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Illes Balears**

Facultat de turisme

**Memòria del Treball de Fi de Grau**

# Potencialidades y amenazas del turismo de cruceros en las Islas Baleares

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Paraules clau del treball:

Cruise tourism, economic impacts, social impacts, environmental impacts, Mallorca, demand, supply...

## **Abstract**

The project presented below focuses on the different impacts, both positive and negative, which entails the arrival of cruise ships to the port of Palma. Specifically, the economic impacts that benefit both the Islands and Mallorca are analysed, as well as the study of the cruise offer and the main competitors of Mallorca as a destination. On the other hand, the problems of this kind of tourism are illustrated, such as seasonality or tax avoidance, as well as the social problems involved in the mass arrival of cruise passengers. Finally, this project explains the important environmental consequences, the solutions and controversies that have appeared over the years.

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## **Acronyms**

**WTO.** World Tourism Organization

**CLIA.** Cruise Lines International Association

**FCCA.** Florida-Caribbean Cruise Association

**APB.** Autoritat Portuària de Balears

**IBESTAT.** Institut d'Estadística de les Illes Balears

**APTEC.** Asia-Pacific Tourism Exchange Center

**UIB.** Universitat de les Illes Balears

## **1. INTRODUCTION**

### **1.1. Justification and objectives to be achieved**

Mallorca is an island with limited resources and a carrying capacity that, with the increase of cruises that the island has experienced in recent years, has been negatively affected. By this I mean that we have reached a situation of tourist saturation, that happens when a space exceeds the number of people so that the environment is not damaged.

My main motivation in choosing this topic was especially the lack of interest in the consequences of the massive arrival of cruise ships. We should be aware that the number of cruise passengers has increased a lot in recent years, and this increase considerably affects Mallorca, either positively or negatively. It is true that cruise tourism has increased profits and employment, but we should also take into account the negative consequences that this sector entails.

For this reason, my main objectives in this assignment will be to analyse the different impacts caused by cruise tourism that affect our island. With this analysis I would like to become aware of the extent to which the arrival of cruises in Palma can be favourable and sustainable. Somehow, I also would like to be able to search and explain some possible solutions found by the “Autoritat Portuària de Balears” to palliate these impacts in the ports of Balearic Islands.

### **1.2. Definition**

The Collins English Dictionary defines a cruise as “to make a trip by sea in a liner for pleasure, usually calling at a number of ports” (Dowling, 2006, p. 3). According to Lukovic (as cited Morales & Carrasco, 2015), the tourism of cruises can be placed within the typology of nautical tourism. Nautical tourism has experienced in the last three decades one of the highest developing rates in the economy and today it forms a small but growing part in the tourism industry (Šošić, Stumpf & Mezak, 2014).

Nowadays cruise tourism is considered to be the set of activities carried out by people during their trips and stays on tourist cruises, including those carried out in the places visited (Morales & Carrasco, 2015).

A cruise ship can be considered as a mobile resort but also incorporates a differentiating characteristic: mobility, since the passengers can visit different destinations staying in the same tourist resort (Morales & Carrasco, 2015). Nowadays these types of ships are viewed as floating resorts or hotels. "According to the WTO the accommodation and related facilities comprise 75% of the ship with the remainder devoted to its operations" (Dowling, 2006, p.3). Three quarters of the ship is destined to restaurants, bars, sports facilities, discos, shopping centres, swimming pools, etc.

Davidoff & Davidoff (as cited in Šošić et al., 2014), outlined five characteristics that permits to differ the tourism cruise ship from the rest of the tourist sub sectors:

- Cruise passengers can visit different destinations in a short period of time on the same trip.
- The ships are self-contained/independent.
- Cruise ships have a cruise director and staff whose sole function is to make sure passengers have an enjoyable time. The staff of the cruise ships is usually highly qualified, especially in relation to languages.
- High-quality food is served in elegant style.
- Everyone usually begins and ends their vacation on the same day.

### **1.3. Historical evolution**

In order to explain the historical evolution of cruise tourism, a table (Table 1) divided in four periods, is presented. These periods set the guidelines in the history of maritime transport (Murias, 2002).

**Table 1. Evolution of the cruise tourism from 1845**

Desde	Hasta	Denominación	Período
1845	1914	Período anteguerras	Desde 1845 hasta la primera guerra mundial.
1914	1939	Período entreguerras	Desde la primera a la segunda guerra mundial.
1945	1960	Período posguerras	Desde la segunda guerra mundial hasta el año 1960.
1960	2001	Período moderno	Desde 1960 a 2001 desarrollo de la moderna industria.

Source: Retrieved from "La industria del crucero en el siglo XXI. Implicación en los puertos españoles y perspectivas de futuro", Murias (2002).

### **Before-war period**

Fúster (as cited in Fernández, 2008), in his classic treatise on the history of tourism, considered that the inaugural period of cruise tourism takes place between the mid-nineteenth century and the outbreak of the First World War, when shipping companies begin to be interested in this new business.

Murias (2002) also places the origin of this type of cruise ship at the beginning of the 19th century, when the first travel offers related to cruise tourism appeared in Hamburg. The first cruises were only intended for people of high class with a high purchasing power (Tamajón & Valiente, 2012). According to Dawson (as cited in Murias, 2002), in the beginning the trips were only organized by travel agencies and not directly by the shipowners.

One of the best known was Thomas Cook who, thanks to the type of demand, was enriched and then he was able to consolidate one of the first travel agencies (Towner, 1985). It was just after when another very important British company, called P & O, appeared (Tamajón & Valiente, 2012). This British company offered trips with its ship Ceylon from the United Kingdom to Italy, Greece, Turkey and Egypt (Murias, 2002).

The Norwegian company Bergen also launched its first offers from Bergen visiting the Norwegian fjords and North Cape. Another British company appeared, intended only to British passengers. This company offered cruise ships from Hull to Copenhagen. From 1880 more ships operated by different companies were incorporated into the industry (Fernández, 2008).

### **Inter-war period**

In this period, it could be said that the modern concept of the tourist maritime cruise is conceived. Between 1920 and 1930, the most important shipping companies appeared in the industry although there was a significant lack of demand. In the period between the wars the cruises were still intended to the upper and middle class (Murias, 2002).

There were some companies which appeared during this period such as: Cunard Line, Royan Mail Line, Blue Star Line, White Star Line, P & O, Canadian Pacific, Anchor Line ... (Fernández, 2008).

### **After-war period**

In this period the industry suffered one serious crisis due to the outbreak of the Second World War in 1939 (Cartwright & Baird, 1999). Cruise tourism ceased to exist even though the transport of passengers didn't stop at all as there were ships transporting troops (Murias, 2002).

According to Cartwright Roger & Blair Caron (as cited in Murias, 2002), when the war ended in 1945, most of the ships were seriously affected and only those in good condition were intended for the transport of troops, material, etc.

Until 1950, cruise tourism was not resumed. From then on, most of the companies which operated before the war could continue with their tourism activity. Among them were Cunard Lines, Canadian Pacific, P & O, Royal Mail, etc. New companies also appeared in Italy and Greece such as Costa Line, Sitmar Line, Chandris, Typaldos, etc (Murias, 2002).

### **Modern age until nowadays**

From the 60s, companies began to decrease cruise prices and allowed the middle class to entry into the market so that cruises ceased to be exclusive for the privileged society (Murias, 2002). "Particularly the increase in the leisure time and personal wages of the people has positively affected the demand towards tourism and mass touristic movements have developed since then" (Yağci & Akdağ, 2016, p. 527).

Thanks to the drop-in prices, the demand was multiplied several times. From the 1960 to the present day, the demand has grown to levels that nobody imagined, and the cruises have been evolving and modernizing (Murias, 2002).

## **2. ECONOMIC IMPACTS**

This section evaluates to what extent cruise tourism can economically benefit the destination, but it also takes into account the negative economic impacts that this type of tourism can have.

### **2.1. Positive impacts**

Within the positive impacts, global and international demand are explained. It is also focused on the impacts in the Balearic Islands, especially in Mallorca. On the other hand, this section provides an analysis of the offer of this type of tourism and competitors.

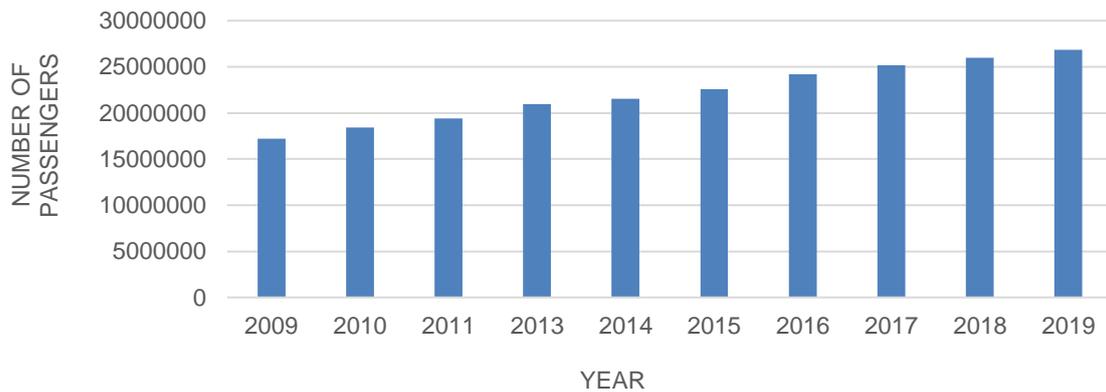
#### **2.1.1. Analysis of the demand**

##### **2.1.1.1. Global demand**

Nowadays tourism has progressed, and many types of tourism have been created to capture the attention of all people who want to live all kinds of experiences. This progress has been possible thanks to diversification and thanks to the spaces and types of tourism created for different demands. "One of such tourism activities shining in the recent years is cruise tourism" (Yağci & Akdağ, 2016, p.527).

The world demand for cruise ships has experienced one of the biggest growths in the tourism sector. During recent decades, cruise tourism has exceeded the growth rate of tourism in all aspects, doubling the rate of international tourism (Brida & Zapata, 2009).

**Figure 1. Worldwide passengers carried**



*Source: Own elaboration. Retrieved from Cruise Market Watch (2019).*

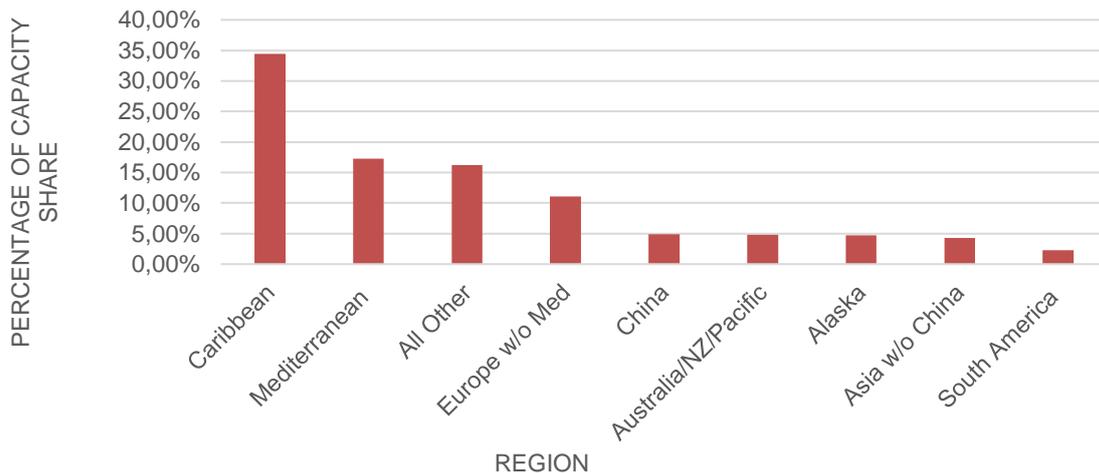
As Figure 1 indicates, in the last 10 years the number of passengers has grown by a 56%. Furthermore, cruise demand has an average annual growth rate of 6,63% (Cruise Market Watch, 2019).

According to Cruise Market Watch (2019), of the 26.857.418 passengers in 2019, 14.526.363 are from North America, 6.933.353 come from Europe and 5.397.702 from other countries. This implies that 54% of the global demand is from North America and only a 26% from Europe.

“The cruise industry continues to make a positive impact on communities around the globe by sustaining 1.108.676 jobs equalling \$45,6 billion in wages and salaries and \$134 billion total output worldwide in 2017.” (Cruise Lines International Association [CLIA], 2018).

The Florida-Caribbean Cruise Association (FCCA, 2018) states that the Caribbean region is the most preferred and popular cruise destination in the world as Figure 2 illustrates. According to the study, 76% of the passengers of the cruise ships in the Caribbean were Americans, 13% from Canada and the other 11% from the rest of the world. “The proximity of the Caribbean to the United States and its temperate climate during the winter months have been important factors in the growth of the cruise industry in the region” (FCCA, 2018, p.27).

**Figure 2. Deployed capacity share**



Source: Own elaboration. Retrieved from “2019 State of the industry” (CLIA, 2019).

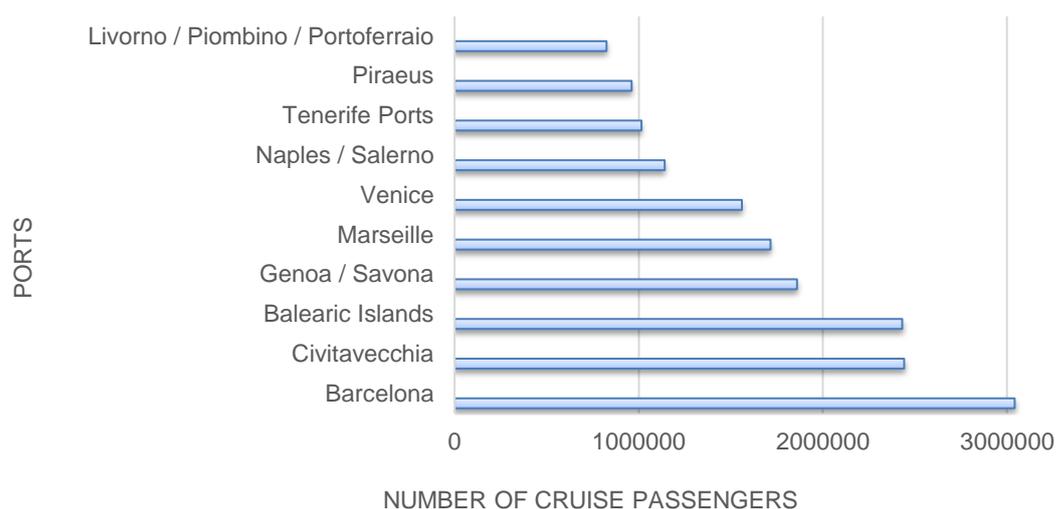
In a recent study, FCCA (2018) claims that the cruise industry in the Caribbean owned a 35% of the industry’s global bed day capacity in 2017, which means that the cruise ships in the Caribbean had the capacity to carry approximately 8,5 million of passengers.

Looking at Figure 2, the Mediterranean destinations are the second most preferred choice for the cruise ship passengers, mostly in the recent years. The main reason is the suitable warm climate in the summer (Dowling, 2006). Yağci & Akdağ (2016, p.527) additionally pointed out that “ (...) the Mediterranean Sea is an important travel destination both historically and culturally”. Moreover, its wealth is because the sea is almost enclosed by three continents.

#### **2.1.1.2. International demand**

The analysis of the MedCruise (2018) report establishes the 10 main ports in the Mediterranean with more passengers during 2018 as Figure 3 illustrates. The report shows that in 2018, the 10 main ports of MedCruise grew by 10,37% compared to 2017 in terms of cruise passengers as they received 17 million passenger movements in their ports. All ports had positive variations with respect to 2017 except the port of Piraeus, whose number of passengers fell by 8,9%.

**Figure 3. Major MedCruise port members per cruise passengers**



Source: Own elaboration. Retrieved from "Cruise Activities in MedCruise Ports: Statistic report 2018" (MedCruise, 2018).

The number one is the port of Barcelona which reached more than 3 million passengers followed by the ports of Civitavecchia/Fiumicino/Gaeta. In third place there are the ports of the Balearic Islands whose ports manage to stay in the first three ports with more passengers in the Mediterranean for the fourth consecutive year. Livorno/Piombino/Portoferraio managed to enter in the top 10 in 2018 (MedCruise, 2018).

Europe represents 38,7% of the 133 billion dollars that cruise tourism generates in the world. Regarding employment, it has been estimated that Europe represents 36,4% of the total in the world. "All indicators show a positive variation compared to 2016, which confirms the strengths of this sector and the relevance in all parts of the world" (MedCruise, 2018).

### 2.1.1.3. Demand in Balearic Islands

According to figures published in 2015 by the Ministry of Development, the ports of the Balearic Islands were ranked 12th in the ranking of the world's first cruise ports (Barceló, Sastre & Valle, 2017).

The reason why Balearic Islands are within the first ports of the world, is because they have both climatic and geographical conditions privileged for cruise tourism (Garau, 2005). The study made by Barceló et al. (2017) establishes the key points for the success of a destination and for it to be attractive for this type of tourism:

1. The destination must be of interest to the cruise passenger.
2. It should have easy accessibility to tourist areas from the port.
3. It should have good communications with other destinations.
4. The integration factor between the port and the city is very important for the cruise and for the cruise passenger.

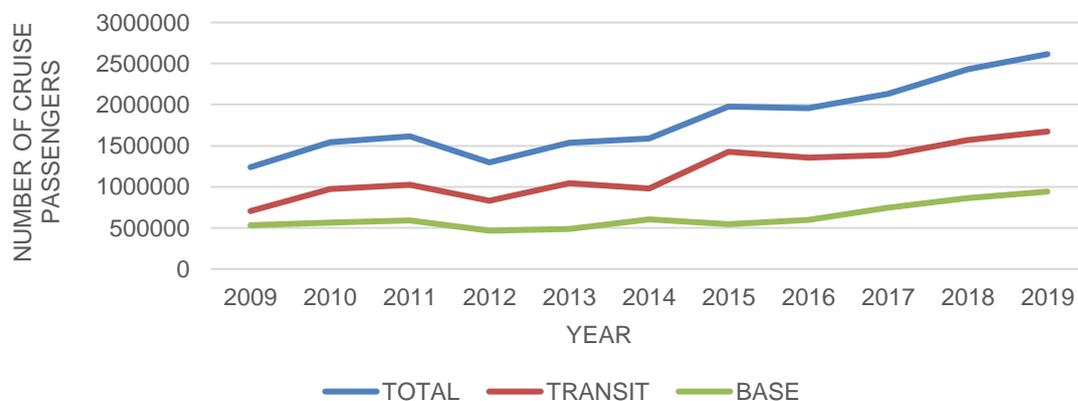
Garau (2005) and Barceló et al. (2017), explain several characteristics of the Islands which state that each point mentioned above is met:

- The Balearic Islands are located in the western part of the Mediterranean. The five main islands form the Balearic archipelago which is very close to the Strait of Gibraltar, France, Sardinia and the Iberian Peninsula. Therefore, it can be said that the Islands have a central position in an area with a strong tradition in this type of activity. Apart from that, two of the great reasons for which tourists visit the Balearic Islands are the coves and the diversion and quality of landscapes that the islands offer (Garau, 2005).
- The Islands are located at a point where weather conditions are ideal for navigation, which is easy and safe between May and October. During the low season of winter there is usually not much trouble when navigating. Usually, bad weather appears during seasonal changes and causes temporary weather. The average temperature is also a positive factor to take into account (Garau, 2005).
- From the airport of Palma and the major European capitals there is an easy and fast access since most of them are less than 3 hours away by plane. Therefore, if tourists start a cruise from Mallorca (which is usually the starting point of the cruises), they can travel quickly and comfortably thanks to the number of direct flights there are (Garau, 2005).

- If we refer to the port of Palma as the main port for the arrival and departure of cruise ships, it can be said that its situation is ideal since it is located about 15 minutes from the city centre and the old town (very close to the Cathedral). In the Balearic Islands there is a good harmony between the integration of ports and cities thanks to the infrastructures and the public and private investments. (Barceló et al., 2017).

The following figure (Figure 4), shows the base and transit cruise passengers. The transit ones are those who spend only one hour on land and the base ones are those who start the cruise and end at the same port (Ruiz, 2018). Is important to keep in mind that the port of Palma is the only base port of the Balearic Islands (Hosteltur, 2017).

**Figure 4.** Number of cruise passengers in the Balearic Islands



Source: Own elaboration. Retrieved from *Autoritat Portuària de Balears* (2019).

The statistics of the *Autoritat Portuària de Balears* (APB) show that, by islands, the port of Palma is the one which receives the most cruise passengers followed by the port of Formentera. The third place corresponds to the port of Ibiza and finally the port of Menorca.

According to APB data, Mallorca has almost tripled the number of cruise passengers visiting the Island. In 2009 the figure was 824.044 passengers and in 2019 the figure has increased to about 2.190.347. Of the number of

passengers in 2019, 940.842 are base passengers and 1.249.505 are transit passengers.

#### **2.1.1.4. Cruise passenger profile**

Through the surveys carried out by the Cambra de Comerç, the socioeconomic profile of the cruise passengers can be known. In the study conducted by Barceló et al. (2017) the most important conclusions are reflected:

- Basing only on the transit cruise passengers, they spend an average of about 4,1 hours in Palma. In Maó and Eivissa the stay is between 4 and 6 hours.
- As for the base cruise passengers, 21,9% have made an additional stay to the cruise of 4,2 days.
- 57% of cruise passengers (transit and base) arriving in the Balearic Islands are women, while the remaining 43% are men.
- The average age of cruise passengers (transit and base) is from 46 to 65 years for 37% of respondents and 33% are between 31 and 45 years old.
- As for excursions, base cruise passengers usually stay in the centre of Palma. 81% of the transit cruise passengers also stay in the capital while only 19% of those transit cruise passengers visit other sites of the Island such as Sóller, Valldemossa, Deià ...
- Referring to purchases, 80% of transit cruise and 6% of base cruise passengers have made some type of purchase on land.

#### **2.1.2. Economic impact**

This section divides the economic impact in direct, indirect and induced since it is important to also take into account the benefits which derive from the activity of the cruise ships. According to Barceló et al. (2017), these three impacts in 2015 generated a total of 256,66 million euros of gross value added (GVA) and 5.733 jobs in the ports of the APB. Of the total economic impact, it is estimated that 85% is generated in Mallorca so the data explained below can be extrapolated to what would be the economic impact of cruise ships in Mallorca.

### 2.1.2.1. Direct economic impact

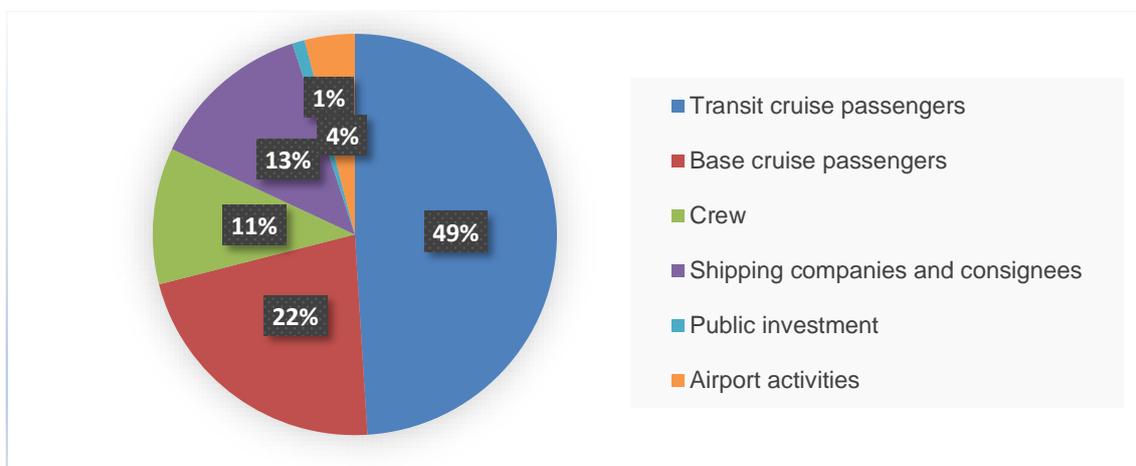
The direct impact is made up of the expenses generated by five main agents: cruise passengers (transit and base) and the crew; shipping companies and consignees; public investment and the airport activity linked to cruise passengers.

According to the study conducted by Barceló et al. (2017), in 2015 the cruise ships generated directly a GVA in the Balearic Islands of 128,08 million € and gave employment to 2.943 people. Moreover, net taxes on products amounted to 9,87 million €.

As it can be observed from Figure 5, most of the direct GVA is generated by cruise passengers; half by transit cruise passengers and 22% by base cruise passengers.

The jobs generated by the cruise activity were 2.943, of which 56% was generated due to the expenses of the transit cruise passengers. In second place there are the jobs generated by the base ones, which represents 19% of the total (Barceló, et al., 2017).

**Figure 5. Direct GVA disaggregated by agents**



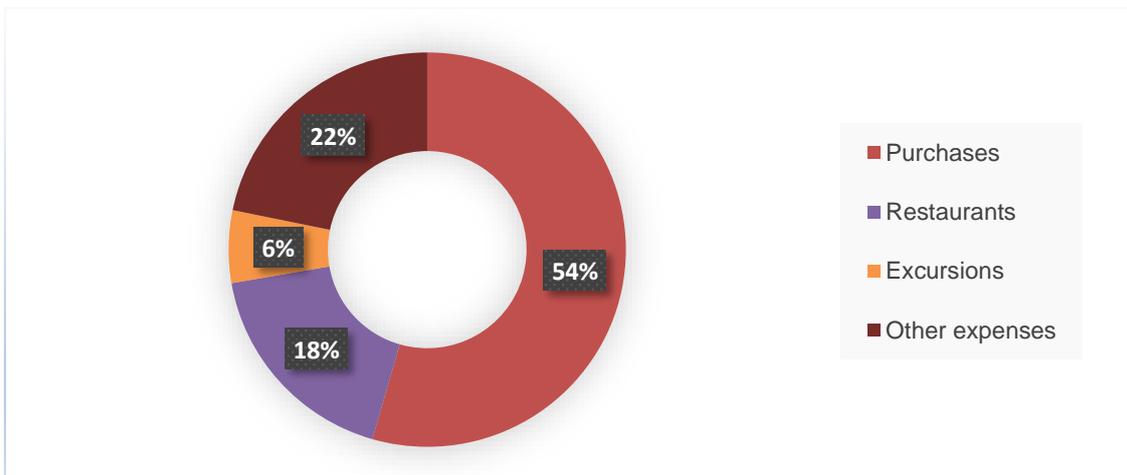
Source: Own elaboration. Retrieved from Barceló et al. (2017).

Regarding the expenditure in 2015, the transit cruise passengers spent during their stay 72€ per person. The expenditure of the base cruise passengers was 155€ on average during their stay since it includes the day of the start of the cruise, the day of the end of the cruise and the additional stay (Ruiz, 2018).

It is calculated through the surveys carried out in 2015, that the transit cruise passengers spent 90,62 million € in the Balearic Islands (Barceló, et al., 2017). This quantity today has increased considerably due to the greater volume of cruise passengers, 23,8% more respect to the year under study.

Barceló et al. (2017) noted that the total amount spent by transit cruisers can be divided according to the type of expenditure as can be seen in Figure 6. On purchases, about 49,4 million € were spent, which is half of the total. Secondly, there are the other expenses which refer to car and bicycle rentals, galleys, taxis, buses, tickets to museums and the Cathedral, etc. In third place, 15,7 million € were spent in bars and restaurants and lastly there are the excursions with 5,5 million €.

**Figure 6.** *Distribution of the transit cruise passenger's expenditure*

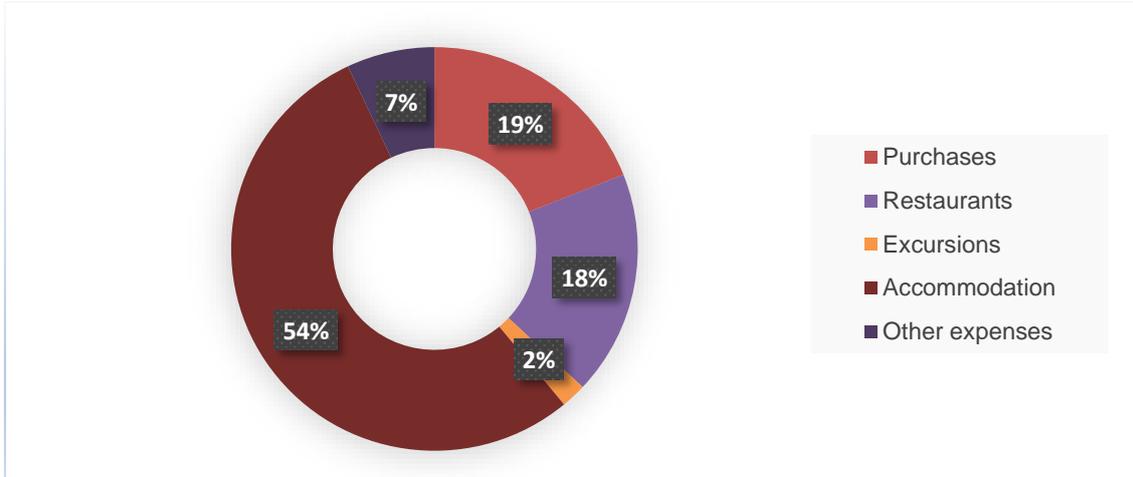


Source: Own elaboration. Retrieved from Barceló et al. (2017).

As for the base cruise passengers in 2015, their expenditure amounted to 39,57 million € but, as it is explained for the transit base cruise passengers, this quantity has increased nowadays. As Figure 7 depicts, half of the expenditure goes to

accommodation because they spend much more time in the Islands than transit cruise passengers (Barceló et al., 2017).

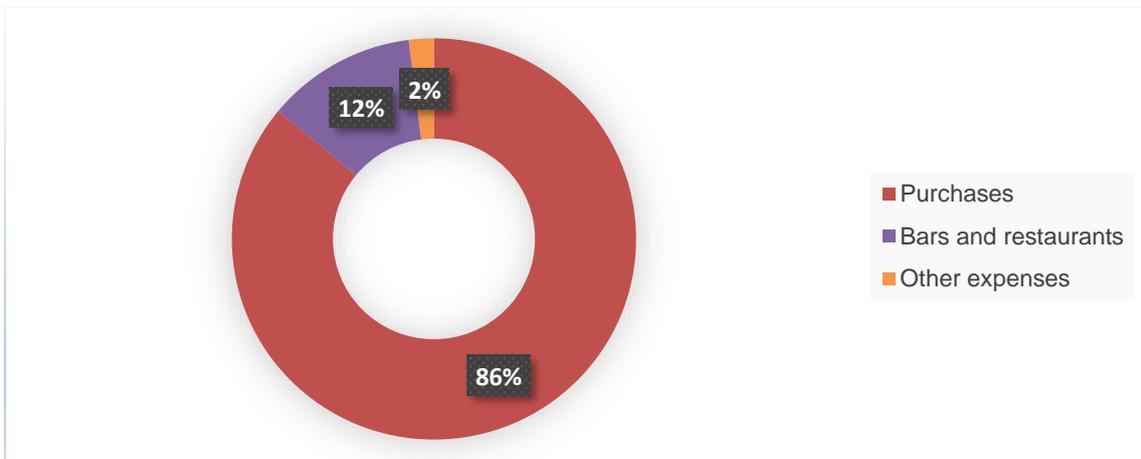
**Figure 7.** Distribution of the base cruise passenger's expenditure



Source: Own elaboration. Retrieved from Barceló et al. (2017).

With the data published by the APB, Barceló et al. (2017) notes that the average expenditure of the crew that visited the city in 2015 was 76€, and in total 19,22 million € were spent. This amount was distributed as it can be observed in Figure 8.

**Figure 8.** Distribution of the crew's expenditure



Source: Own elaboration. Retrieved from Barceló et al. (2017).

### **2.1.2.2. Indirect and induced economic impact**

Barceló et al. (2017) confirms that “the indirect impact reflects the effect generated in the other sectors of the economy as a result of the requirements of goods and services of companies recipients of direct spending (Murillo, 2014)” and the induced impact encompasses the effects derived from the expense of labour income generated directly and indirectly by cruise activity.

The GVA generated indirectly and induced by cruise ships in 2015 was 128,58 million € and 47% of this amount was generated by the expense of transit cruise passengers. In terms of employment, 2.790 jobs in the Balearic Islands were created and half of them were also derived from the expense of transit cruise passengers (Barceló, et al, 2017).

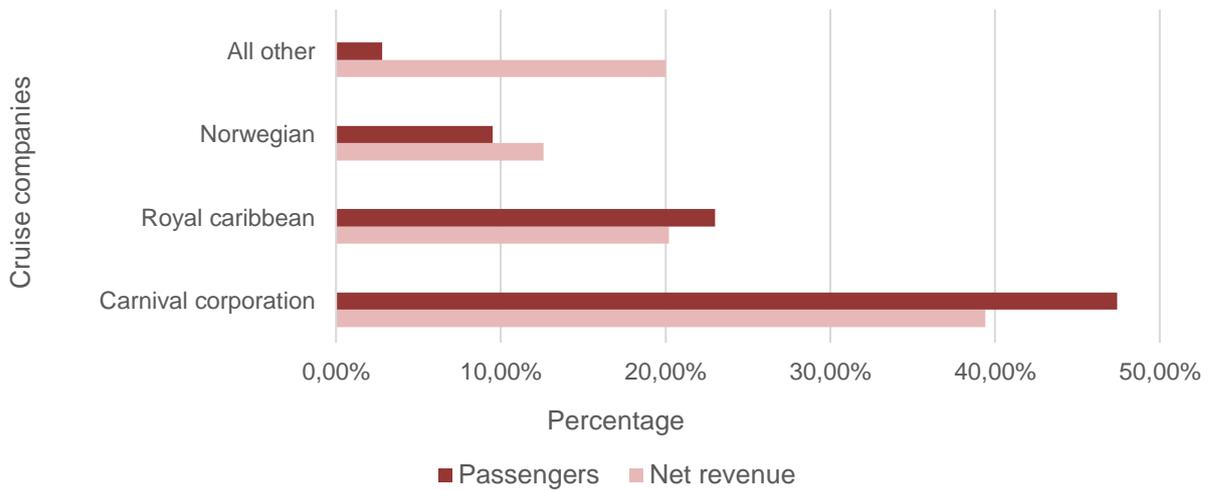
### **2.1.3. Analysis of the supply**

#### **2.1.3.1. Principal cruise companies**

Currently, this tourism sector is delimited by a market structure called oligopoly since there are three large companies (few competitors) that exercise power in the market and each of them has some capacity to influence the price and the amount of balance (Fernández, 2012).

According to the data taken from the Cruise Market Watch website, the world cruise tourism market is currently dominated by three major companies: Carnival, Royal Caribbean and Norwegian. These three companies together represent 72,2% of the cruise market share worldwide in terms of revenue and 80% of cruise passengers.

**Figure 9. Market share of the cruise companies**



Source: Own elaboration. Retrieved from Cruise Market Watch (2019).

Carnival is the largest cruise company in the world in terms of passengers and market share as can be demonstrated in Figure 9. Observing the data from Cruise Market Watch (2019), in 2018 Carnival represented 47,4% in terms of number of cruise passengers worldwide and 39.4% of net revenue, which means that it had a revenue of approximately 21,4 billion dollars. According to Carnival Corporation (2019), the company's portfolio of global cruise line brands includes Carnival Cruise Line, Holland America Line, Princess Cruises, Seabourn, P&O Cruises, Cunard, AIDA Cruises, Costa Cruises and P&O.

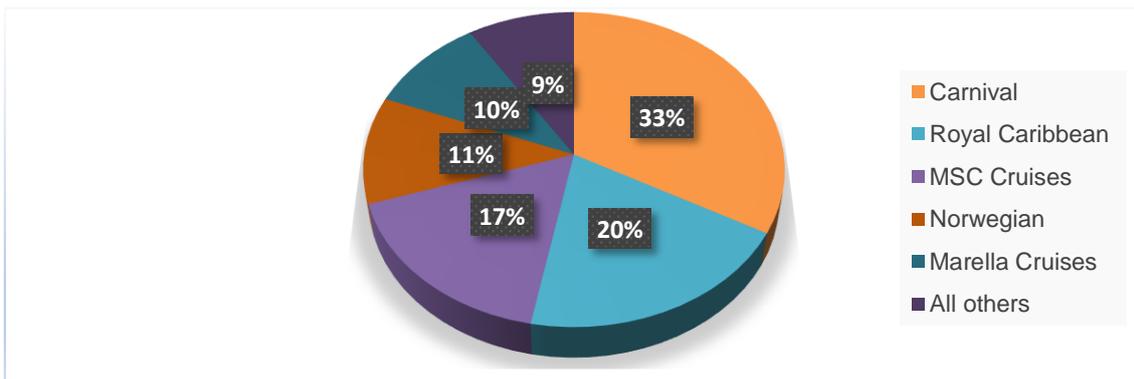
The second largest company is Royal Caribbean, whose passengers symbolize 23% of the world's cruise passengers. This company in 2018 obtained a revenue of 9,2 billion dollars, which represents 20,2% of the total market revenue (Cruise Market Watch, 2019). According to the information found on the official website of Royal Caribbean, the brands which operate under the name of this company are Celebrity Cruises, Azamara, TUI cruises, Silversea Cruises and Pullmantur.

The last largest company is Norwegian as it obtained 12,6% of the total revenue and 9,5% of total cruise passengers (Cruise Market Watch, 2019). The brands that belong to a Norwegian are Oceania and Regent Seven Seas (Norwegian Cruise Line, 2019).

Apart from the three companies mentioned, MSC Cruises also has a very important role in the cruise industry as it represents 7,2% in terms of passengers and 6,8% of revenue (Cruise Market Watch, 2019). The remaining companies barely reach 2%.

The APB website collects data of cruise ships which sails in the Port of Palma. Based on the data of the traffic forecast for the whole year of 2019, it has been possible to extract an approximate amount of the cruise companies which sails in Mallorca. Thus, as shown in Figure 10, it has been found that 33% of the cruises belongs to the Carnival company while 20% corresponds to the Royal Caribbean cruises. It is important to note that, in the case of Mallorca, the number of MSC cruises (17%) exceeds the number of Norwegian cruises (11%). With 10% of the total is placed Marella Cruises which has some importance in the Port of Palma since the percentage is almost similar to Norwegian cruises. The other cruises belong to other companies as Windstar Cruises or Sea Dream Yacht Cruises, which represent 9%.

**Figure 10.** Cruise ships in the Port of Palma by company



Source: Own elaboration. Retrieved from Autoritat Portuària de Balears (2019).

### 2.1.3.2. SWOT analysis

In this section it will be analysed the strengths, weaknesses, opportunities and threats of Mallorca as a cruise destination and also of Palma as a port for the arrival of cruise ships.

**Strengths:**

- The Balearic Islands (especially Mallorca) are one of the favourite destinations at European level as well as worldwide (Agència de Turisme de les Illes Balears, 2017).
- Weather, beaches and landscape are the main attractions of the Islands.
- Weather conditions make possible to navigate almost all the year.
- The Balearic Islands are considered the safest destination in terms of legal, health, religious and political issues compared to their main competitors (Agència de Turisme de les Illes Balears, 2017).
- Palma Airport has many direct flights to the main European cities; therefore, it is very well connected (Barceló et al., 2017).
- Mallorca has a good offer of accommodation and tourist facilities that range from the lowest cost to the most luxurious (Agència de Turisme de les Illes Balears, 2017).
- There is a lot of variety in terms of types of tourism: rural tourism, business tourism, sports tourism, cultural tourism, sun and beach tourism ...
- Regarding the port of Palma, it can be said that it is well integrated in the city since it has good infrastructure and the APB is responsible for the good management of the ports of the Balearic Islands (Barceló et al., 2017).
- From the Port of Palma, it can be easily accessed the city centre as it is very close.
- Cruise tourism generates great positive impacts in terms of the economy and generates jobs.

**Weaknesses:**

- It is a destination with geographical limitations since it is an island surrounded by sea (Agència de Turisme de les Illes Balears, 2017).
- Mallorca depends a lot on sun and beach tourism in summer (Agència de Turisme de les Illes Balears, 2017).
- Related to the previous point, seasonality is a problem since most cruise ships arrive during the high season and saturate the centre of Palma (Coll & Seguí, 2014).
- There is very bad connectivity in Mallorca in terms of transport.

- During the low season, there are fewer direct flights with the main European cities and many hotels also close (Amengual & Bernat, 2016).
- Difficulties in understanding between the Public Administration and the tourist associations (Agència de Turisme de les Illes Balears, 2017).
- Especially in recent years, the growth of the arrival of cruise ships has caused a discontent in the population, apart from a great concern for the environment.
- Regarding pollution, the massive arrival of cruise ships causes large negative impacts.

### **Opportunities:**

- The connectivity between the Islands and also within them can be improved (Agència de Turisme de les Illes Balears, 2017).
- Due to the good conditions for navigation during most of the year, cruise tourism could be used to break the seasonality and extend the tourist season (Coll & Seguí, 2014).
- To extend the season it can be offered more other types of tourism such as cycling, mountain, golf tourism ... since Mallorca has many resources for different types of tourism.
- Today, there is much more respect for the environment, so tourism development it could be possible without causing damage (Agència de Turisme de les Illes Balears, 2017).
- Regarding the previous point, the APB can implement instruments for the control of cruise emissions.
- The development of ICT can be an opportunity to develop new tourism business models (Agència de Turisme de les Illes Balears, 2017).

### **Threats:**

- Mallorca as a cruise destination has many competitors especially in the Mediterranean which are similar to the Balearic Islands (Agència de Turisme de les Illes Balears, 2017).
- There are new emerging destinations that could cause a loss of tourists and benefits due to the quality of the destination (Agència de Turisme de les Illes Balears, 2017).
- Insularity can create problems (Agència de Turisme de les Illes Balears, 2017)

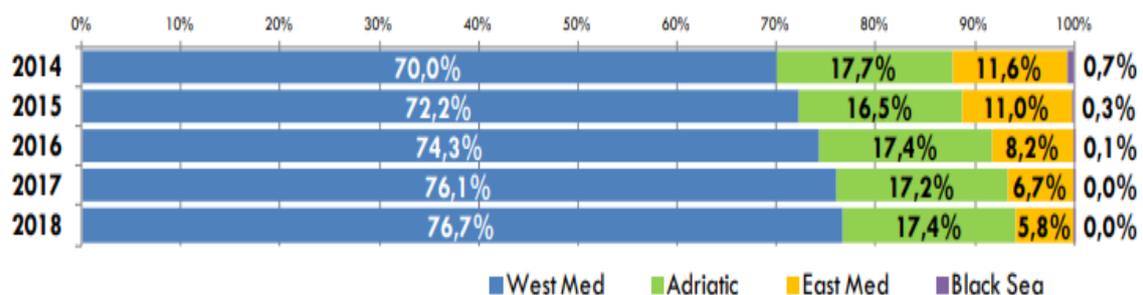
- Saturation and high prices in summer can cause tourists not to return.
- Demand is concentrated in the main tour operators (Agència de Turisme de les Illes Balears, 2017).
- Global crisis may affect the profiles of tourists (cruise passengers).
- If the situation of the massive arrival of cruise ships continues, it can contribute to climate change and help create irreversible damage to our planet.

### 2.1.3.3. Competitors

This section analyses both direct competition and indirect competition of Mallorca as a destination for cruises.

Direct competition refers to those destinations that are very similar and offer almost or the same as Mallorca can offer. Then, it can be said that the direct competition of Mallorca would be those cruise destinations of the western Mediterranean, since the destinations of the eastern Mediterranean have suffered in recent years problems such as terrorism that have caused political and social instability. As can be seen in Figure 11, the ports of the western Mediterranean have been growing in terms of number of passengers, those of the Adriatic have remained stable but the ports of the eastern Mediterranean and the Black Sea have suffered a large drop.

**Figure 11.** Cruise passenger movements evolution per region



Source: Retrieved from "Cruise Activities in MedCruise Ports: Statistic report 2018" (MedCruise, 2018).

By country, according to data from the Medcruise Ports study, the ports of Italy are the ones that receive the greatest number of cruise passengers, followed by

the ports of Spain. In third place are the ports of France together with the ports of Greece.

The data extracted from the official web page of Puertos del Estado (2019) shows that nationally, the main competing ports of the Balearic Islands would be the port of Barcelona, Las Palmas, Santa Cruz de Tenerife, Malaga, Valencia, and the Bay of Cádiz

On the other hand, there are the indirect competitors that are those destinations that serve as substitutes of Mallorca as a cruise destination. This type of competitors could be the ports of northern Europe such as Copenhagen, Bergen, the Norwegian fjords ... which are completely different destinations to those of the Mediterranean, especially in terms of landscape and climate. The entire Caribbean area can also be considered an indirect competitor since the winter weather is the same as the summer weather in the Mediterranean, so many cruises operate in that area only in winter.

## **2.2. Negative impacts**

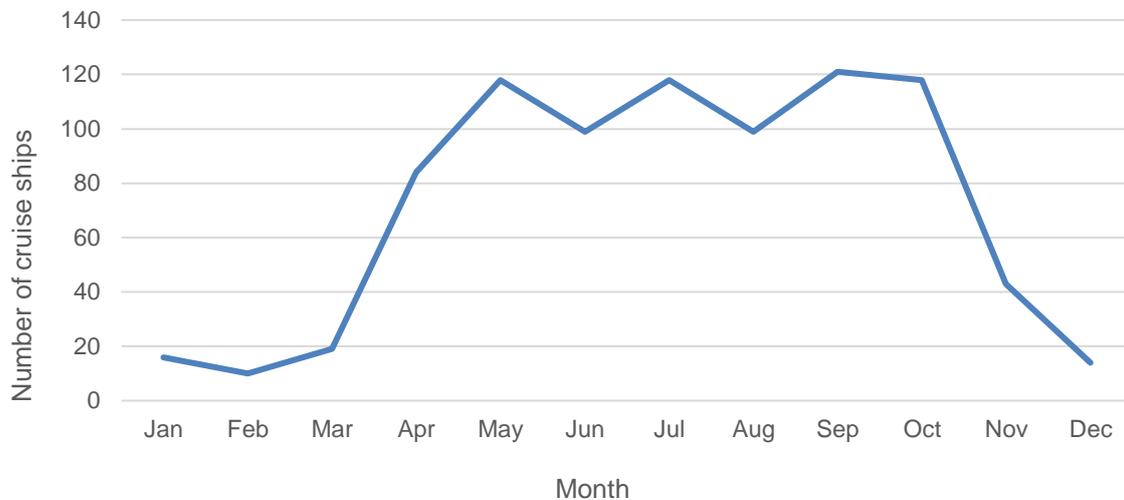
### **2.2.1. Seasonality**

“Tourist seasonality refers to fluctuations in the arrival of tourists, which experiences a certain tourist destination throughout the year” (Coll & Seguí, 2014, p.2). According to Coll (2016), seasonality depends on three main factors: natural factors (climate, fauna, flora ...), institutional factors (work and school holidays, traditions ...) and supply (prices, availability ...). In the case of the Balearic Islands, the factor that determines seasonality the most are the weather and climate conditions.

This phenomenon has caused large companies to operate in the Caribbean during the winter season and some of them move to the Mediterranean during the summer (Buades, 2012). Cruise tourism in the Balearic Islands peaks during the summer months as can be seen in Figure 12, and low season begins in November and ends in March, which is the period when there are less cruises in

the Islands. This is due to, in major part, the mild climate of the island which favours cruise tourism from April to October.

**Figure 12.** Number of cruise ship per month (2018)



Source: Own elaboration. Retrieved from Barceló et al. (2017).

Seasonality is a problem related to the efficiency and capacity of the facilities, but also with the management of other factors with a high social impact such as the temporary work or the impact on the environment (Coll, 2016). To reduce the problems derived from seasonality, many companies reduce prices and offer discounts during the low season (Buades, 2012).

### 2.2.2. Tax avoidance

Univisión conducted a study which analyses, in terms of tax payments, the three largest cruise companies in the world: Carnival Corporation, Royal Caribbean International and Norwegian Cruise Line, which represent 82% of the world market (Rojas & Primera, 2019). The development of cruise activity by these three large companies is carried out among the laws of many countries, which favours them in terms of tax avoidance (Rojas & Primera, 2019). In international waters, fiscal and labour legislation is established by the ship's flag, that is, where they are registered (Álvarez & Rivas, 2018), so large companies take advantage and adopt the “flags of convenience” (Brida & Zapata, 2009).

Rojas & Primera (2019) maintains that:

these three companies have their headquarters in the United States, are listed on the New York Stock Exchange, but are legally constituted abroad. Carnival is, in fact, a company based in Panama; Royal Caribbean is domiciled in Liberia, and Norwegian in Bermuda, a British territory in the Caribbean.

These countries, where companies are engaged, are tax havens according to the Organization for Economic Cooperation and Development, so they are exempt from paying taxes in the United States. This practice is legal since, according to section 883 of the tax code, companies that are not American and that are engaged in maritime transport, are exempt from paying taxes so they do not break any laws (Rojas & Primera, 2019).

Saborit (2019), in the Menorca newspaper, points out that 62% of the cruise stops in the port of Maó are made under flags of tax havens. The same happens in other ports of the Balearic Islands that, according to the Terraferida environmental group, 65 % of the tourist ships which arrive in the city are taxed in tax havens.

### **3. SOCIAL IMPACTS**

This section analyses how affects the massive arrival of tourists to the residents of the Islands, mainly to the ones of Mallorca which is the island that receives more cruise passengers.

Apart from the employment created, “is important to understand what occurs in a vacation space. Specifically, in the space where coincides cruise passengers, stay- over tourists and residents. It has been observed that a highly concentrated tourism generates more negative perceptions from residents towards tourist” (Brida & Zapata, 2009, p.12).

One way to know the level of saturation that exists in a destination is calculating the Human Pressure Indicator (HPI) which is constructed by adding the daily

estimates of the resident population and the seasonal population (IBESTAT, n.d.). As can be list in Annex I, the data collected by IBESAT during all the months of 2017 shows that the months in which the HPI grows, are the high season months which correspond with the arrival of tourists in the Islands. On the other hand, Buades (2012) calculates the tourist intensity rate which indicates the number of residents for each tourist, concluding that in Spain there was one resident for each tourist in 2012. This rate, especially in the Balearic Islands, must have increased due to the rise in tourists (including the increase in cruise passengers).

Therefore, it can be said that the Islands live a situation of tourist saturation in summer. This dissatisfaction of the community is showing signs in recent years even in the form of demonstrations as explained in an article of "El Mundo." In this article, Sáenz (2018) explains the situation of discontent which caused the arrival of the world's largest cruise ship, the Symphony of the Seas, in the Balearic Islands. The manifestation was attended by more than 30 entities, including environmental groups such as the GOB and platforms such as "Fins aquí hem arribat". The protestants insisted that the environmental and social impact it produces in Palma is "as massive as its dimensions".

#### **4. ENVIRONMENTAL IMPACTS**

##### **Water pollution**

The arrival of cruise ships can cause the loss of many marine species and marine habitats if the area of the port where the cruise ships disembark is not regulated. It can also cause eutrophication, coral bleaching or mangrove depletion; but these last impacts cannot be observed in the case of the Balearic Islands, only in some areas of the world. The negative impact is due to the construction of facilities, cruise ship navigation and cruise ship excursions. Consequences may also appear due to the discharge of bilge water and ballast water, which causes invasive species to come (World Tourism Organization & Asia-Pacific Tourism Exchange Center [UNWTO & APTEC], 2016).

Bilge water is composed of fluids such as oil, fuel, sewage from machinery, lubricants ... it can also contain paint and metal shavings. If all these components are not discarded properly, they can kill organisms and marine species. Ballast water is the sea water which cruise ships use to balance the weight of the ship and this type of water negatively affects marine biodiversity (UNWTO & APTEC, 2016).

Table 2 plots, first by ports, the litres of oily waste, sewage and garbage that cruises cause according to the different ports of the Balearic Islands. 87% of the oil residues belong to the port of Palma as it is the port where more cruise ships disembark. Then, it can be observed the waste caused by years and that the amount has increased more than double in only 5 years, since it is consistent with the increase in cruises.

**Table 2. Waste caused by vessels**

2017	PUERTO DE PALMA	PUERTO DE EIVISSA	PUERTO DE MAÓ	PUERTO DE ALCÚDIA	TOTALES
ANEXO I: RESIDUOS OLEOSOS (LITROS)	12.581.609	996.678	467.440	428.028	14.473.754
ANEXO IV: AGUAS RESIDUALES (LITROS)					0
ANEXO V: BASURAS (M <sup>3</sup> )	22.881	2.467	1.046	831	27.225

RESIDUOS PROCEDENTES DE BUQUES	2012	2013	2014	2015	2016	2017
ANEXO I: RESIDUOS OLEOSOS (LITROS)	6.510.700	8.597.040	11.322.235	13.146.544	11.225,18	14.473.754
ANEXO IV: AGUAS RESIDUALES (LITROS)	760.000	1.020.000	752.000	0	0	
ANEXO V: BASURAS (M <sup>3</sup> )	17.249	23.556	24.742	25.457	22.620,51	27.225

Source: Retrieved from “Memòria de sostenibilitat”, APB (2017).

### Marine degradation

UNWTO & APTEC (2016) findings confirm that marine degradation directly affects the attractions and activities of a destination (beaches, surfing, diving ...) and can cause large losses of income such as those deriving from fishing. It also affects the ecosystem and climate regulation, so it is very important that the port authorities of each destination manage cruise activity to reduce the maximum possible damage.

## **Air pollution**

Another of the worst negative consequences of cruise tourism is air pollution caused by burning fuel when cruise ships dock at a port. Contaminated air can cause health problems and degrade the resources of a destination (UNWTO & APTEC, 2016).

The main problem is that renewable energies cannot be used at sea since they are insufficient for such large ships, so they need to burn fuel to generate energy. UNWTO & APTEC (2016) additionally argue that:

Burning fossil fuels causes three primary impacts: greenhouse gas emissions (primarily from CO<sub>2</sub>) and contribution to climate change; particulate emissions, air pollution and resulting health issues from the emissions of CO (carbon monoxide), SO<sub>2</sub> (sulfur dioxide) and NO<sub>2</sub> (nitrogen dioxide); and damage to marine environments if fuel is spilled (though this is rare for cruise ships) (p.44).

In 2012, ships accounted for 3,1% of global CO<sub>2</sub> emissions and within this percentage, 3.3% corresponds to cruise ships (APB, 2017).

## **Noise pollution**

Noise pollution can also be a negative effect of the arrival of cruise ships since when many passengers disembark, it usually affects the inhabitants of the destination. Apart from that there is also noise caused by motors, propellers, generators... which make many marine species to abandon their natural habitat (UNWTO & APTEC, 2016).

### **4.1. Solutions**

The APB manages the pollution of the ports of the Balearic Islands through its environmental policy and wants to conduct the ports towards the concept of "Green Port". It promotes the sustainability, protection of the environment and the biodiversity of ecosystems within the scope of their competences (Ports de Balears, 2016).

In order to mitigate the environmental consequences explained in the last sections, the APB established the ROM 5.1. which is a tool for the management of port water to be able to control and dispose of information on aquatic systems and to improve water quality (Ports de Balears, n.d.).

On the other hand, the Environmental Report of the European Organization of Maritime Ports for 2018, established that air quality is the main priority, so the APB has worked together with the UIB in order to know the air quality in the islands. In 2018 they have installed sensors in the ports which collect the average hourly value of levels of CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub> and SO. They also measure atmospheric pressure, humidity, temperature and noise (Ports de Balears, n.d.).

Thirdly, the APB also implements a waste management plan which consists of a reduction of the waste produced by ships that are discharged into the sea with the main objective of protecting the marine environment. This policy is managed by the requirements of the MARPOL Convention (Ports de Balears, n.d.).

Another solution proposed by the head of the Government's Climate Change and Atmosphere service to reduce emissions is the electrification of the ports so that ships can connect to the electricity. Furthermore, he added that "the network should have a clean source of electricity, so it is not yet viable " (Bauzà, 2019).

#### **4.2. Controversy**

Bauzà (2019) in the "Diario de Mallorca" explains that the APB together with the UIB developed a joint study to know the air pollution in the ports, which concluded that there is no correlation between the arrival of ships and pollution. The conclusion of the study caused a big disagreement on the part of some ecological organizations which complain that the measures implemented were useless.

According to one of the authors of the study, the sensors had limited accuracy and the objective of the study was to "explore whether this technology would be used to monitor environmental quality" and that they only wanted to "(...) test those low cost instruments 'to demonstrate its potential' so that the data from

these sensors were not accurate enough to establish the relationship between pollution and port activity, but this doesn't mean that pollution doesn't exist" (Bauzà, 2019).

The Mallorca Blue association proposed that the solution to measure air pollution was the use of drones that followed the clouds of pollution since the sensors were neither in height nor in the correct location. This group, which defends the marine environment, also denounced the threats of sulfur oxide generated by cruise ships, which contributes to the acidification of the oceans and defend that "the Government and the City Council should protect the health of their citizens and promote a shift towards low emissions " (Bauzà, 2019).

## **5. CONCLUSION**

After analysing the three main impacts of cruise tourism in the Balearic Islands, and especially in Mallorca, a set of conclusions can be drawn.

This type of tourism began to gain a niche in the tourist market in the 60s and until now it has been growing at an exponential rate, so it has reached a point of tourist saturation in Mallorca since it is the island that receives more cruises. It has been assessed that all the agents related to this sector benefit all the Balearic Islands economically and create employment either directly or indirectly. But do the economic impacts really compensate the social and environmental damage caused by this type of tourism?

The main problem is that there is a conflict of interest, some people argue that the massive arrival of cruises for the Balearic economy is beneficial and others consider that there are many more factors to consider. That is because there is a clear lack of regulation related to the massive arrival of cruise ships and it is now more than ever that it should be controlled, especially the emissions that affect climate change. It is true that the APB together with the UIB conducted a study through sensors installed to control emission levels, but it was a low-cost technology, so the results may not be reliable. There is a clear lack of commitment by the authorities to implement a plan to minimize environmental impacts, but the

main problem is the low budget, because the most advanced technologies are the most expensive.

Since cruise tourism has so many economic benefits, the majority of the revenue that comes from this type of tourism should be allocated to invest in technology such as the electrification of ports that cannot yet be implemented due to lack of resources. More laws should also be implemented to limit the arrival or at least limit cruises which exceed a maximum percentage of pollution that is now being carried out in some areas of the world.

The growth of the cruise industry could continue to be economically beneficial and the environmental impact could be reduced through responsible and sustainable development.

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## 7. ANNEXES

### Annex I. Human Pressure Indicator

IPH MÁXIMO Y MÍNIMO POR MES (datos definitivos)							
Unidades: Personas							
ISLA	AÑO	MES	MÁXIMO	FECHA MÁXIMO	MÍNIMO	FECHA MÍNIMO	
ILLES BALEARS	2017	TOTAL	2.074.004	09-08-2017 (3)	1.119.175	23-12-2017 (6)	
ILLES BALEARS	2017	12	1.155.761	01-12-2017 (5)	1.119.175	23-12-2017 (6)	
ILLES BALEARS	2017	11	1.294.077	01-11-2017 (3)	1.158.950	30-11-2017 (4)	
ILLES BALEARS	2017	10	1.653.997	01-10-2017 (7)	1.306.940	31-10-2017 (2)	
ILLES BALEARS	2017	09	1.837.559	01-09-2017 (5)	1.670.882	30-09-2017 (6)	
ILLES BALEARS	2017	08	2.074.004	09-08-2017 (3)	1.845.590	31-08-2017 (4)	
ILLES BALEARS	2017	07	2.028.763	29-07-2017 (6)	1.845.846	02-07-2017 (7)	
ILLES BALEARS	2017	06	1.848.335	29-06-2017 (4)	1.718.594	01-06-2017 (4)	
ILLES BALEARS	2017	05	1.708.335	27-05-2017 (6)	1.487.026	02-05-2017 (2)	
ILLES BALEARS	2017	04	1.480.172	30-04-2017 (7)	1.328.851	01-04-2017 (6)	
ILLES BALEARS	2017	03	1.312.756	31-03-2017 (5)	1.203.929	01-03-2017 (3)	
ILLES BALEARS	2017	02	1.204.890	21-02-2017 (2)	1.163.791	01-02-2017 (3)	
ILLES BALEARS	2017	01	1.165.037	31-01-2017 (2)	1.133.638	01-01-2017 (7)	

Source: Retrieved from IBESTAT (n.d.).