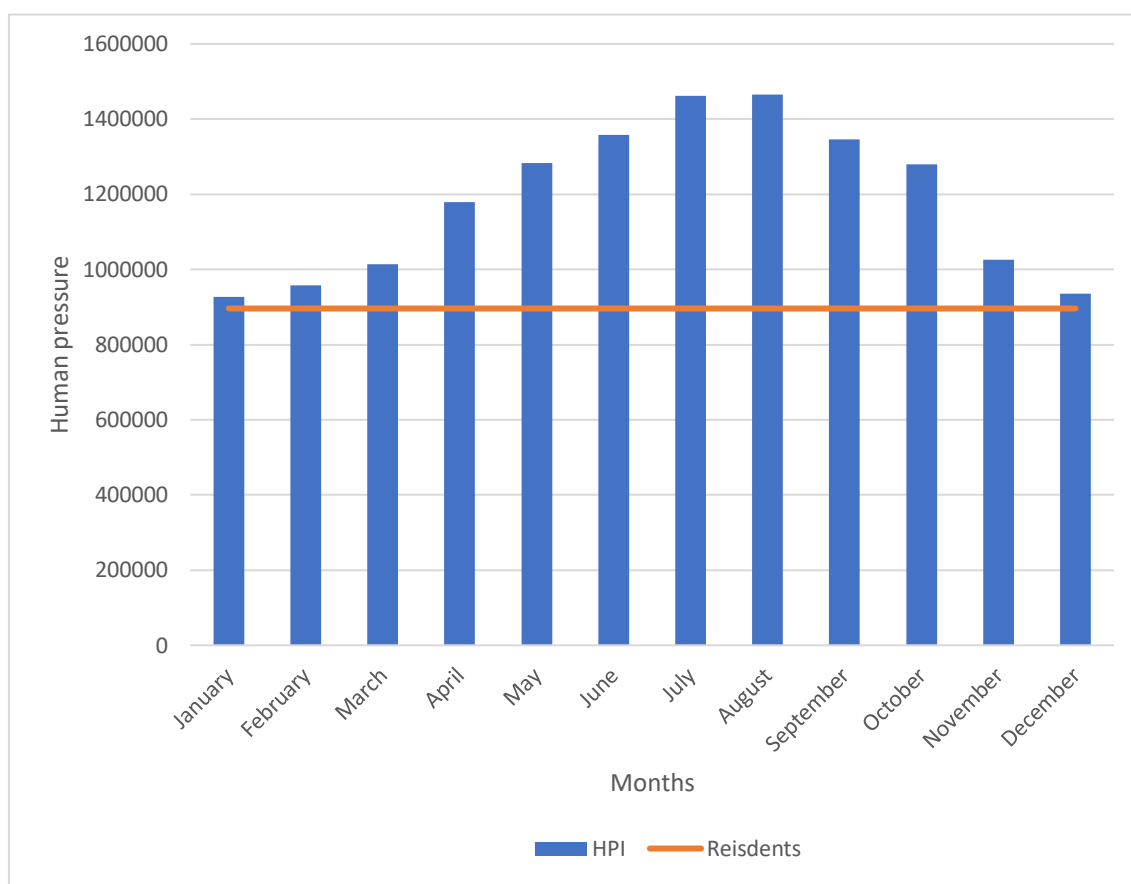
In Figure 1, we can see this concentration of tourists, excursionists, and residents in 2019 as the Human Pressure Index elaborated by Ibestat (Ibestat, 2023).

¹ High season in Mallorca is considered from April until October.

² Tourist is defined as a visitor that stays at least one night in a collective or private accommodation in the destination (Agència d'Estratègia Turística de les Illes Balears et al., 2020).

³ Excursionist is a visitor that does not overnight in the destination because the arrival and departure happen during the same day (Agència d'Estratègia Turística de les Illes Balears et al., 2020). In this study we only account cruise passengers.

Figure 1: Evolution of the Human Pressure Index on Mallorca during 2019.



Source: own elaboration with data from Ibestat (2023).

Figure 1 has been elaborated with data from Ibestat. The orange line represents a fixed mean number of residents in Mallorca. For residents, a fixed value of 896,038 inhabitants has been taken from Ibestat (Ibestat, 2022b), although this number fluctuates due to people from outside Mallorca coming to work for the season.

The HPI estimates the total demographic burden that a territory handles in a certain period. Ibestat claims that it is very useful to have real demographic pressure in a touristic territory, where those present people totally differ from the real population, to be able to help with the management and planification of the resources. To estimate this index, they use data from daily arrivals and departures from airports, from national and local ports (including regular line passengers, as well as cruise passengers), and the numbers of the current population (Ibestat, 2023).

We can see the seasonality and concentration of people with an increasing tendency, reaching the highest point in August with over 1,465,000 people. Then, it is slowly decreasing until October, as the end of the high season comes. The lowest concentration of people is in January which shows 926,456 people.

In the following section, we will see the impacts that pressure and seasonality cause on the environment, economy, and society.

4.3. Impacts of overtourism in Mallorca

As seen before, the concentration of people almost doubles in high season due to visitors, and this directly affects the natural resources, economy, and residents.

According to the assessment that the *Research for TRAN Committee - Overtourism: impact and possible policy responses* made of Mallorca, the main impacts they have identified are anti-tourism protests, environmental issues, and real estate speculation. They claim that Mallorca in the 1990s was already considered a mature tourist destination. Besides that, it is not new that locals protest against overtourism's environmental impacts, as they started some protests at the end of the 1970s against further development of tourism. Further overtourism impacts are beach and landscape degradation because of massive construction on the coast, as a result of a lack of urban planning, negatively affecting beach-dune systems (Peeters et al., 2018). In this section, we will further analyze the negative impacts of overtourism in Mallorca.

4.3.1. Economic impacts

Economic dependency is a main cause of overtourism. According to Peeters et al. (2018) economic dependency can be measured by dividing the tourism revenues of the destination by its GDP. In the case of Mallorca, tourism revenues account for a significant part of the GDP. Another way of assessing economic dependence on tourism is by measuring the significance of jobs related to tourism over total employment. This will be analyzed in section 4.4. Indicators of overtourism.

Gentrification is also an issue that can be observed in Mallorca, especially in its capital city Palma, and other areas near Palma. Gentrification is defined by the following aspects (Blázquez-Salom et al., 2019): the reinvestment of capital, social upgrading of locale by incoming high-income groups, landscape change, and direct or indirect displacement of low-income groups.

Blázquez-Salom et al. (2019) examine the transformation of the commerce offer in Palma due to overtourism and change of interests. This transformation process means that a reduction in the variety of shops in the city center is happening. Where there used to be traditional and authentic retail shops aimed at locals, now there are boutique-type of shops from franchises and big commercial chains aimed at tourists. Nonetheless, the historic centers that attract more visitors are the ones with cultural heritage, proximity, and, most important, a strong identity. Usually, traditional retail shops are the ones giving historic centers its essence, such is the case of Palma (Blázquez-Salom et al., 2019).

Another negative economic impact of overtourism is the speculation and the use of rentals for tourist use which have increased housing prices (Peeters et al., 2018). The proliferation of Airbnb, usually is not regulated, is gaining importance over hotels and apartments (Rullan & Vives-Miró, 2017). Furthermore, according to Rullan & Vives-Miró (2017), these kinds of tourist rentals are directly competing with residential rentals. Locals cannot afford inflation and high rental prices. In the following sections, the effect of the prices will be analyzed.

4.3.2. Social impacts

The main social impact of overtourism is “tourism-phobia”. It is a negative feeling of locals towards tourists as they start perceiving indicators of their environment being damaged due to tourism. Those indicators are feelings such as that the island, its beaches, or the city are overcrowded. In the case of touristic neighborhoods, such as Magaluf and Playa de Palma, which are also party hotspots, locals suffer the noise, dirt, and lack of control caused by binge-drinking tourists. In these hotspots, another problem is prostitution and drug trafficking. At the beginning of 2023, according to the Spanish newspaper *El Periódico de España*, a mega-trial against Hell's Angels gang started, in which also two local police officers are involved. This gang is being charged with drug trafficking, prostitution, and police corruption (López Frías, 2023).

In 2019, there was an episode of tourism-phobia in Palma. Rental cars were being damaged and painted as a protest of tourism massification in the city by a left-winged and Pro-Catalan-Independence youth organization (Galán, 2019).

Shared economy, such as Airbnb, does not only have economic, but also social impacts. It will also be further analyzed in the following sections because of its importance. In the case of Mallorca, the commercialization of tourist rentals is regulated by the Law of Tourism of the Balearic Islands (Ley 8/2012, de 19 de Julio, Del Turismo de Las Illes Balears., 2012). Originally, only single-family homes could be rented to tourists. However, in 2017 the regulation of tourist rental was changed to also multi-family residential dwellings, but with time and zone restrictions. In the case of Palma, it is prohibited to rent in pluri-family buildings (Blázquez-Salom, 2022b). However, it is still done by the Airbnb website, and offers lots of housing in Palma which do not comply with the measures. This causes locals to be mixed with tourists in areas that are not aimed at tourism, and residential housing prices to be out of control (P, 2021).

4.3.3. Environmental impacts

Environmental impacts are of utmost importance in the case of Mallorca, because of its vulnerability as an island with limited resources.

Mallorca has a scarce water supply. There are two reservoirs and desalination plants. In high season, the water reservoirs achieve their minimum levels of water as millions of tourists go to Mallorca, especially in August (Torres et al., 2021). According to Torres et al. (2021), locals use a monthly average of 1.7hm³ of water. This number is almost doubled in high season with an increase of between 0.9 and 1.4hm² due to visitors. This constant need for water for personal use and for swimming pools increases the concentration of pollution in the reservoirs and, also, increases the concentration of salinity in aquifers, as they are overexploited and reach deep levels, where the sea water penetrates.

Another important concern is the loss of *Posidonia oceanica*, the endemic seagrass of the Mediterranean, which is extremely important for the biosphere, due to its filtering capacity. This seagrass is affected by ships and yachts that anchor on top of it, instead of anchoring on sandy sea bottom (Agüera, 2022).

This seagrass also is important for the conservation of sandy beaches. During winter, it is placed on the shore, but it usually has a heavy odor, and the beach does not look as good with it. Therefore, authorities remove it as the high season starts and tourists come.

Since tourism had its first boom in the Balearic Islands, hundreds of hotels had been built on the coastline, as there was a lack of regulation (Peeters et al., 2018). Around the end of the 1980s, some measures were created to regulate hotels and tourist accommodations (Blázquez-Salom, 2022b). One of them was the Law of the Coast (Ley 22/1988, de 28 de julio, de Costas), as a result of the overexploitation of the coast for all kinds of uses, but mainly touristic, to protect it from further degradation. It established prudential distance to protect the coast and its environment from construction.

Another issue is the generation of waste in the urban setting, but also in the natural environment, such as the beaches. In the case of Playa de Palma, in the summer of 2022, it is usual to find the promenade full of litter and waste, resulting in anger among locals but also, litter eventually ends up in the sea (Serra, 2022).

Image 1: Playa de Palma every morning during summer.



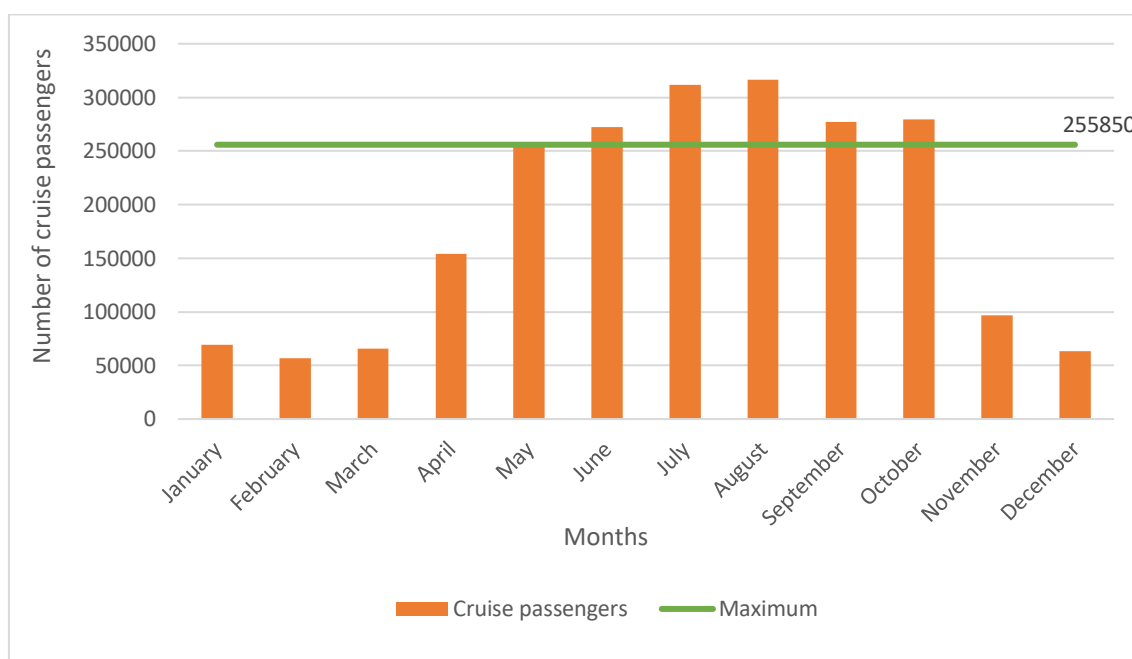
Source: Ultima Hora, (Serra, 2022).

In Mallorca, there are some popular small villages that tourists visit. This is the case of the small town of Deià and Cala Deià, located in Serra de Tramuntana. In August 2022, residents of Deià condemned the number of cars that were accessing the town and Cala Deià, resulting in a collapse of the road and disturbing their daily life as described in the local newspaper Diario de Mallorca (Mora, 2022).

Due to the environmental and social impacts of overtourism caused by cruises, a plan has been created by the Govern and the cruise companies to reduce to three the number of cruise ships that can arrive in Palma simultaneously (Salgado Álvarez, 2022). In 2022, according to the same article, there were some exceptions, such as 18 days when up to 4 cruises could be moored in Palma, but in 2023 there will be no exceptions. The number of cruise passengers is limited to a daily rate of 8,500 passengers in a week, which must not be exceeded in any case. This measure is aimed not only at reducing the environmental impacts and pollution coming from cruises but also to limit the number of people that arrive in Palma to reduce massification in the city.

With the limitation of 8,500 passengers per day for a week, the total number of monthly passengers that must not be exceeded is 255,850, if we calculate that a month has a mean of 4,3 weeks. In Figure 2, we can see that in 2019 from June until October, that number would have been exceeded in terms of the limitation that came into force in 2022.

Figure 2: Number of cruise passengers that arrived in Mallorca in 2019.



Source: own elaboration with data from AETIB.

4.4. Indicators of overtourism in Mallorca

As stated in section 2.4. of this study, the most relevant indicators of overtourism are tourism intensity and density, the presence of Airbnb, the share of tourism regional Gross Domestic Product (GDP), air transport and closeness to airport, cruise ports, and UNESCO World Heritage Sites. However, in terms of this study of Mallorca, the UNESCO World Heritage Sites indicator is not going to be assessed, because in Mallorca there is only one. The only UNESCO World Heritage Site in Mallorca is Serra de Tramuntana, which certainly attracts many visitors because of its nature and hiking routes, but there are no official numbers, and might not be yet such a relevant segment as sun and sea tourists.

4.4.1. Tourism intensity and density

Regarding tourism intensity and density in Mallorca, data from 2022 is analyzed. Tourism intensity refers to the ratio of the number of tourist bed nights by the number of residents in Mallorca. While tourism density shows the number of tourist bed-night per km². In 2022, according to data obtained on Ibestat, the total number of tourist bed-nights in Mallorca was 76,612,377, the total population was 914,564 and the surface of the island is 3,640.11 km². According to that data, tourism intensity is 83.77 bed nights per capita and tourism density is 21,046.72 bed nights per km². These values fall into the 5th percentile of the *Research for TRAN Committee* table (Annex 2), which indicates that most destinations that have overtourism cases fall into the 5th percentile (Peeters et al., 2018).

This tourism density and intensity are mostly felt in the city center of Palma and on the beaches, especially small ones. Palma finds itself as the 17th most visited city in the world and 2nd from Spain, a little behind Barcelona, on the Global Destination Cities Index 2019, which ranks the most visited cities in the world by international tourists that overnight on the destination (Redacción Digital, 2022). Furthermore, every year the story repeats itself, and massification does not only affect locals but also tourists. In 2016, tourists were already complaining about the level of massification (Magro Palma, 2016). In 4.6. section, tourists' perceptions will be analyzed.

In Image 1 and Image 2, we can see how many people are visiting the beach “Es Trenc”, which is part of a beach-dune-system, and the small bay “Caló des Moro”, which has long queues to access it.

Image 2: Beach “Es Trenc” with almost no free space.



Source: Última Hora, (Redacción Digital, 2023).

Image 3: People waiting in a queue to enter “Caló des Moro”, a small bay.



Source: Última Hora, (Ballester, 2022).

4.4.2. Presence of Airbnb

The presence of Airbnb rentals and its growth in tourist locations is another main indicator of overtourism and its impacts. The main impact of Airbnb’s uncontrolled growth is the difficulty for residents to find affordable rentals, as lessors prefer to rent to tourists. According to *Inside Airbnb*, the total number of listed Airbnb rentals is 17,876, of which 3,125 are only entire homes that are recently and frequently booked, making 177€ a night for 136 average nights booked (Inside Airbnb, 2023). The monthly income of a lessor, considering it is booked every day for a month and there are no maintenance costs, such as cleaning (which certainly there are, but no data is available to calculate), is around 5,310€/month.

In the past 10 years, residential housing prices have been fluctuating, but always with a rising tendency (Idealista, 2023). In April 2023 the highest price per square meter was recorded and it was 15.2€, according to *Idealista*. From the same source, the lowest price per square meter was in March 2013 and it was 7,4€. Therefore, in the past 10 years, the price of rentals has more than doubled. This means that an average 100-squared-apartment now costs 1520€, doubling the price in 2013.

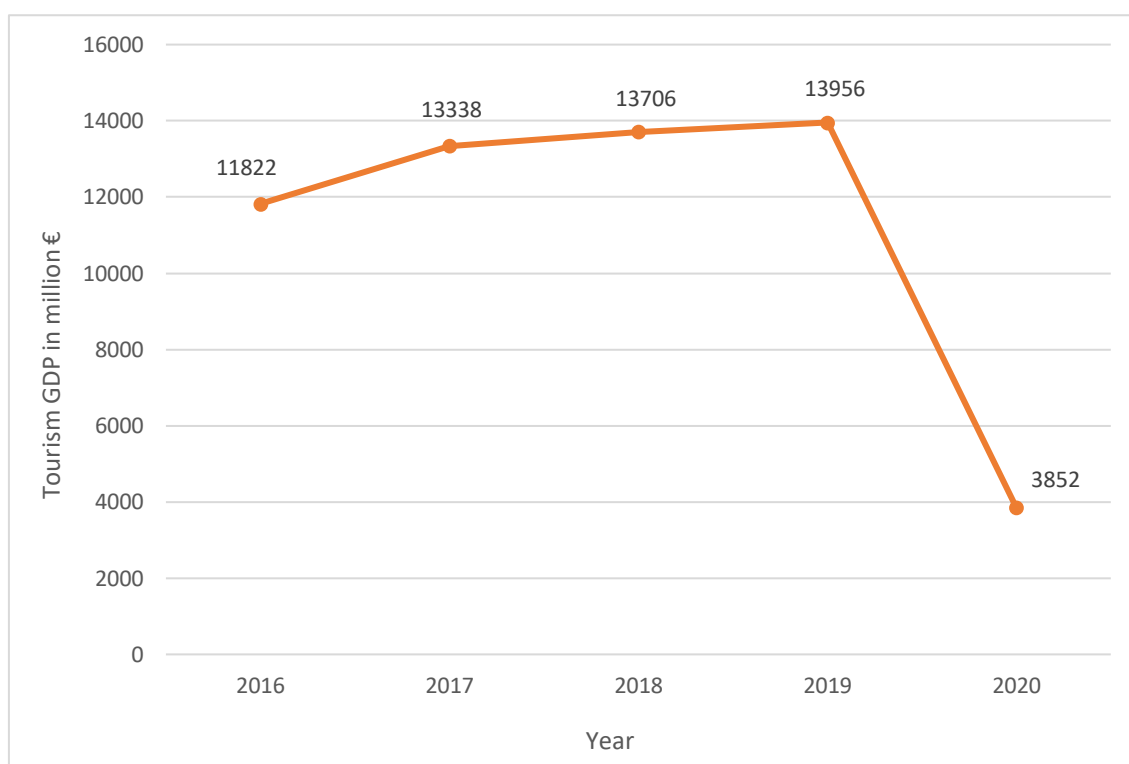
According to the average price mentioned above, holiday rentals on Airbnb would make 3.49 times more money compared to a residential rental for a whole month. This approximation was made by dividing the total 5,310€, calculated before, and the total per month for a residential rental, which is 1520€.

Therefore, although the price for ordinary rentals is at its highest point, holiday rentals for tourists (some of which are illegal) are still a better option for most lessors. Not even regulated holiday rentals are an option because receiving the license takes time and money, and has many requirements and regulations (depending on the typology of home, zone, age of the property...).

4.4.3. Economic dependence

For the third indicator, which is economic dependence, we are going to see the importance of tourism revenue over the total GDP and tourism-related jobs over the total employment. We must calculate the economic dependence of the Balearic Islands, as the GDP is for the whole autonomous community. In 2019, tourism revenues amounted to 13,956 million euros and the GDP was 33,935.302 million euros. This results in an economic dependency on tourism of 41%. The percentage of jobs related to tourism on the islands is 41% of the total employment (Exceltur, 2020).

Figure 3: Contribution of tourism to the total GDP of the Balearic Islands from 2016 to 2020.



Source: Own elaboration, with data from Exceltur (2020).

This economic dependency is even more considerable due to seasonality in Mallorca. Revenue and jobs created by the tourism sector happen only in the high season. Meanwhile, the rest of the year, these people are unemployed and revenue falls. Furthermore, it makes the Balearic economy vulnerable to events that may affect tourism. The most recent event was the COVID-19 pandemic, but health crises are not the only ones affecting tourism. In the past decade, tourism suffered the consequences of the global real-estate bubble and now political instability, such as the war between Russia and Ukraine or wars in the past.

In Figure 3, we can see that in 2020 due to COVID-19 the tourism revenue fell to 3,852 million euros, 10,104 million less than the previous year, representing only 14.2% of the total GDP of the Balearic Islands.

4.4.4. Air transport and closeness to airports and cruise ports

Lastly, air transport and closeness to airports and cruise ports are also determining to assess overtourism in destinations. Mallorca is an island, therefore the vast majority of tourists come by plane, and a smaller percentage comes by regular ships, such as ferries, from mainland Spain. Furthermore, many visitors, do not overnight and just spend the day on the island. They arrive in Mallorca on cruise ships and mainly stay in Palma. In this case, airports are relevant for the arrival of tourists for the whole of Mallorca, but cruise ports are just relevant for the city of Palma, as cruise passengers do not have the time to go far from the city where the port is located.

In 2022, Mallorca received 96.1% of the air passengers it received in 2019, which is 28,573,364 passengers. This means that it almost recovered the pre-COVID-19 level (Aena, 2023).

Analyzing such variables as closeness to airports for Mallorca is different as to do it for Paris, for example. Paris is itself a city and tourist destination. However, Mallorca has many tourist destinations across the whole island. Because of that, we will analyze the closeness of the airport and cruise ports to the main tourist areas, which are Playa de Palma, Palma, and Magaluf.

In Mallorca, there is one airport, Son Sant Joan, 2km far from Playa de Palma, 9km from Palma city center, and 29km from Magaluf. The longest distance is to Magaluf and takes a maximum of 30 minutes by car. According to Peeters et al. (2018), if an airport is located within 30km of the tourist destination, there is a risk of suffering from overtourism. Therefore, all three destinations fulfill that requirement.

Regarding cruise ports, Palma's city center is located 5km far from the port, but there is a sea promenade that connects them with a 40 min walk. According to Peeters et al. (2018), if there is a cruise port located within 15km, there is a risk of suffering from overtourism. However, as mentioned before, cruise passengers do not have enough time to go around different parts of the island, apart from Palma, so Playa de Palma and Magaluf would not be affected by the closeness to the port, although they are located 13km away.

4.5. Measures taken against overtourism in Mallorca

The *Research for TRAN Committee - Overtourism: impact and possible policy responses* have made an overview of the occurrence of the measures that have been taken in each of their case studies (Annex 3), one of which is Mallorca (Peeters et al., 2018).

According to that overview, the local authorities of the island have taken the following measures and some of them are going to be analyzed:

- Laws and law enforcement directed at tourists (e.g., related to alcohol and drug consumption, forbidding access to certain locations/at certain times) – **MS 1**
- Increasing prices (at specific times, places or for specific groups), e.g. via taxation, used to mitigate negative impacts – **MS 4**
- Reducing seasonality (via promotion and new attractions) – **MS 5**
- ‘Green measures’ such as eco-certification, environmental taxes (payable by tourists or accommodation providers), green fuel, and green buildings – **MS 6**
- Stop certain developments; prevent uncontrollable development by measures such as zoning systems, laws, and stops on hotel and Airbnb capacity extensions. – **MS 7**
- Stimulate developments directed at residents by, e.g. safeguarding availability of affordable housing, shops catering to residents and improved living working conditions in tourism – **MS 11**

Furthermore, Mallorca is one of the four tourist destinations, out of 41, that has applied more than 5 measures. The other three destinations are Venice, Valetta, and Salzburg historical center.

MS 1 refers to the Decree Law that was accepted in 2020 against tourism of excesses, binge drinking, non-civic behaviors, etc. (Decreto-Ley 1/2020, de 17 de Enero, Contra El Turismo de Excesos Para La Mejora de La Calidad En Zonas Turísticas., 2020). It established urgent measures that regulate and forbid certain behaviors and business practices. Some of the measures are:

- Forbidden behaviors in hotels that threaten one’s life, such as “balconing”, a practice made by tourists in hotels that consists in jumping from the balcony of the room into the hotel’s swimming pool or going from one room to another jumping from one balcony to the another.
- Hotels in mature tourist destinations (Magaluf and Playa de Palma) can only sell alcoholic drinks per unit and cannot include unlimited alcoholic drinks/free bar on the all-inclusive board.
- It forbids any type of advertising on the streets that incentivizes drinking, such as 2x1, 3x1, happy hour, or free bar offers.
- It is forbidden to have self-service alcoholic dispensers.
- It is forbidden to hypersexualize any person at the entrance of an establishment with the aim of attracting people to drink alcohol.
- It is forbidden to make, advertise and commercialize party boats on the zones that are defined as “mature”.

MS 5 deals with seasonality. Mallorca’s local authorities have promoted Serra de Tramuntana, Mallorca’s largest mountain chain, which is a UNESCO World Heritage Site, to promote active tourism such as sports, bike touring, cycling, and hiking in low season. Besides promoting active tourism, senior and accessible tourism have also been addressed (Peñalver, 2023).

MS 6 refers to the “Sustainable Tourism Tax”, the former “ecotax”, which consists in a tax that is paid by tourists who overnight in a regulated tourist accommodation per night, per person over 16 years old. This law was modified and increased the amount that must be paid, with a maximum of 4€ per person per night, and a 10% VAT must be included after. This tax was created to invest the income into sustainable development and to protect the environment, cultural heritage, etc. In other words, to mitigate overtourism’s impacts, such as the ones seen in this study, and to promote more sustainable tourism.

In terms of MS 7, the *Plan de Intervención en Ámbitos Turísticos* (PIAT), a plan for intervention in tourist areas, regulates “the zoning for accommodation and classifications of zones” (Majorca Daily Bulletin reporter, 2020) and the Ley 8/2012, de 19 de julio, del Turismo de las Illes Balears also establishes some regulations for holiday rentals, such as the type of housing and the number of days that it can be rented per year (Ley 8/2012, de 19 de Julio, Del Turismo de Las Illes Balears., 2012).

The measures taken against overtourism depend on the political powers. Some have more ambitious visions, but it all must be in balance, as Mallorca depends highly on tourism (41%, as previously seen). Mallorca’s economy would have to make big changes to diversify the economy and not depend on big masses of tourism so much.

4.6. Effects of overtourism on tourists in Mallorca

We have seen what the impacts of overtourism cause in different spheres, such as the economic, social, and environmental, and these might also affect tourists. In fact, Image 2, and Image 3 on pages 19 and 20, show how people are waiting in a queue and how little space there is on the beach. A good part of those people might be tourists. In general, nobody likes standing in a queue at 35°C or having people less than a meter away from one’s towel. There are even some beaches, where the natural limits are normally overpassed, and people are not having the minimum stipulated square meters of space at the beach (Ballestero, 2022).

There are testimonies of people, such as Barbara Simmons, a British tourist interviewed by *Diario de Mallorca*, that says: “We were here (in Mallorca) some years ago and it was perfect. [...] The island is beautiful, but we cannot enjoy it anymore: we are sick of not being able to do anything because everything is full” and she finally said she is not going to go back to Mallorca (Magro Palma, 2016).

The German newspaper, *der Spiegel*, carried out a survey in 2017, right after the same left-winged and Pro-Catalan-Independence youth organization mentioned before, performed some acts of tourism-phobia. According to *El Mundo* Spanish newspaper, the survey revealed that seven out of ten Germans support that the number of tourists is restricted and eight out of ten understand the actions that took place against tourist massification performed by the organization. These results show that German tourists see and understand the problem of overtourism in Mallorca (Sáenz, 2017).

However, that is not a new opinion of Mallorca's visitors. In 2006, a survey was carried out at the airport of Palma by Joaquín Alegre and Jaume Garau, where 2,423 people participated. Their target were only German, British, and Spanish tourists, as they then represented 81% of the island's tourists. The aim of their research was to demonstrate that the assessment of the overall satisfaction of tourists cannot only be analyzed by asking them for only satisfactory attributes. Instead, they must be explicitly asked about dissatisfaction attributes because the lack of factors that generate satisfaction, does not necessarily generate dissatisfaction or the opposite; the lack of factors that generate dissatisfaction does not necessarily mean that the tourist is satisfied. One of those factors that were analyzed as generators of dissatisfaction was that there are "too many people". It was rated on a scale from 1 to 3, where one means "did not find it disturbing", 2 means "negative or unpleasant", and 3 means "highly negative or highly unpleasant" (Alegre & Garau, 2010).

The results showed that 36.8% of respondents considered that there were "too many people" and 34.8%, that there was "too much traffic". Therefore, we can see that the tourists from the main markets, already considered that Mallorca was somehow overcrowded in 2006 and perceived it as a dissatisfaction factor. It is important, especially for sun and sea destinations because "the estimated model reveals that negative situations tied in with overdevelopment, tourism congestion, and the destination's environmental degradation are highly important in explaining tourists' intention not to return" (Alegre & Garau, 2010). This statement has gained even more importance now, 17 years later, where not only levels of tourism have risen, but also environmental awareness. Usually, northern countries, which are the main markets for Mallorca, are more environmentally conscious than the rest of Europe. Therefore, it can be determining for them whether to choose Mallorca or not, based on sustainability options and the state of the natural environment, such as mountains and beaches.

The study also concludes that, although dissatisfaction factors have a strong influence on overall satisfaction but are not as determining as satisfaction ones; they play a big role when it comes to returning to the destination. Dissatisfaction dimensions make the destination less attractive, therefore the probability of return decreases and they can lead to comparisons with competing destinations (Alegre & Garau, 2010).

5. Conclusions

The objective of the study is to analyze the state of overtourism in Mallorca and how it affects tourists. We can conclude that Mallorca suffers the consequences of overtourism, in the form of economic, social, and environmental problems.

The most important economic impacts are the dependence on tourism revenue and employment, and the speculation with rental prices, making housing inaccessible for residents. The most relevant social impact is tourism-phobia, making locals feel irritated by tourism, because it has surpassed some limits, such as crowded beaches, and streets, impeding residents to enjoy their island. However, this overcrowding eventually starts bothering tourists too, preventing them from having a relaxing and positive experience. Regarding environmental

consequences, Mallorca has suffered overdevelopment and construction on its coastline, condemning most of the coast views with big hotels and resorts. Besides the aesthetical point of view, this overdevelopment has affected ecosystems, such as the marine and dune systems.

Local authorities' actions depend on the political party that has the power. However, several actions have been taken such as the Sustainable Tourism Tax, limiting cruise ships, and different laws and measures that regulate tourism's development and practices.

Regarding the effects of overtourism on tourists, a survey would have been more accurate and would provide current data on their perceptions. However, the press has helped in analyzing their perceptions of overtourism in Mallorca and how it affects their experiences. Tourists start to experience the negative consequences of overtourism and start to consider other times to visit, or the most drastic measure, so as not to go back to Mallorca and choose other rival destinations.

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Annexes

Annex 1

Table 15: Overview of measures as found in the 41 cases

Measure code	Measure category description
MS 1	Laws and law enforcement directed at tourists (e.g. related to alcohol and drug consumption, forbidding access to certain locations/at certain times)
MS 2	Distributing tourists to other places, such as via promotion, new attractions, better transportation options, and tours
MS 3	Increasing capacities of the destination to deal with higher numbers of people by e.g. improving traffic management, security measures and waste management
MS 4	Increasing prices (at specific times, places or for specific groups), e.g. via taxation, used to mitigate negative impacts
MS 5	Reducing seasonality (via promotion and new attractions)
MS 6	'Green measures' such as eco-certification, environmental taxes (payable by tourists or accommodation providers), green fuel, and green buildings
MS 7	Stop certain developments; prevent uncontrollable development by measures such as zoning systems, laws, and stops on hotel and Airbnb capacity extensions.
MS 8	Improve stakeholder involvement in tourism marketing and development
Measure code	Measure category description
MS 9	(Real-time) information for tourists on, e.g. crowdedness, transport options, and other times to visit
MS 10	Promoting high-quality tourism (adjusting the tourism offers and attracting different types of tourists)
MS 11	Stimulate developments directed at residents by, e.g. safeguarding availability of affordable housing, shops catering to residents and improved living working conditions in tourism
MS 12	(Dynamic) caps on access to the destination / attraction
MS 13	Less / No promotion
MS 14	Awareness campaign to prevent / stimulate certain behaviour (directed at tourists)
MS 15	Improved monitoring
MS 16	Conduct research

Source: Research for TRAN Committee - Overtourism: impact and possible policy responses

Annex 2

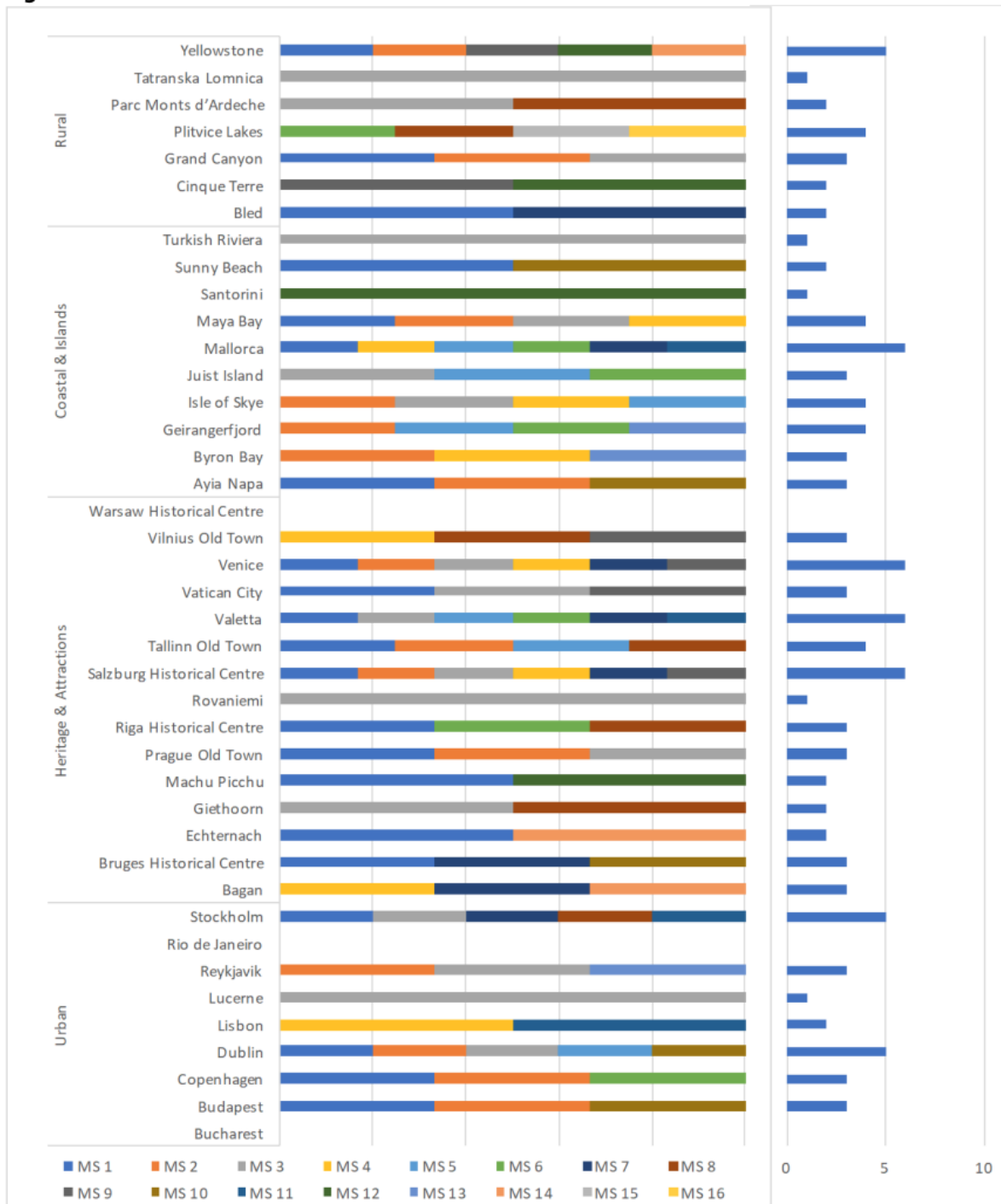
Table 4: Overview of the percentile minimum and maximum values for the EU28+ NUTS 2 regions for tourism density and intensity

<i>Percentile</i>	<i>Tourism density (bed-nights/km²)</i>	<i>Tourism intensity (bed-nights/capita)</i>
1 st	160 - 407	0.34 -3.18
2 nd	407 - 719	3.18 – 4.49
3 rd	719 - 1,174	4.49 – 6.30
4 th	1,174 - 2,278	6.30 – 9.58
5 th	2,278 - 37,290	9.58 – 70.73

Source: Research for TRAN Committee - Overtourism: impact and possible policy responses

Annex 3

Figure 20: Occurrence of measures in all 41 cases



Source: Research for TRAN Committee - Overtourism: impact and possible policy responses