Are alternative accommodations a threat to hotels in Portugal?

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Abstract

The possibility to book unique accommodations around the world is growing. Since 2005 an alternative segment of accommodation is becoming a strong phenomenon in Portugal, progressively increasing in demand. There are many different types of alternative accommodations, from cheap to luxury, each operating in its own niche. In Portugal, the rise of luxury accommodations has brought new attention to the lodging sector. Traditional accommodations are also benefitting from recent travel trends. More travelers want to live and feel as a local, and less like a tourist. Today, it´s becoming more about experiencing a destination for what it is and meeting other travelers who are interested in meeting new people.

Therefore, this study aims to understand the growth of tourism and alternative accommodations in Portugal, and their impact on the Hotel industry. Are alternative accommodations a threat for hotels? And what about hotel operational performance? To answer these two questions the present study examines the effects of alternative accommodations supply on two key hotel performance metrics: occupancy rate and RevPar in all Portuguese hotels for the period between 2014 and 2018.

Keywords: Alternative Accommodations, RevPar, Occupancy Rate.

1. Introduction

The possibility today of any consumer, through sharing economy, exploit underutilized resources and become a product/service provider, offering very competitive prices, has been increasing considerably in Portugal. The reasons for the growing popularity of niche segments such as alternative accommodation include increased competition and market fragmentation, more selective and difference–seeking customers. Tourism is the activity sector with the highest expression in the country's exports, being in 2018 responsible for 51.5% of service exports.

Therefore, the main objective of this study is to understand the growth of alternative accommodations in Portugal, and their impact on the Hotel industry. The main question of the research is: Are alternative accommodations a threat for hotels?

The paper is structured in four main parts: first, a theoretical background based on updated and past literature is presented, the hospitality sector, local accommodation establishments and the traditional lodging sector are defined, and hospitality measurement indicators are described. The second section outlines the methodology, a multiple linear regression model was applied to examine the effects of the alternative accommodation supply and the number of international passengers on hotels performance indicators - RevPAR and occupancy percentage. We considered annual data for Portugal

from the period of 2010 and 2018. The third section reports the results and analyses of the study, and the final and fourth section of the paper states the conclusions and implications for future inquiry.

2. Literature Review

This section of the paper presents a theoretical background based on updated literature on the tourism and hospitality sector, alternative accommodation establishments, the traditional lodging sector, and hospitality performance measurements are described.

2.1 Tourism and hospitality sector

The travel and tourism industry is an important sector for the Portuguese economy. In fact, in 2018 it accounted for a 10.4% contribution to Gross Domestic Product (GDP), accounting for one in ten jobs worldwide and showing a higher growth rate (3.9%) than the economy (3.2%) (World Travel and Tourism Council, 2019). Turismo de Portugal mentions, on its website, that tourism is the activity sector with the highest expression in the country's exports, being in 2018 responsible for 51.5% of service exports and 18.6% of total exports, with revenues from the tourism sector contributing 8.2% to the national GDP.

The hospitality sector in Portugal is a very dynamic sector which presented in recent years a growing investment with the opening of new units. The main chains / brands operating in Portugal are Pestana Group and Vila Galé (both Portuguese) and in third position, the French Accor Group. Marriott (the first world ranking hotel brand) appears in fifth position (Deloitte, 2018).

Despite the importance of large hotel companies, the Portuguese hotel industry is essentially composed of micro-enterprises with 94% of the lodging enterprises having less than 10 employees (INE, 2017) as other sectors in Portugal. The supply is divided into several types of accommodation, with guesthouses and hostels representing 17,2% of the rooms, traditional hospitality 78% and rural and home-stay tourism 5,8%. Hotels alone represent 55,7% of the hospitality offer and in terms of classification, the 4 stars classification are the most representative (INE, 2019).

Regarding the performance, the traditional hospitality sector reached an occupancy rate of 51,9% and a RevPAR of 53,8 € while guesthouses and hostels reached 37% and 27 €, in 2018 (INE, 2019). Concerning the total income, the traditional hospitality obtained 3569784,34 €, rural and home-stay tourism 103896,70€ and guesthouses and hostels 312871,80€. This is a normal situation as the traditional supply is higher in terms of lodging units but comparing the result of guesthouses and hostels with 1 and 2 stars hotel´s result (156640,72€) we can verify that the income is higher (INE, 2019).

2.2 Alternative accommodations

The growth of the tourism industry has resulted in the emergence of many types of accommodations. The small-scale or specialist accommodations present a unique personalized service in a homely environment (Hsieh and Lin, 2010). Terms such as guest houses, bed & breakfast (B&B), lodging house and hostel, are often synonymously used. These accommodations provide guests with stay experiences different from those provided by traditional lodgings, such as hotels.

The alternative accommodations market is growing rapidly worldwide. The reasons for the growing popularity of niche segments such as alternative accommodation include increased competition and market fragmentation, more selective and difference–seeking customers and communication technology (Novelli, 2005; Scarinci and Richins, 2008). Through this communication technology, the direct accessibility for tourists with a preference for difference is greatly heightened (Gunasekaran and Anandkumar, 2012). Guest houses and other types of specialist accommodation present an alternative option to regular hotels for a niche market.

Therefore, hoteliers cannot overlook the pressure of alternative accommodations that are competitive on price, location and convenience, that weigh into consumers' decision-making.

Europe is the largest tourist destination in the world, receiving 667 million visits in 2019, of which, the European Union received 523 million.

According to Eurostat (2019), the fastest growing segment of accommodations in the European Union has been, and will continue to be, alternative accommodations. Table 1, reflects, estimated values, that the sub-sector is growing more than 1.7 times as fast as hotels, putting up a 7.4% compound annual growth rate (CAGR) from 2010–2020E compared to 4.3% annualized growth in the traditional accommodation sector.

Table 1 - Alterative Accommodations – European Union Growth Rate

Revenue, Year-on-Year Growth %	2015	2016	2017	2018E	2019E	2020E	2010-2020E, 10Y CAGR
Accommodations	8.1%	3.9%	5.6%	4.1%	3.1%	3.4%	4.6%
Traditional Accommodations	7.0%	3.8%	5.0%	3.5%	2.8%	3.1%	4.3%
Alternative Accommodations	18.4%	6.2%	11.7%	8.2%	5.2%	4.8%	7.4%
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	
Accommodations	-5.9%	4.5%	4.8%	4.6%	0.3%	8.3%	
Traditional Accommodations	-5.9%	3.7%	4.0%	4.7%	0.5%	8.3%	
Alternative Accommodations	-5.8%	9.6%	9.5%	1.2%	2.0%	7.9%	

Source: Based on forecasts - Eurostat (2019)

In Europe, most alternative accommodations are incorporated businesses that operate apartments, bungalows, chalets, cottages, cabins, and hostels. But also included in this market segment is the sharing economy — rooms or apartments let out by individuals who oftentimes share the space with their guests.

In Portugal, according the Law 62/2018, local accommodation establishments are those that provide temporary accommodation services, namely to tourists, through payment, and which meet the requirements established in the current legislation.

The demands to operate with local alternative accommodation, obliges to specific functioning requirements, different to those of the hotel and other type of traditional accommodations.

Local lodging, *Alojamento Local* (AL) in Portuguese, has brought new investment, invigorated renovations and brought new dynamism to city centers and also created jobs for those who were unemployed.

The types of local alternative accommodations, in Portugal, according to the Law 62/2018 are as follows in Table 2.

Table 2 - Types of Alternative Accommodations in Portugal

Types of Alternative Accommodations	Description
House	Consists of a self-contained, single-family structure.

Apartment	Consists of an autonomous fraction of a building or part of an urban building which can be used independently.
Bedroom	Consists of bedrooms, in an autonomous fraction, in an urban building or part of an urban building which may be used independently. The use of the term 'hostel' is when the predominant accommodation unit is a dormitory [i.e. when the number of users in dormitory mode exceeds the number of users in bedroom mode], and if the other requirements established in the legislation are met.
Rooms	Consists on using the owner's official residence, sharing the space with guests, when the accommodation unit is no more than three rooms.

2.3 Hospitality performance measurement

The aim of this study is to understand the growth of tourism and alternative accommodations in Portugal, and their impact on the Hotel industry in particular in hotel operational performance.

In the hospitality area, there are numerous operational and financial ratios and indicators to measure the performance of the activity. With regard to operating ratios, there is a wide variety of options such as: room occupancy percentage, Average Daily Rate (ADR), Revenue per available room (RevPAR); Average occupancy per room; Total revenue per available room (TRevPAR); Revenue per available customer (RevPAC); Cost per occupied room (CPOR); Gross operating profit per available room (GOPPAR); Gross operating profit per occupied room (GOPPOR);Yield percentage; Cost per available room (CostPAR); Number of rooms serviced per employee; GOP per employee; Revenue per occupied room (RevPOR);Complimentary occupancy; Multiple occupancy; Employees per available room; Average length of stay (Santos, Gomes and Malheiros ,2020; Santos et al., 2016; Gomes et al., 2018).

Despite this wide variety, the most commonly used ratios in the studies of the operating performance of hotels are room occupancy percentage, ADR and RevPAR (Sainaghi and Mauri, 2018; Ivanov and Ayas, 2017; Bhamornsathit and Katawandee, 2016; Tuţă and Micu, 2013; Sainaghi et al., 2013; Hua et al., 2015; Lamelas and Filipe, 2012; cited in Santos, Malheiros and Gomes, 2018).

We chose room occupancy percentage and RevPAR because they are the most widely used indicators internationally. The first represents a ratio that assesses capacity utilization, while the second measures the revenue generated per available accommodation unit. To obtain the room occupancy percentage we divide room sold or occupied room by the number of available room and multiple by one hundred; for RevPAR we divide rooms revenue by the number of available room or multiply room occupancy percentage by ADR (Santos, Gomes & Malheiros, 2020).

3. Methodology

In this study, we considered annual data for Portugal from the period of 2010 to 2018 for the following variables: RevPAR and occupancy percentage, as hotels' performance indicators; number of alternative accommodation establishments. The number of passengers arriving to the country from international flights was used as a proxy for the overall market for accommodation. All the data were collected from the Portuguese national statistics office (www.ine.pt).

It should be noted that the "number of passengers arriving to the country from international flights" is a crude approximation of the market for accommodation, which is not available for the period considered. There is information available on the annual number of overnight stays, which would be a more accurate approximation, but this is only information available from 2014. We analyzed these variables in the period from 2014 to 2018, revealing a significant positive correlation Figure 1; $r=0,994$, $p<0,01$; indicating that "number of international passengers" provides a reasonable approximation of the number of tourists seeking accommodation in Portugal.

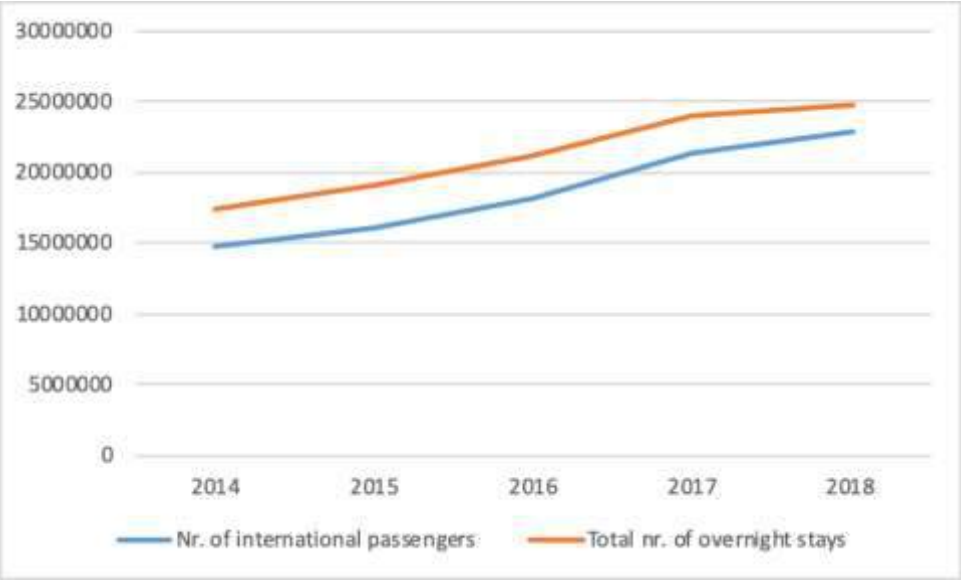

Figure 1 Number of passengers and number of overnight stays 2014-2018

We applied a multiple linear regression model to examine the effects of the alternative accommodation supply and the number of international passengers on hotels performance indicators. Therefore, we considered the model as shown in equation (1)

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e, \quad (1)$$

where Y_i , i=1, 2, stands for the RevPAR and occupancy rate, respectively. The dependent variables (X_1 and X_2) considered were the number of international passengers arriving to Portugal and alternative accommodation supply. The variable e is the error term (representing additional variation in the response variable, Yi, that is not included in the regression model).

Although the main goal of this study was to evaluate the effect of the alternative accommodation supply on hotels performance, we included the number of passengers, as a representation of the demand for accommodation, which is also expected to influence the hotel performance.

Model checking included comparing the residuals (residuals, standardized residuals and (standardized residuals)^0.5 with the fitted, i.e., modelled, values and the leverage and Cook's distance.

Data analysis was performed using R.

4. Results and discussion

By applying the multiple linear regression model, understood as a statistical technique that uses several explanatory variables to predict the outcome of a response variable. The goal of multiple linear regression is to model the linear relationship between the explanatory (independent) variables and response (dependent) variable.

Regarding the main question of the research: Are alternative accommodations a threat for hotels? We begin by observing Figures 2 and 3 which indicate that over the period studied (2010-2018) both the supply of alternative accommodation and the total demand for accommodation (passenger arrivals) have increased.

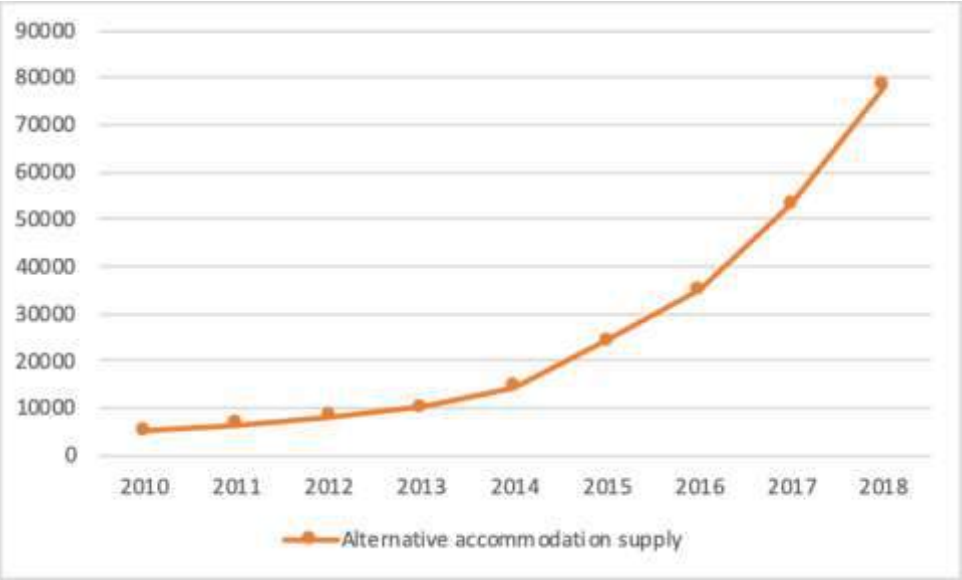

Figure 2 Alternative accommodation supply 2010-2018

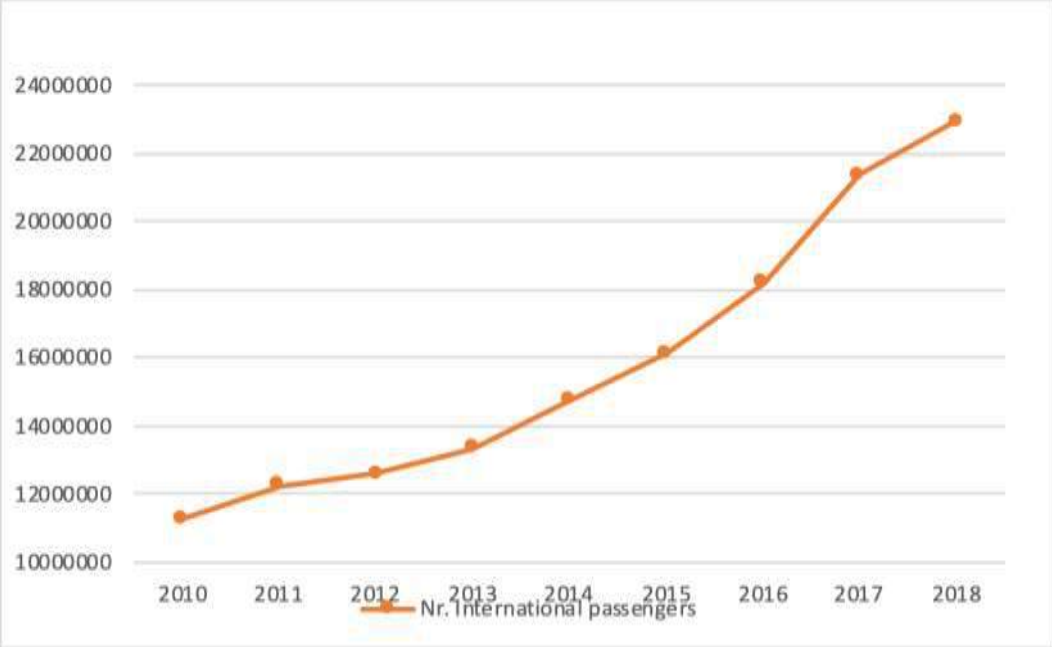

Figure 3 Number of international passengers 2010-2018

The growth in supply was higher than the growth in demand. In the period of 2010-2018 the annual growth in alternative accommodation (as a percentage of the previous year) varied between 24,6% and 69%. This compares with the annual growth in demand that varied between 2,6% and 17,4%.

Figure 4 represents both the supply of alternative accommodation and the number of international passengers, considering as a percentage increase in reference to these variables in 2010, evidencing the comparatively faster growth of the alternative accommodation in the period considered.

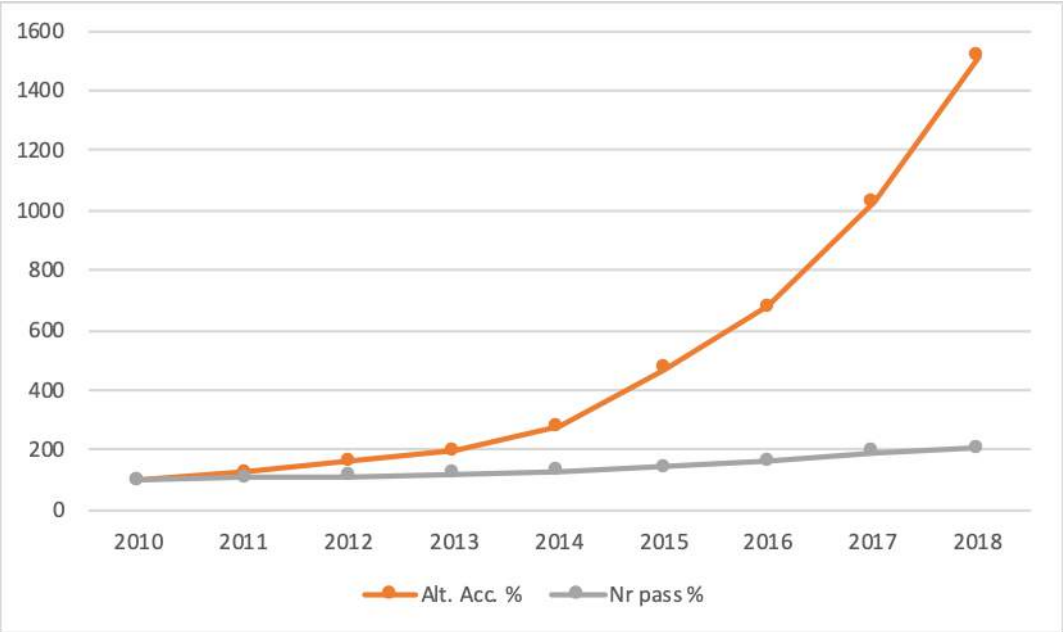

Figure 4 Alternative accommodation supply and number of international passengers 2010-2018, with respect to the reference year of 2010

In 2014 the supply of alternative accommodation was 176% higher than the supply in 2010 and in 2018 was 1411% higher than in 2010. In contrast, the number of passengers in 2014 was 31% greater than in 2010 and in 2018 was 104% higher.

The evolution of hotels occupancy rate is represented in figure 5. Generally, the occupancy rate increased along this period. The exceptions were from 2011 to 2012 and from 2017 to 2018. The decrease of 4% in the occupancy rate from 2011 to 2012 is probably due to the economic crisis that occurred (in Europe) around that period. From 2017 to 2018 the occupancy rate also decreased 1,6%. In the rest of the time interval considered in this study, the occupancy rate has increased and the growth varied between 1,7% and 6,5%.

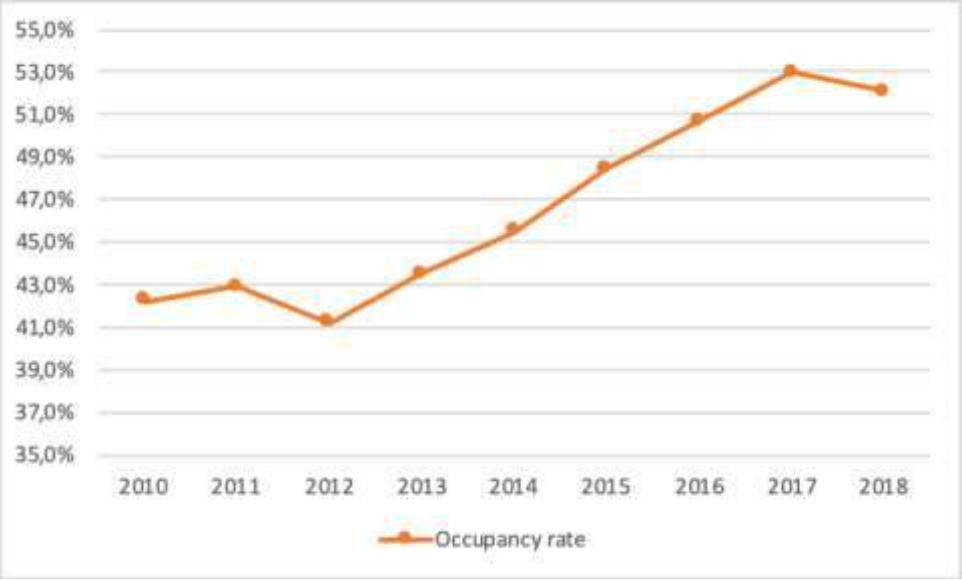

Figure 5 Occupancy rate in hotels 2010-2018

Figure 6 shows the evolution of RevPAR between 2010 and 2018. For most of the period studied, RevPAR demonstrated an increasing trend. The exception is from 2011 to 2012, again probably due to the economic crisis.

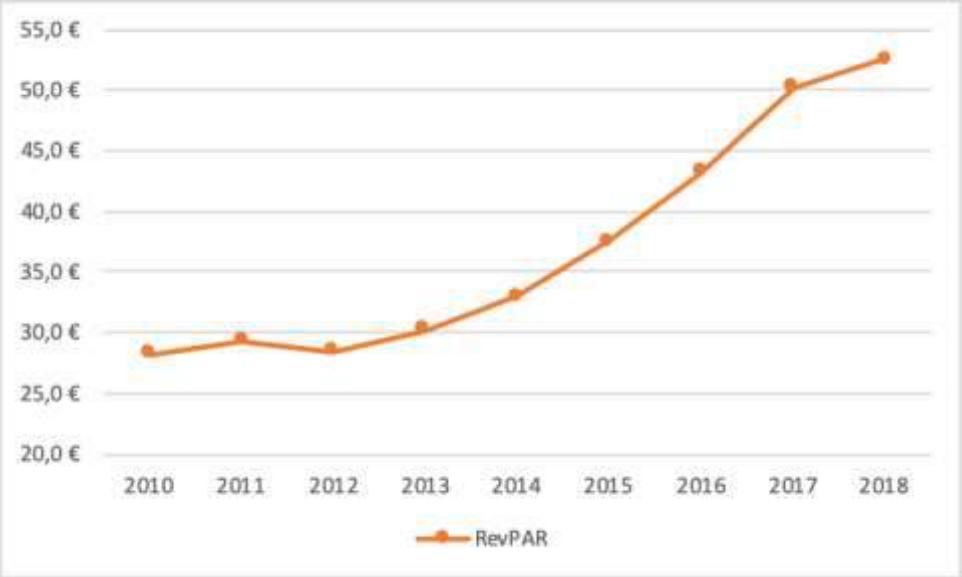

Figure 6 RevPAR 2010-2018

Considering the occupancy rate as dependent variable, multiple regression revealed that the two predictors explained 94,7% of the variance (R^2 =0.947, F(2,6)=53.35, p<0.01). It was found that the number of passengers is significantly positively associated with the occupancy rate ($\beta=1.98\times10^{-8}$, p<0.001) and that the alternative accommodation supply was not significantly associated with occupancy rate.

Considering the RevPAR as dependent variable, multiple regression indicated the two predictors explained 98,7% of the variance (R^2 =0.987, F(2,6)=230.2, p<0.001). It was found that the number of passengers is significantly positively associated with the RevPAR ($\beta=2.17\times10^{-6}$, p<0.01) and that the alternative accommodation supply was not significantly associated with the RevPAR.

Although the statistical assumptions of the regression model were generally acceptable, the last data point (for year 2018) demonstrated comparatively high leverage – and otherwise conforms comparatively poorly to the overall trend. Given the data, it is reasonable to hypothesise that, despite of the overall inference of the regression model, the supply of alternative accommodation interacts with overall demand (number of passengers) above a threshold value, i.e., when the number of alternative accommodation supply is very high and the number of passengers is comparatively low (i.e., not high enough to meet the increased availability), alternative accommodation has an impact on hotels' performance indicators. The data available so far suggests this hypothesis, but there is not yet sufficient data to test this hypothesis statistically; the decrease in the occupancy rate only occurred in the last year of the period studied. Figure 7 combines this information: it represents the difference between the growth in alternative accommodation supply and the growth of the number of passengers (demand).

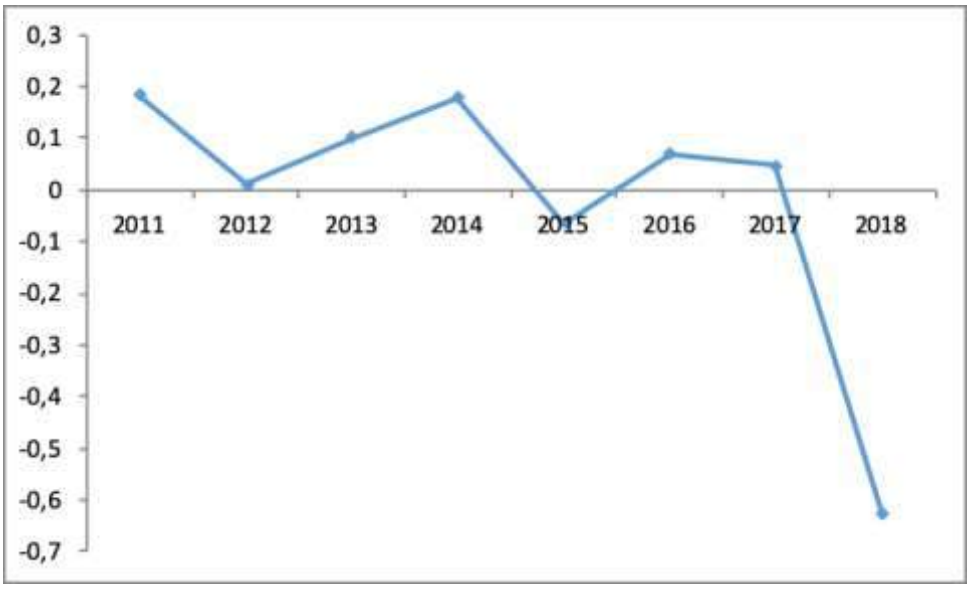

Figure 7 Difference between increase in supply and increase in demand 2010-2018

While this ratio is roughly non-negative, alternative accommodation increase has no impact. However, for the last year, when, as mentioned before there was a big increase in accommodation supply and a relatively small increase in passengers, the ratio is negative. This corresponds to a downturn, since from 2017 to 2018 the occupancy rate deceased 1,6% (figure 5).

We therefore propose a "threshold" hypothesis: if the difference between accommodation supply and demand growth rate is small enough, alternative accommodation has an impact on hotels performance. Testing this hypothesis requires further data.

Figure 8 – Representing different overlap between the supply of hotel accommodation and alternative accommodation as a consequence of changing overall demand

Figure 8 schematizes this idea: the exterior rectangle represents the universe of tourists visiting Portugal, the purple circle represents tourists looking for accommodation in hotels, the green one represents tourists staying in alternative accommodation establishments. If the increase in the supply of alternative accommodation is comparatively high compared the increase in the "universe" of tourists´ demand, the green circle expands to occupy a proportionally higher proportion of the demand universe and, in consequence, increases the area of overlap with the purple circle (hotel supply).

5. Conclusions

The main goal of this study was to evaluate the effect of the alternative accommodation supply on hotels performance, we included the number of flight passengers, as a representation of the demand for accommodation, which is also expected to influence the hotel performance.

Throughout the study, the main question to answer was: Are alternative accommodations a threat for hotels in Portugal? The period studied was between 2010 and 2018. A multiple linear regression model was applied to examine the effects of the alternative accommodation supply on hotels performance indicators.

The study concluded that the supply is divided into several types of accommodation, with guesthouses and hostels representing 17,2% of the rooms, traditional hospitality 78% and rural and home-stay tourism 5,8%. Hotels alone represent 55,7% of the hospitality offer and in terms of classification, the 4 stars classification are the most representative.

In 2014 the supply of alternative accommodation was 176% higher than the supply in 2010 and in 2018 was 1411% higher than in 2010. In contrast, the number of passengers in 2014 was 31% greater than in 2010 and in 2018 was 104% higher.

In 2018, regarding performance, the traditional hospitality sector reached an occupancy rate of 51,9% and a RevPAR of 53,8 € while guesthouses and hostels reached 37% and 27 €.

The evolution of hotels occupancy rate increased, with the exceptions from 2011 to 2012 and from 2017 to 2018. The growth of RevPAR was between 2010 and 2018. For most of the period studied, RevPAR demonstrated an increasing trend. The exception is from 2011 to 2012, probably due to the economic crisis.

Considering the occupancy rate as dependent variable, it was found that the number of passengers is significantly positive associated with the occupancy rate and that the alternative accommodation supply was not significantly associated with occupancy rate.

Considering the RevPAR as dependent variable, multiple regression indicated the two predictors explained 98,7% of the variance (R^2 =0.987, F(2,6)=230.2, p<0.001). It was found that the number of passengers is significantly positively associated with the RevPAR and that the alternative accommodation supply was not significantly associated with the RevPAR.

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We therefore propose a "threshold" hypothesis: if the difference between accommodation supply and demand growth rate is small enough, alternative accommodation has an impact on hotels performance. Testing this hypothesis requires further data, being a future implication for inquiry.

The data results suggest to hypothesize that, despite of the overall inference of the regression model, the supply of alternative accommodation interacts with overall demand (number of passengers) above a threshold value, i.e., when the number of alternative accommodation supply is very high and the number of passengers is comparatively low (i.e., not high enough to meet the increased availability), alternative accommodation has an impact on hotels' performance indicators.

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