The current issue and full text archive of this journal is available on Emerald Insight at:
https://www.emerald.com/insight/2633-1225.htm

Hotels, second homes and destination planning policies: a sequential game model

Valeria Posadas
Università degli Studi di Sassari, Sassari, Italy – Facultad de Ciencias Economicas y de Administracion, Universidad de la Republica, Montevideo, Uruguay, and
Juan Gabriel Brida and María José Alonsopérez
Facultad de Ciencias Economicas y de Administracion, Universidad de la Republica, Montevideo, Uruguay

Received 1 July 2022
Revised 9 August 2022
2 November 2022
Accepted 7 November 2022

Abstract

Purpose – This paper develops a theoretical model that analyzes the decision problem the landowner has to face between the construction of second homes and hotels. The starting point implies verifying that for a given tourist destination, the land available for the construction of accommodation is limited. For this reason, when choosing between building second homes or building hotels, many factors influence the decision model. The theoretical mechanism generalizes the model introduced in Brida and Boffa (2010) and is based on a four-stage sequential game with four players. From the results of the model, the authors conclude that it is optimal from the social point of view both to build a hotel and to build a second home because both generate added value during the year. For this reason, the construction of second homes should be taken into account in the planning policy of the tourist destination. This arises from considering that second homes, as they remain occupied all year like hotels, in certain tourist destinations, do not generate seasonality.

Keywords Second homes, Hotels, Accommodation, Game theory, Development, Planning, Policy

Paper type Research paper

1. Introduction

In recent decades, the number of second homes has increased [1] and the academic interest in this topic, which has its origins mainly in the Nordic countries and Canada (Hall and Müller, 2018) (Alonsopérez *et al.*, 2022). Likewise, the number of publications has increased since 2004 (Hall, 2014), with geographical expansion in countries such as China, Iran, Latin America, Malaysia and South Africa. Both terms, second home and tourism, have been widely analyzed because of the destination, the increase in the number of visitors and the generation of new development opportunities due to the migration of retired and active people looking for a new place and lifestyle. Therefore, it is necessary to understand the influences and long-term effects of second homes and mobility in tourist destinations (Alonsopérez *et al.*, 2022).

© Valeria Posadas, Juan Gabriel Brida and María José Alonsopérez. Published in *Tourism Critiques: Practice and Theory*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at http://creativecommons.org/licences/by/4.0/legalcode

JEL classification – O18, R58, Z32

Tourism Critiques: Practice and Theory
Vol. 4 No. 1/2, 2023
pp. 2-14
Emerald Publishing Limited
e-ISSN: 2633-1233
p-ISSN: 2633-1225
DOI 10.1108/TRC-07-2022-0016

A recent study carried out by Alonsopérez *et al.* (2022) of 982 papers obtained from the Scopus database from 1974 to 2020 highlights 66 papers through a systematic literature review. Of these 66 papers, 12 are research studies on the economic impact of second homes, and 9 are studies on planning and policy issues. Müller (2020) states that "economic aspects of second-home tourism have not been properly scrutinized for quite a while, and the impact of second-home tourism on property markets and national economies are poorly understood. Similar claims can be made regarding the nexus of demographic development and second homes. Big data covering second-home owners' mobilities, expenses, and experiences further opens up new, exciting research opportunities. Furthermore, commercial uses of second homes and new forms of second-home tourism, such as home exchange, have not been sufficiently addressed" (Müller, 2020; Alonsopérez *et al.*, 2022). Second homes are usually seen as drivers of local development of tourist destinations. Though, they also produce negative effects in multiple dimensions, such as limits on the availability of housing and its prices (Adamiak, 2015; Alonsopérez *et al.*, 2022). Concerning the economic impacts of second homes, the existing literature mostly uses an empirical approach, where several countries have studied the subject by implementing different methodologies, such as econometric methods and models based on national accounting, among others, with applications at national and local levels (Alonsopérez *et al.*, 2022).

The economic effects of holiday tourism on residential tourism have been evaluated in Spain. This study noticed that there is no difference between both tourism models. This result contradicts the beliefs of holiday destinations perform economically better than residential ones (Perles Ribes *et al.*, 2018; Alonsopérez *et al.*, 2022). Also, a study in Turkey has revealed that buying a second home could be regarded as tourists' satisfaction of staying in the tourist destination. In addition, the most substantial economic effects of second homes tourism on the destination are buying or renting property, spending on renovation and maintenance and paying taxes (Özyurt *et al.*, 2018; Alonsopérez *et al.*, 2022). Geographical mapping of second homes was created in Sweden, and some scholars indicate that it would be very remarkable to perform research on socio-economic differences between second-home owners using second-home landscapes. These authors also propose some questions: does income inequality transfer over to the second home's landscapes? And how does this affect the destinations for second homes tourism? (Back and Marjavaara, 2017; Alonsopérez *et al.*, 2022).

Kauppila (2020) analyzed the regional economic impact of tourism leisure activities in Hyrynsalmo, Kuhmo, Sotkamo and Suomussalmi, in Finland. Defining regional economic outputs as: direct tourism income, intermediate tourism income and expenditure, direct tourism employment, direct wage income and direct wage tax income. Results revealed that except for property management and maintenance, leisure accommodation offers not many opportunities for new enterprise activities. As an alternative, leisure residents used long-term services, which in turn supported local industries and sustained local development and growth, generating cash flows to local companies, employment and tax revenues (Alonsopérez *et al.*, 2022). Czarnecki *et al.* (2021) analyzed the economic impact of second-home owners' expenditure on local food in Nordic countries. The authors found that the availability and accessibility of local food, as well as the behaviors of second-home owners, shape their expenditure patterns (Alonsopérez *et al.*, 2022).

Research in Spain estimated a hedonic prices model that was used for apartments for rent on the coastline. The results prove the relevance of the determinants, such as tourism competitiveness and online reputation, as future determinants of prices (Perles Ribes *et al.*, 2018; Alonsopérez *et al.*, 2022). An investigation in Croatia studies second homes expansion and local socio-economic development relation by linear regression analysis. The results

imply that the density of second homes is positively related to several local socio-economic development indicators and to local economic growth (Miletić *et al.*, 2018; Alonsopérez *et al.*, 2022). Research in Switzerland about the dynamics of the formation and the evolution of property prices in the Alps destinations revealed that foreign customers and the increase in prices are linked. Consequently, the residents must move properties to find a primary house (Scaglione, 2008; Alonsopérez *et al.*, 2022).

The indiscernible population of second-home owners produces an effect that is necessary to consider from a planning viewpoint (Back and Marjavaara, 2017; Alonsopérez *et al.*, 2022). Some cases are the Swiss Alps, where more than half of houses are second homes. The popular initiative "Stop the endless construction of second homes" took place in the region to limit the growth of second homes in a municipality (Gerber and Tanner, 2018; Alonsopérez *et al.*, 2022). In the Nature Reserve "Deliblato Sands," Serbia, the unplanned building of weekend homes created difficulties, indicating that spatial restorations and protection concepts should be studied (Vesić, 2017; Alonsopérez *et al.*, 2022). Congestion tourist destinations in Iceland are another illustration of how the expansion of infrastructure and services must be well-managed (Saebórsdottir *et al.*, 2019; Alonsopérez *et al.*, 2022).

The varied ecological zone inhabited by second homes in Poland demonstrates the necessity for a comprehensive planning procedure (Soszyński *et al.*, 2017; Alonsopérez *et al.*, 2022). In San Carlos de Bariloche, Argentina, certain properties of this tourist city were detected and might encourage the building of an urban model for Latin American tourist cities (Medina and Niembro, 2020; Alonsopérez *et al.*, 2022). In Europe, second homes tourism has been in debate by tourist specialists, real estate agents and politicians in both Mediterranean countries and Alpine destinations, where policy dealings on the land arrangement, management at multi-level governance and cross-sectorial links are essential to have sustainable development (Brida *et al.*, 2009; Alonsopérez *et al.*, 2022).

In Turkey throughout the 2000s, legal barriers to foreign investment were eliminated increasing the demand for second homes. The conditions for the locational preferences of building were examined, ranking them corresponding to their importance (Öztürk and Türk, 2021; Alonsopérez *et al.*, 2022). Finally, the influences on community housing markets and the administration efforts by local planning authorities rely on the framework when it happens to expansion, housing demand and influences on residents' entry to housing (Back, 2021; Alonsopérez *et al.*, 2022).

Theoretical studies of second home tourism are very scarce and, in general, are related to agents' behavior analysis using game theory and general equilibrium models (Alonsopérez *et al.*, 2022). In this way, a study develops a theoretical model in which the government of a tourist destination must choose how to allocate the land between second homes or hotels. The government minimizes a loss function by measuring the loss of political agreement, and the final decision was made by measuring the welfare consequences of the policy implications (Candela *et al.*, 2007; Alonsopérez *et al.*, 2022). Also, an investigation analyzes the impact of a correct valuation of the opportunity costs in individual decisions and social welfare. Using a partial equilibrium model, the authors demonstrate that the valuation of social welfare is related to the definition of individual opportunity costs and implies that a free market of vacation homes is the best system to achieve the maximum social welfare (Brida *et al.*, 2007; Alonsopérez *et al.*, 2022).

This article develops a theoretical model that assesses the existing decision problem between the second home and hotels built. The starting point implies verifying that for a given tourist destination, the land available for accommodation building is limited. For this reason, when choosing between building second homes or hotels, there are many factors to consider in the decision model (Brida and Boffa, 2010). The theoretical mechanism

generalizes the model introduced in Brida and Boffa (2010) and is based on a four-stage sequential game with four players. First, the landowner of a tourist destination must decide whether to build a hotel or a second home (Brida and Boffa, 2010). Therefore, he compares the benefit that obtains from each of the alternatives. Second, if he builds the hotel, he sells it to a second agent who is a profit-maximizing company (Brida and Boffa, 2010). If he builds a second home, he will sell it to an individual, a third agent, who will use it for vacations or rent it to a tourist (fourth agent), depending on the preferred season of the second home owner. Being a profit-maximizing landowner, he compares the willingness to pay of the two types of buyers (Brida and Boffa, 2010). If the hotel owner is willing to pay more than the individual who aspires to buy a second home, then the landowner builds a hotel and sells it to this entrepreneur (Brida and Boffa, 2010). If the private individual is willing to pay more than the entrepreneur, then the landowner builds a residence and sells it to the private individual (Brida and Boffa, 2010). Third, the individual rents the second home in high season or low season and uses it for vacations if he does not rent it in his preferred season. Finally, tourists make their consumption decisions (Brida and Boffa, 2010). They choose to enjoy the tourist destination by renting a hotel room, a second residence or using their second residence if they are owners, both in high season and in low season, depending on their preference.

The results of the model suggest a single equilibrium price for hotel room (Brida and Boffa, 2010) and second residence rents (which are assumed to be equal by simplification) and equal to the individual tourist's valuation of spending time in the tourist destination, both in high season and in low season (Brida and Boffa, 2010). The model developed by Brida and Boffa (2010) was carried out for the city of Bolzano in Italy, where the second homes building is prohibited due to the seasonality it generates. In this tourist destination, second homes remain empty in the low season because the owners only stay in the high season and do not rent them to other tourists. Also, the construction of hotels is encouraged because it is considered that it does not generate seasonality as rooms are rented all year (Brida and Boffa, 2010).

Unlike what was stated in Brida and Boffa (2010), we observed that second homes do not remain empty in the low season, which coincides with what happens in several tourist destinations. Consequently, the tourist destination in the low season does not give up the potential income generated by the tourist lateral activities, understanding these as restaurant services and other businesses of the destination. Another consequence of considering that second homes do not remain empty in the low season is related to the well-being results of the model. The total welfare, generated by the construction of second homes, includes the added value that the tourist introduces in the tourist destination through the consumption of the services offered by the lateral activities (Brida and Boffa, 2010) both in high season and in low season. The total welfare generated when the hotel is built results from the aggregation of the price paid by the company that buys the hotel (equivalent to the value of the hotel obtained by the consumer, fully extracted by the hotel owner) and the added value introduced into the economy (Brida and Boffa, 2010), both in high season and low season. This result, contrary to what is suggested by Brida and Boffa (2010), is equivalent when the hotel owner also owns the lateral activities. Consequently, the maximization of aggregate welfare coincides both with the maximization of the integrated owner and with the maximization of the owner who does not own the lateral activities of the tourist destination.

2. Analytical framework

The model consists of four agents. First, the landowner (profit maximizer) of a tourist destination (D) must decide whether to build a hotel or a second home (both with only one

room) (Brida and Boffa, 2010). The landowner compares the benefit that he obtains from each of the alternatives. So, if he builds the hotel, he sells it to a second agent who is a profit-maximizing company (H) (Brida and Boffa, 2010). If he builds a house, he will sell it to an individual (F) who uses it as a second home for vacations (Brida and Boffa, 2010) or rents it to a tourist (T).

Being the landowner, a profit-maximizing agent, he compares the willingness to pay of the two types of buyers (Brida and Boffa, 2010). If H is willing to pay more than F, then D builds a hotel and sells it to H (Brida and Boffa, 2010). In turn, if F is willing to pay more than H then D builds a residence and sells it to F (Brida and Boffa, 2010). For simplicity, it is not considered the tourists who already have a second home, and therefore, will not get any profit from building a hotel or a new second home (Brida and Boffa, 2010). In each given period, the hotel room and the house report the same utility to tourists (Brida and Boffa, 2010). The tourist utility function is defined as follows:

$$U = \begin{cases} \beta^{p} - p \text{ if he spends time in the tourist destination in high season} \\ \beta^{op} - p \text{ if he spends time in the tourist destination in low season} \\ 0 \text{ other} \end{cases}$$

(Brida and Boffa, 2010).

Being β^{p} and β^{op} the individual value of spending time in the tourist destination in high and low seasons, respectively. While p is the price paid by the individual that depends in both cases on the season and the type of construction chosen (Brida and Boffa, 2010).

On the other hand, it is considered that individuals are risk-neutral and that the tourist destination has a mass of b beds (Brida and Boffa, 2010). The game takes place in four stages. First, D chooses whether to build a hotel or a second home (Brida and Boffa, 2010). Second, D sells the property he decided to build to H or F (Brida and Boffa, 2010). Then F rents the second home in high season or low season to T and uses it for vacations (Brida and Boffa, 2010) if he does not rent it. Finally, tourists make their consumption decisions. They choose to enjoy the tourist destination by renting a hotel room, a second residence (Brida and Boffa, 2010) or using their second residence if they are owners, both in high season and in low season, depending on their preference. The hotel room can accommodate at least two tourists: one in the low season and one in the high season (Brida and Boffa, 2010). After the game, the residual value is zero (Brida and Boffa, 2010). Note that both the price of the house and the price of the hotel are fixed, assuming the life cycle of two periods of the game (Brida and Boffa, 2010). The second home can accommodate a tourist per season and one can be the owner if it is not rented. A perfectly homogeneous mass $M^{p}(M^{op})$ of individuals has a preference for spending the high (low) season at the destination, and the utility is $\beta^{p}(\beta^{op})$ (Brida and Boffa, 2010).

Likewise, consumers who prefer the high season do not prefer the low season and vice versa. This is reflected empirically (Meidan, 1984; Spencer and Holecek, 2007; Brida and Boffa, 2010).

In addition, it is assumed that $\beta^{p} > \beta^{op}$, that is, the value of the destination in the high season is greater than the value of the destination in the low season (Brida and Boffa, 2010). Taking M^{p}, M^{op} and b variables depending on the season $M^{p} > M^{op} > b$, which implies that the mass of tourists potentially interested in the destination is greater in high season than in low season (Brida and Boffa, 2010). In both cases, the demand exceeds the capacity of the destination, which is b beds (in hotel rooms or second homes that are rented)

(Brida and Boffa, 2010). This inequality and the variability of beds b are explained by the evidence that some hotels in certain tourist destinations close and that second homes are usually available to a greater extent in the high season, while in low season they are mostly used by their owners instead of rented. In turn, the variability of M^{p} and M^{op} is explained by the evidence that the mass of tourists is not always the same in each season, and this makes it possible for the inequality to hold. The cost faced by the landowner to build the house and the hotel are identical and normalized to zero for convenience to have a greater degree of comparison between both options (Brida and Boffa, 2010). In turn, the profit of the landowner is computed as part of the welfare of the tourist destination (Brida and Boffa, 2010). Likewise, we consider that the hotel room and the second homes are rented simultaneously; they cannot be booked. In addition, hotels and second homes offered for rent use price differentiation to increase the occupancy rate. This implies that prices decrease in the low season and increase in the high season. On the other hand, hotel room rent has the same price as second home rent and both are available in both seasons.

3. Results: equilibrium characterization

Builder D sells the unit to the party that values it the most and is, therefore, willing to pay more (Brida and Boffa, 2010). As the market for hotels and second homes is competitive, the valuation of each party's unit is equivalent to the expected profit flow of the unit for $H : V_H$; and the unit's expected utility flow for F is V_F (Brida and Boffa, 2010). So, builder D will sell the unit to hotel owner H if $V_H > V_F$, and will sell the unit to the home owner if $V_H < V_F$ (Brida and Boffa, 2010). Since the hotel and the second home provide profit for only two periods V_H and V_F represent the sum of profits in the two periods, respectively (Brida and Boffa, 2010).

In our model, the consumer prefers to buy a second home than to rent a hotel room (Brida and Boffa, 2010) or rent a second home, only because it insures him from the risk of not finding an available place in the desired season (Brida and Boffa, 2010). In turn, the tourist has two options. On the one hand, he can reserve a hotel room (Brida and Boffa, 2010) or a second home from a third party where you find a place with probability $Pr(b)$ and at a price $p(b)$ (Brida and Boffa, 2010). On the other hand, he has the option of buying a house where he finds an available place to vacation with a probability of 1 and at a price of P_F (Brida and Boffa, 2010). The tourist will choose this second option if and only if the value obtained from the house $(\beta - P_F)$ is greater than the value obtained from renting the hotel (Brida and Boffa, 2010) or renting a second home from a third party. Therefore, the consumer (in high or low season) prefers to buy the house instead of renting the hotel room (Brida and Boffa, 2010) or renting the second home from another owner, if this condition holds:

$$\underbrace{\beta - P_F}_{\text{SH Net Value}} \geq \underbrace{Pr(b)\beta - p(b)}_{\text{Hotel Net Value}} \tag{1}$$

β: Value of enjoy the tourist destination (β^{p} or β^{op}).
(Brida and Boffa, 2010).

The consumer is willing to pay more when buying the second home, which gives him the certainty that he will enjoy the tourist destination (Brida and Boffa, 2010). Note that this is true whether the individual prefers the high season or the low season (Brida and Boffa, 2010). Therefore, the second home will be built if one of the following conditions is maintained (Brida and Boffa, 2010):

- $\beta^{p} - P_F \geq Pr^{op}(b)\beta^{op} - p^{op}(b)$ second home net value in the high season is greater or equal to the hotel net value in the low season.
- $\beta^{p} - P_F \leqslant Pr^{p}(b)\beta^{p} - p^{p}(b)$ second home net value in high season is less or equal to hotel net value in high season.

(Brida and Boffa, 2010).

Under the assumption $M^{p} > M^{op} > b$ and considering that the hotel room rent has the same price as the second home rent, we will prove that the equilibrium price of the rent is:

$$p(b) = \begin{cases} \beta^{p} \text{ in high season} \\ \beta^{op} \text{ in low season} \end{cases} \tag{2}$$

(Brida and Boffa, 2010).

Under the Bertrand, Cournot and Collusion competition models, this is the only equilibrium (Brida and Boffa, 2010). To prove that it is the only equilibrium, we assume a different one (Brida and Boffa, 2010). If the equilibrium price is $\beta < \beta^{p}$ in high season, then the hotel firm or the second home owner that offers it for rent will tend to deviate and charge β^{p} and still attract clients (since given β there are consumers willing to rent the hotel room (Brida and Boffa, 2010) or rent a second residence, obtaining a value of β^{p} for it, but they cannot find one). If the equilibrium price is $\beta > \beta^{p}$, then there are no hotel rooms (Brida and Boffa, 2010) or second homes for rent (no one is willing to pay the β price for them), but there is a potential profit available of β^{p} (Brida and Boffa, 2010). Then, each firm or individual (Brida and Boffa, 2010) or supplier of the second home for rent has incentives to deviate and obtain a profit of β^{p}. The same reasoning applies for β^{op} (Brida and Boffa, 2010). Therefore, equation (2) is an equilibrium since the players have no incentive to deviate (Brida and Boffa, 2010).

The probability $Pr(b)$ of finding a hotel room (Brida and Boffa, 2010) or a second home for rent is given by the ratio "capacity of the tourist destination-mass of tourists":

$$Pr(b) = \begin{cases} \dfrac{b}{M^{p}} \text{ in high season} \\ \dfrac{b}{M^{op}} \text{ in low season} \end{cases}$$

(Brida and Boffa, 2010).

From equations (1) and (2), we obtain the following:

$$\left.\begin{aligned} P_F \leqslant \beta^{p} - \frac{b}{M^{p}}\beta^{p} + \beta^{p} \Rightarrow P_F \leqslant 2\beta^{p} - \frac{b}{M^{p}}\beta^{p} \\ P_F \leqslant \beta^{op} - \frac{b}{M^{op}}\beta^{op} + \beta^{op} \Rightarrow P_F \leqslant 2\beta^{op} - \frac{b}{M^{op}}\beta^{op} \end{aligned}\right\} \tag{3}$$

(Brida and Boffa, 2010).

A potential tourist in high season will buy the house if $P_F < \beta^{p}$ and in low season if $P_F < \beta^{op}$ (Brida and Boffa, 2010). The landowner, if he finds it optimal to build a house, maximizes his profit by selling it to the type of tourist who values it the

most (Brida and Boffa, 2010). The highest price that a tourist is willing to pay results from:

$$\text{máx}\left\{2\beta^{þ} - \frac{b}{M^{þ}}\beta^{þ}; 2\beta^{op} - \frac{b}{M^{op}}\beta^{op}\right\} = 2\beta^{þ} - \frac{b}{M^{þ}}\beta^{þ}\left(\text{assuming } \frac{b}{M^{þ}} < \frac{b}{M^{op}}\right)$$

(Brida and Boffa, 2010).

Tourists in high season get the most value from second homes; therefore, they are willing to pay a higher price (Brida and Boffa, 2010). If the landowner decides to build the second home, he can charge $P_F = 2\beta^{þ} - \frac{b}{M^{þ}}\beta^{þ}$ (Brida and Boffa, 2010).

The hotel owner, on the other hand, given his pricing policy, makes a positive profit both in high season and low season (Brida and Boffa, 2010):

$$\pi^{H} = \beta^{þ} + \beta^{op} \tag{4}$$

(Brida and Boffa, 2010).

The second home owner achieves a profit (equal to income since the second home maintenance cost is normalized to zero) positive and equal to the utility of spending time in the tourist destination (Brida and Boffa, 2010), both in high and low seasons. Therefore, he obtains the highest possible value (Brida and Boffa, 2010) in both, renting the same in one or both seasons or enjoying his property, obtaining a profit for the rent equal to the following:

$$\pi^{SR} = \beta^{þ} + \beta^{op} \tag{4a}$$

Equations (4) and (4a) imply that the maximum price that the hotel owner and the second home owner are willing to pay to acquire one of the two properties is given by $\beta^{þ} + \beta op$ (Brida and Boffa, 2010).

The landowner chooses the option that maximizes his profit (which is equal to income on the assumption that the cost has a zero value) (Brida and Boffa, 2010). Then he decides to build the second home if:

$$2\beta^{þ} - \frac{b}{M^{þ}}\beta^{þ} > \beta^{þ} + \beta^{op} \tag{5}$$

(Brida and Boffa, 2010).

From equation (5), we obtain (5a):

$$\beta^{þ} - \frac{b}{M^{þ}}\beta^{þ} > \beta^{op} \tag{5a}$$

(Brida and Boffa, 2010).

This implies that the second home is built instead of the hotel if the difference in value between clients who have a preference for the high season and those who have a preference for the low season is substantial or if the probability of finding an available place in the tourist destination ($\frac{b}{M^{þ}}$) is low (Brida and Boffa, 2010).

Finally, tourists' utility maximization depends on the season they are in Brida and Boffa (2010):

$$U = \begin{cases} \beta^{p} - p \text{ if he spends time in the tourist destination in high season} \\ \beta^{op} - p \text{ if he spends time in the tourist destination in low season} \\ 0 \text{ other} \end{cases}$$

(Brida and Boffa, 2010).

Unlike what is stated in Brida and Boffa (2010), we observe that the second home does not remain empty in the low season. From this, it follows that the tourist destination in the low season does not give up the potential income generated by the tourist destination lateral activities.

4. Results: welfare

In this section, we analyze the total welfare effects of the two alternatives. The total welfare generated by the second home results from the aggregation of the landowner income (Brida and Boffa, 2010):

$2\beta^{p} - \frac{b}{M^{p}}\beta^{p}$ (equivalent to the value obtained by the consumer for the second home given that the landowner, in his monopolist position, can extract all consumer surplus), and the external effects ($VA^{p} + VA^{op}$) of the economy in both seasons (Brida and Boffa, 2010). We call VA^{p} and VA^{op} to the extra added value that the tourist introduces in the destination through lateral activities (Brida and Boffa, 2010) in high season and low season, respectively.

Remember that we are assuming that the landowner is part of the community (Brida and Boffa, 2010). If this is not literally true, it may still be that the local government is empowered to charge fees or taxes on the developer to retain hotel revenue within the community (Brida and Boffa, 2010). The total well-being generated by the second home built includes the added value (Brida and Boffa, 2010) both in high season and in low season; since the second home does not remain empty in low season, then it is:

$$2\beta^{p} - \frac{b}{M^{p}}\beta^{p} + VA^{p} + VA^{op}$$

The total welfare generated when the hotel is built results from the aggregation of the price paid by the company (or individual) that buys the hotel (equivalent to the value of the hotel obtained by the consumer fully extracted by the hotel owner), $\beta^{p} + \beta^{op}$, and the added value introduced into the economy (Brida and Boffa, 2010) in both periods. Then the total welfare obtained from the hotel is given by the following:

$$\beta^{p} + \beta^{op} + VA^{p} + VA^{op}$$

Total profit maximization coincides with welfare maximization for an integrated owner (Brida and Boffa, 2010). So, an integrated property where the hotel owner also owns the lateral activities recognizes (and therefore internalizes) the externality and the extra added value generated by the hotel through the lateral activities in the low season. Then the maximization of aggregate welfare coincides with the maximization of the integrated owner (Brida and Boffa, 2010). In this case, the second residence is built if:

$$2\beta^{p} - \frac{b}{M^{p}}\beta^{p} + VA^{p} + VA^{op} > \beta^{p} + \beta^{op} + VA^{p} + VA^{op} \quad (6)$$

$$\beta^{p} - \frac{b}{M^{p}}\beta^{p} > \beta^{op} \quad (6a)$$

Comparing (5a) and (5a), we can appreciate that they are equivalent and that under integrated ownership, the hotel room is built with the same frequency as under fragmented ownership (unlike what Brida and Boffa (2010) establish). Consequently, the aggregate welfare maximization coincides both with the integrated owner maximization and with the fragmented owner maximization who does not own the lateral activities of the tourist destination. In addition, it is optimal from the social point of view both to build a hotel and to build a second home, because both generate added value in both seasons. Note that contrary to what is stated in Brida and Boffa (2010), this article does not consider that the second home remains empty in the low season; therefore, there are no negative externalities derived from seasonality caused by the economic activity decrease in low season. This is since second homes remain occupied throughout the year either by their owners or by tourists who rent them, depending on the preferences of each of these agents.

5. Conclusions

From the results, we conclude that it is optimal from the social point of view both to build a hotel and to build a second home because both generate added value during both seasons. Note that since this model does not consider that the second home remains empty in the low season, there are no negative externalities derived from seasonality caused by the decrease in the level of economic activity in the low season. This is because second homes remain occupied throughout the year either by their owners or by tourists who rent them, depending on the preferences of each of these agents.

About the implications of economic policy, the results of the model suggest that the construction of second homes should be taken into account in the planning policy of the tourist destination. This arises from considering that second homes, as they remain occupied throughout the year like hotels, in certain tourist destinations, do not generate seasonality.

This model, from an economic theory approach applied to tourism, has limitations. These are derived from the simplifying and, therefore, unrealistic assumptions that must be made for the development of the theoretical model, such as the rationality of economic agents. Another restriction of this model is that it only applies to tourist destinations with year-round tourism. Likewise, it has the limitation that it only studies the possibility of generating added value for hotels and second homes in this type of destinations with year-round tourism and therefore does not focus on other phenomena such as investment.

Future lines of research may emerge from this article, such as the impacts on local economic development of a policy that encourages the land assignment in the destination planning. Likewise, the impact on the generation of direct and indirect employment by hotels and second homes would be of interest, as well as the effects of the two types of construction on the development of ecotourism, rural tourism and the preservation of the environment. Also, studies derived from the main limitations of the developed model could emerge, such as the assumption of risk-neutral agents and their rationality. This theoretical model could serve as a framework for empirical studies supported by data that in turn confirm its validity. Additionally, it would be interesting to study, from a macroeconomic

perspective, the impact of the agents' decisions on second homes or hotels built prices and rent. Finally, it would be interesting to extend this model for several periods, constituting a dynamic model or incorporating complex systems into it.

Note

1. Property which home owners use as an alternative destination away from their primary homes, mostly used for leisure purposes or/and tourist accommodation rental purposes. The dwellings can be classified into the following categories: nonmobile, purpose-built or convert, semimobile and mobile (Alonsopérez *et al.*, 2022).

References

Adamiak, C., Vepsäläinen, M., Strandell, A., Hiltunen, M., Pitkänen, K., Hall, M., Rinne, J., Hannonen, O., Paloniemi, R. and Åkerlund, U. (2015), "Second home tourism in Finland-perceptions of citizens and municipalities on the state and development of second home tourism", Reports of Finnish Environment Institute, I.S.B.N 978-952-11-4501-8, available at: www.syke.fi/publications

Alonsopérez, M.J., Brida, J.G. and Rojas, M.L. (2022), "Second homes: a bibliometric analysis and systematic literature review", *Journal of Tourism, Heritage and Services Marketing*, Vol. 1, doi: 10.5281/zenodo.6581499.

Back, A. (2021), "Endemic and diverse: planning perspectives on second-home tourism's heterogeneous impact on Swedish housing markets", *Housing, Theory and Society*, Vol. 39 No. 3, doi: 10.1080/14036096.2021.1944906.

Back, A. and Marjavaara, R. (2017), "Mapping an invisible population: the uneven geography of second-home tourism", *Tourism Geographies*, Vol. 19 No. 4, pp. 595-611.

Brida, J.G. and Boffa, F. (2010), "Fragmented ownership and second homes in tourism resorts", *Anatolia*, Vol. 21 No. 2, pp. 351-362.

Brida, J.G., Accinelli, E. and Carrera, E.J. (2007), "Second homes: the effects on social welfare of a change on the valuation of individual opportunity cost", *Anatolia*, Vol. 18 No. 1, pp. 85-96.

Brida, J.G., Osti, L. and Santifaller, E. (2009), "Second homes and the need for policy planning", *Tourismos: An International Multidisciplinary Journal of Tourism*, Vol. 6 No. 1, pp. 141-163.

Candela, G., Castellani, M. and Mussoni, M. (2007), "Second homes vs hotels: a suggestion for a self-enforcing policy", Working Paper series 50_07, Rimini Centre for Economic Analysis, available at: https://www.researchgate.net/publication/24123807_Second_Homes_vs_Hotels_A_Suggestion_for_a_Self-enforcing_Policy

Czarnecki, A., Sireni, M. and Dacko, M. (2021), "Second-home owners as consumers of local food", *International Journal of Consumer Studies*, Vol. 45 No. 2, pp. 175-187.

Gerber, J.-D. and Tanner, M.B. (2018), "The role of alpine development regimes in the development of second homes: preliminary lessons from Switzerland", *Land Use Policy*, Vol. 77, pp. 859-870.

Hall, C.M. (2014), "Second home tourism: an international review", *Tourism Review International*, Vol. 18 No. 3, pp. 115-135, doi: 10.3727/154427214X14101901317039.

Hall, C.M. and Müller, D.K. (Eds) (2018), *The Routledge Handbook of Second Home Tourism and Mobilities*, Routledge, Taylor and Francis, New York, NY.

Kauppila, P. (2020), "Regional economic impacts of leisure tourism: Hyrynsalmi, kuhmo, sotkamo and suomussalmi", ISBN:978-952-7319-53-9, available at: www.theseus.fi/handle/10024/332971

Medina, V.D. and Niembro, A. (2020), "Towards a model of Latin American tourist cities? The case of San Carlos De Bariloche, Argentina", *International Journal of Tourism Cities*, Vol. 6 No. 4, pp. 975-998, doi: 10.1108/IJTC-02-2020-0019.

Meidan, A. (1984), "The marketing of tourism", *The Service Industries Journal*, Vol. 4 No. 3, pp. 166-186.

Miletić, G.-M., Žmuk, B. and Mišetić, R. (2018), "Second homes and local socio-economic development: the case of Croatia", *Journal of Housing and the Built Environment*, Vol. 33 No. 2, pp. 301-318, doi: 10.1007/s10901-017-9562-5.

Müller, D.K. (2020), "20 Years of Nordic second-home tourism research: a review and future research agenda", *Scandinavian Journal of Hospitality and Tourism*, Vol. 21 No. 1, www.tandfonline.com/doi/pdf/10.1080/15022250.2020.1823244?needAccess=true (accessed 27 January 2021).

Özyurt, P.M., Başaran, M.A. and Kantarci, K. (2018), "Residential tourists' perceptions of quality of life: Case of Alanya, Turkey", *Advances in Hospitality and Tourism Research (AHTR)*, Vol. 6 No. 2, pp. 147-168, doi: 10.30519/ahtr.424437.

Perles Ribes, J., Moreno Izquierdo, L., Ramón Rodríguez, A. and Such Devesa, M. (2018), "The rental prices of the apartments under the new tourist environment: a hedonic price model applied to the Spanish sun-and-Beach destinations", *Economies*, Vol. 6 No. 2, p. 23, doi: 10.3390/economies6020023.

Öztürk, C.Ü. and Türk, E. (2021), "Location site selection preferences of construction firms that offer second homes to foreign investors: the case of trabzon", *Iconarp International J. of Architecture and Planning*, Vol. 9 No. 2, pp. 874-895.

Saebórsdottir, A.D., Hall, C.M. and Stefánsson, A. (2019), "Senses by seasons: tourists' perceptions depending on seasonality in popular nature destinations in Iceland", *Sustainability*, Vol. 11 No. 11, p. 3059, doi: 10.3390/su11113059.

Scaglione, M. (2008), "Dynamics of price negotiation in real estate at upscale resorts in the alps", A case study of Verbier, Valais, Switzerland. Section 2 in Real estate and destination development in tourism: Successful strategies and instruments. Serie 3: International tourism research and concepts, Schmidt, ISBN 978-3-503-11088-9.

Soszyński, D., Tucki, A., Krukowska, R. and Jaruga, C. (2017), "Problems of second-home spatial development in protected areas: Polesie National Park case study", *Folia Turistica*, Vol. 44, pp. 49-62.

Spencer, D.M. and Holecek, D.F. (2007), "Basic characteristics of the fall tourism market", *Tourism Management*, Vol. 28 No. 2, pp. 491-504.

Vesić, M. (2017), "Weekend tourism and unplanned construction in deliblato sands", *Zbornik radova – Geografski Fakultet Univerziteta u Beogradu*, No. 65-1a, pp. 419-432, doi: 10.5937/zrgfub1765419V.

Further reading

Alvarez, E. and Brida, J.G. (2018), (2019), "An agent-based model of tourism destinations choice", *International Journal of Tourism Research*, Vol. 21 No. 2, pp. 145-155, doi: 10.1002/jtr.2248. (accessed 5 February 2021).

Bieger, T., Beritelli, P. and Weinerta, R. (2007), "Understanding second home owners who do not rent. Insights on the proprietors of self-catered accommodation", *International Journal of Hospitality Management*, Vol. 26 No. 2, pp. 263-276.

Chen, J.S. and Gursoy, D. (2001), "An investigation of tourists' destination loyalty and preferences", *International Journal of Contemporary Hospitality Management*, Vol. 13 No. 2, pp. 79-85, doi: 10.1108/09596110110381870 (accessed 05-07 February 2021).

Gursoy, D., Chen, J.S. and Chi, G.C. (2014), "Theoretical examination of destination loyalty formation", *International Journal of Contemporary Hospitality Management*, Vol. 26 No. 5, pp. 809-827.

León, C.J., de León, J., Araña, J.E. and González, M.M. (2015), "Tourists'preferences for congestion, residents' welfare and the ecosystems in a National Park", *Ecological Economics*, Vol. 118, pp. 21-29, doi: 10.1016/j.ecolecon.2015.07.003 (accessed 5 February 2021).

Mao, I.Y. and Zhang, H.Q. (2014), "Structural relationships among destination preference, satisfaction and loyalty in Chinese tourists to Australia", *International Journal of Tourism Research*, Vol. 16 No. 2, pp. 201-208, doi: 10.1002/jtr.1919 (accessed 05 February 2021).

Mariani, M.M., Buhalis, D., Longhi, C. and Vitouladiti, O. (2014), "Managing change in tourism destinations: key issues and current trends", *Journal of Destination Marketing and Management*, Vol. 2 No. 4, pp. 269-272, doi: 10.1016/j.jdmm.2013.11.003 (accessed 6 February 2021).

Müller, D.K. (2004), "Second homes in Sweden: patterns and issues", Hall C.M. and Müller D.K. (Eds), *Tourism, Mobility and Second Homes: Between Elite Landscape and Common Ground*, Channel View, Clevedon, pp. 244-258.

Corresponding author
Valeria Posadas can be contacted at: Valeposadas@gmail.com

For instructions on how to order reprints of this article, please visit our website:
www.emeraldgrouppublishing.com/licensing/reprints.htm
Or contact us for further details: **permissions@emeraldinsight.com**