Chapter 3
Price Elasticity of Overnight Stays: Testing Veblen's Conjecture Across Portuguese Regions

Eleonora Santos and Jacinta Moreira

Abstract This paper complements the scarce empirical literature on contingent consumption by testing Veblen's conjecture on overnight stays in Portugal. The price elasticities for overnight stays are calculated over 2013–2019 and across NUTS II regions. The results confirm the existence of conspicuous consumption in overnight stays in most Portuguese regions, especially in the Centro, Alentejo and Madeira regions in peak seasons in 2019. Also, in average terms over 2013–2019, the region of Algarve shows evidence of conspicuous consumption of overnight stays. Yet, since the peak seasons are of short duration, the conclusions about the magnitude of elasticities must be handled with caution. These results are relevant not only for tourism management but also to tourism planning at regional level. Indeed, by exploring whether the differences in overnight stays can be explained by a status-seeking behavior, the results carry important implications for spending on future travels, especially in periods of economic downturns.

3.1 Introduction

Tourism is an economic activity that is largely dependent on the discretionary choices of tourists. Thus, hotels traditionally use a low-price strategy to attract clients to new tourist destinations [1]; while a high price strategy is used when the objective is to turn a mass tourism into an exclusive destination. The price elasticity in the context of tourism has been subject to much research [2]. Understanding the factors that influence price elasticity is essential because price is an important factor in tourists' destination choices [3]. Recent events, such as the pandemic, with associated decreases in hotel prices, highlight the need to understand tourists' price sensitivity. Consumers are continually subjected to several factors that shape the elasticities of tourism demand [4]. Although prices and income are the most used variables to explain tourism demand, other factors include the competitiveness of

E. Santos (✉) · J. Moreira
Center of Applied Research in Management and Economics, Leiria, Portugal
e-mail: eleonora.santos@ipleiria.pt

A. Abreu et al. (eds.), *Advances in Tourism, Technology and Systems*,
Smart Innovation, Systems and Technologies 293,
https://doi.org/10.1007/978-981-19-1040-1_3

rival destinations [5], seasonality [6], advertising campaigns [7] and travel distance [8]. These factors are likely to affect the impact of price on tourism demand and influence the price elasticity of different market segments.

Price elasticities have been estimated for air transport [9], visitation of National Parks [10] and hotel room demand [11]. Furthermore, several studies investigate the aggregate effect of price changes, in the framework of destination competitiveness [12]. However, there are no studies that explore price elasticities of overnight stays for the Portuguese regions. Even though according to the National Statistical Office (INE), the Portuguese tourism industry is largely dependent on EU market, thus making it a relatively inexpensive destination to travel to, evidence suggests that European tourists are susceptible to changes in prices [13]. In contrast, tourists' behavior is essentially socially driven [14]. Accordingly, to enhance their social image, some tourists wish to display status and prestige levels [15]. This desire can be accomplished by choosing conspicuous tourist destinations [16]. Also, the conspicuousness of overnight stays derives from hotels' perceived image [17]. Hence, the central questions addressed in the present research are: "are overnight stays a Veblen good? and "In what regions of Portugal?".

The present study explores whether the innate need for status influences the overnight stays across NUTs II regions in Portugal for 2013–2019. We propose an alternative way to calculate price elasticities, that focus on understanding the regional trends. Since the unit of analysis is the individual regions, the results are relevant for tourism management and planning at regional level. This approach, comparing regional average price elasticities, based on hotel occupancy and revenue has the advantage of being simple and exempt from econometric problems found in some price elasticities studies. In an economic crisis context, the results of this research are especially important concerning the implications for spending on future travels. In what follows, Sect. 3.2 reviews the literature; Sect. 3.3 describes data and methodology; Sect. 3.4 presents and discusses the results; and finally, Sect. 3.5 summarizes the conclusions and provide some policy recommendations.

3.2 Literature Review

Pricing is a basic tool in the revenue maximization process, given the characteristics of the tourism industry and the relevance of demand [18]. Price variations allow tourist accommodations to focus on different customers segments, associated with their willingness to pay, product and customer characteristics [19]. Due to certain characteristics of the hotel sector (such as seasonality, perishability, and capacity limitations), occupancy and demand management plays a key role in determining revenue [20]. The presence of competitors and substitute products, higher levels of demand variability and the levels of uncertainty of future demand also influence pricing decisions [21]. A revenue manager can adjust demand through price variations when available occupancy differs from the occupancy that might maximize revenue [22]. Many studies attempt to establish the best pricing strategy in RM

contexts, related particularly to hospitality sector. A simple tool is price discrimination according to the type of guest as opposed to the type of room, mainly based on the different price elasticities of each market segment [23]. Another option is to measure individual demands to ascertain market responses to price variations, the price optimization consumer choice models [24]. Yet, the easiest way is to estimate price elasticities through a demand function. The demand function represents the demand level as a function of prices and is easily estimable and may be easily reproduced for hotels with analogous characteristics [25]. Many empirical studies focus on estimating the price elasticity of demand for tourism through a demand function. However, the results vary, in part due to differences in the mathematical models, functional forms, level of aggregation, econometric approach (time series or cross-sectional) and duration (short-run or long-run) and measurement difficulties [26]. Indeed, tourism demand suffers large fluctuations and can be both inelastic and elastic, depending on tourism destination and purpose of the travel. For example, business travelers seem to be less sensitive to price changes, because business travels have less or no alternatives when compared to leisure travels. Moreover, because tourism involves several products, it is difficult to obtain an appropriate measure of prices to calculate price elasticities.

Some authors [27] study 481 urban hotels in 22 major metropolitan markets in the U.S. for 1989–2000. Using feasible generalized least squares (FGLS) to estimate the parameters of the model, they find that demand is price-inelastic, with values of −0.14 across market segments and −0.31 to –0.11 by market segment. Other authors [28] utilized a hotel revenue management model based on dynamic pricing through an algorithm to calibrate the value of the elasticity in the Plaza hotel in Alexandria (Egypt), in 2008–2010. They find that, in general, the prices decrease as the demand for the rooms decreases and vice versa.

Another author [25] uses a linear demand model and a Minimum Norm Algorithm for the 28 U.S. hotels' price optimization. He finds an inelastic response of demand to price variations. The estimated elasticity from this analysis was between −0.06 and −0.38. Also, for Plaza Hotel in Egypt, an author [23] used a dynamic pricing approach for the hotel revenue management, based on "price multipliers" as a function of certain variables (for example hotel occupancy and time till arrival). Applying an optimization algorithm with Monte Carlo simulations, for determining the parameters of the multipliers, they attempt to maximize the revenue, considering current demand and price elasticities. The price elasticities are calculated using the hotel's historical data and a Probit function, to account for the saturation effects for extreme price levels. However, for most of the price range, they operate in the linear portion of the Probit function. The estimated value of price elasticity parameter is −0.4. Some authors [18, 22] use a Cobb–Douglas demand function and a dynamic pricing deterministic model with two differentiated booking periods. Both studies highlight that most of the hotel elasticities present in the literature are static and usually inelastic, but while one study [22] finds that the high season elasticities are mostly inelastic; another study [18] finds that the elasticities distribution across the booking horizon cannot explain the variation of prices and bookings.

3.3 Data and Methodology

This paper tests Veblen's conjecture on overnight stays across Portuguese NUTs II regions. Thus, the hypothesis is:

H1: the demand for overnight stays increases if the price of tourist accommodations increases.

Data source is the Survey on Guests Stays in tourist accommodations, carried out by the National Statistical Office (INE). This paper uses the "number of overnight stays" and the "revenue per occupied guest room" to calculate the price elasticities of demand of overnight stays, by NUTs II regions in 2013–2019. Although the literature on models analyzing changes in demand and its sensitivity is widely extended, in most cases, the variables from these models were not converted into elasticity figures. Some studies point out that the price elasticity is something difficult to measure [29]. This paper calculates the regional price elasticities of overnight stays using the formula:

$$\text{Price Elasticity of Demand} = \%\ \text{change in quantity} / \%\ \text{change in price} \quad (3.1)$$

where,

% change in quantity (number of overnight stays) = q1–q0/q0
% change in price (revenue per occupied guest room) = p1–p0/p0
q1, q0, p1 and p0 are quantities and prices in a certain year and in the previous year, respectively.

3.4 Results and Discussion

The calculated price elasticities of overnight stays by regions are shown in Table 3.1.

From the previous table, in 2013–2019 the average values of price elasticities vary between −1.96 (North) and 6.83 (Alentejo), with the demand being more elastic in the Algarve and Alentejo regions (with average elasticities over 2013–2019 of 3.63 and 2.81, respectively), suggesting a high share of conspicuous consumption in overnight stays in these regions. Because the Algarve region has traditionally been a favorite holiday destination for national and international tourists (especially from the United Kingdom), the region recorded the second-largest share of 5-star hotels in July 2019 (18%, according to tourism Statistics from INE), and thus the suggested conspicuous consumption is this region is not surprising. According to INE, in 2019, 88% of overnight stays in Algarve and nearly 71% in Madeira were motivated by leisure, recreation and holidays. Regarding the islands, in 2019, the average price elasticity value is 1.96 and 2.62, respectively, which is not surprising for the same reasons mentioned above, following the Centro region, with an average price elasticity of 1.27. These means conceal, however, very different values over the period. The largest standard deviations occurred in Alentejo and Centro regions (12.01 in 2015

Table 3.1 Price elasticities of demand by NUTs II regions, 2013–2019

Year	North	Centro	M. A. Lisbon	Alentejo	Algarve	Azores	Madeira
2019	−1.96	1.27	0.33	3.42	0.98	2.62	1.96
2018	2.20	2.08	1.05	2.81	1.64	3.41	1.46
2017	3.08	2.06	0.75	2.40	3.57	0.45	1.41
2016	−0.44	−0.31	1.70	−1.27	3.11	0.44	2.20
2015	1.39	2.69	1.61	4.64	3.53	2.99	3.01
2014	−0.62	−1.91	0.09	6.83	5.09	1.26	0.91
2013	0.67	−1.93	−1.10	0.99	4.89	3.10	2.71
Average							
Year	North	Centro	M. A. Lisbon	Alentejo	Algarve	Azores	Madeira
2019	7.50	11.00	2.28	6.05	3.19	4.71	2.90
2018	4.52	4.86	2.00	3.38	1.99	6.57	2.56
2017	7.60	6.01	2.67	7.47	4.48	7.99	3.18
2016	7.50	8.76	6.48	10.56	2.67	4.46	3.81
2015	9.00	6.89	3.30	12.01	2.59	6.64	4.09
2014	7.60	9.93	5.75	11.02	7.70	9.38	5.25
2013	7.81	10.68	4.79	8.53	7.29	10.07	4.80
Standard deviation							
Year	North	Centro	M. A. Lisbon	Alentejo	Algarve	Azores	Madeira
2019	0.79	1.34	0.00	2.14	1.34	1.83	1.72
2018	1.83	3.06	0.77	3.44	1.69	1.83	1.75
2017	1.03	0.15	0.13	4.95	1.59	2.35	1.87
2016	0.56	0.61	0.55	0.72	1.87	1.80	1.88
2015	1.92	2.44	0.64	5.71	2.00	3.34	2.56
2014	−0.71	−2.18	0.66	8.38	2.21	0.46	1.17
2013	−2.14	−3.06	−0.91	1.925	2.11	3.90	3.73
Median							

and 11.0 in 2019, respectively), and the smallest in Algarve and Lisbon regions (1.99 and 2.0 in 2018, respectively). For example, in 2019 (see Fig. 3.1), the highest value of price elasticity was registered in the Centro region in august (18.92) while the North registered the minimum value of price elasticity (−12.03). It is interesting to note that in august, a typical holiday season; while the price elasticity of demand for overnight stays for the Centro, Alentejo and Madeira and Algarve regions are positive; the elasticities for Lisbon, North and Azores are negative. This suggests ta conspicuous consumption of overnight stays in some of the traditional holiday destinations (Madeira and Algarve); while in the other regions, tourists appear to be averse to price increases. In the Easter, the Veblen's Conjecture appears to be confirmed, especially, in the Southern regions of the country (Lisbon, Alentejo and

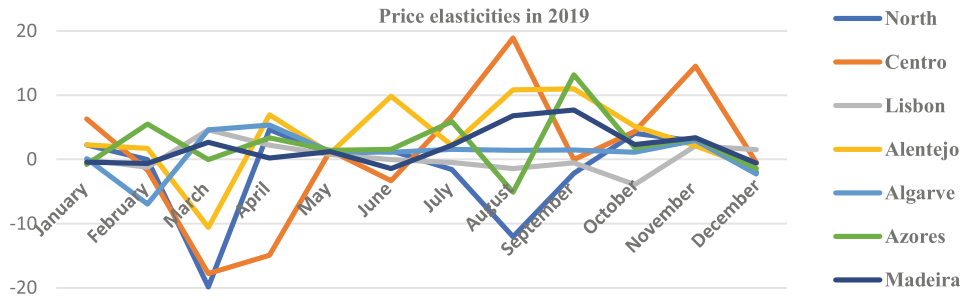

Fig. 3.1 Price elasticities of overnight stays by regions, in 2019

Algarve), but also in the islands, suggesting a trend of demand for destinations that may confer status and prestige to tourists in this season.

The second higher value for price elasticity was also recorded in the Centro region in November (14.54), while the lowest value was recorded in the Northern region in March (−19.87), followed by the Centro region (−17.78). Azores reported the third highest value of price elasticity in September (13.18), followed by Alentejo (10.99) in the same month. In 2016, the regions of North, Centro and Alentejo showed negative average values for price elasticities. However, in the years 2015, 2017 and 2018, all regions showed positive average values of price elasticity, confirming the hypothesis of conspicuous consumption of overnight stays. In 2019 only the North region contradicted this trend. Concerning medians, the values are no longer so discrepant between regions. The highest median is presented in Alentejo (8.38) in 2014; and the lowest in the Centro (−3.06) in 2013. The analysis of 2019 price elasticities by month and region reveals that, contrary to other studies, by and large, the demand for overnight stays is very elastic, except in Algarve and the Islands in January; Madeira in February and April; the North in May; Lisbon in May and July; and Madeira and Centro regions in December. Because, in 2019, the second main motive to spend the night in a tourist accommodation in Algarve and Islands is to visit family and friends, it is not surprising that the price elasticity is rigid in January and April, bearing in mind the new years and Easter festivities. The same happens for the Northern region in May, in fact, visiting family and friends represents 40% of visits' motives; while leisure, recreation and holidays represent 47% of visits. In Lisbon, these shares are even closer (44% and 38.9% respectively); while in the Centro region the shares are 53.2% for leisure, recreation, and holidays and 36.4% for visits to friends and family. Visits due to business are the third motive for overnight stays, with shares of 7.9% for Azores; 7.4% for the North; 7.3% for Madeira and 6.6% for Lisbon.

Discussion—A comparison of overnight stays by region, reveals that there are substantial variations in consumption patterns that may reflect differences in tourist preferences, income, budget, and consumption habits. Figure 3.2 shows the average regional shares for 2013–2019.

The regions of Algarve and Lisbon display the largest share in overnight stays, while Azores and Alentejo show the smallest shares. Also, Lisbon and Algarve record

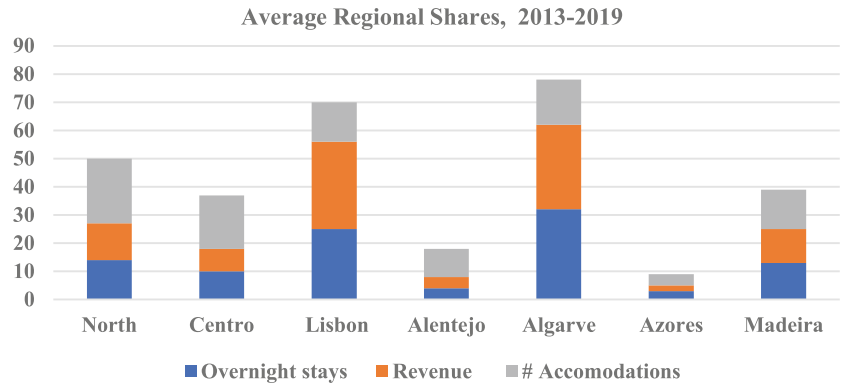

Fig. 3.2 Average regional shares, 2013–2019

the larger share of revenue per occupied guest room, while Azores and Alentejo exhibit the smallest shares. Regarding the number of tourist accommodations, the Northern and Centro regions exhibit the higher shares; while, not surprisingly, Azores and Alentejo record the smallest shares.

Price variations allow tourist accommodations to focus on different customers segments, which are aligned with their willingness to pay, product characteristics and customer characteristics [30]. Pricing in the hospitality industry is influenced by several factors, such as internal factors including costs, organization and working conditions. Cost is paramount; but its effect is limited as it determines only the price threshold, and, even so, additional price reductions are possible off-season. By contrast, due to the complexity of market mechanisms, the effects of external factors-such as the stage of the product's life cycle, price elasticity, competition, product, and service differentiation- on pricing are more pronounced. A standard reaction of the demand to the changes in prices is a growing or falling demand comparable to the falling or growing prices. Nevertheless, in tourism, there are deviations from standard elasticity. Instead of tourist flow proportionately decreasing in response to increased prices, it progresses. This happens because tourist flows tend to decrease faster than the prices tend to increase. A sharper decrease in tourism demand in comparison with an increase in prices, or a slower increase in tourism demand in comparison with a decrease in prices, indicates greater demand sensitivity (elasticity) to the increase than to the decrease in prices. The range between the highest price in full season and the lowest price off-season can be quite significant. Nevertheless, because the peak seasons are of short duration, the conclusions about the magnitude of elasticities must be handled with caution, i.e., one cannot talk about a great elasticity. However, in some cases, price elasticity of demand can be positive. It means that more expensive [the Veblen effect] or more exclusive [the snob effect] destinations attract more tourists. For Portugal, the bandwagon and snob effects in tourism have been studied by Correia and Kozak [31]. The present research results appear to corroborate H1, i.e., the existence of these effects in the Portuguese Tourism industry. Thus, the results suggest that regional authorities of Centro and Alentejo should promote 5-star luxury

hotels and other hedonistic forms of tourism to attract tourists with a desire for status and prestige. According to data from INE, in Jully 2019, the 5-star hotels in these regions represented only 2% and 6% of total hotels in the region; while in Madeira, the share of 5-star hotels was 19%, the highest of all regions.

Caveats—The results contradict previous findings regarding the magnitude and sign of price elasticities of demand. This is not surprising concerning the magnitude, since this paper presents an alternative way of calculating the price elasticity of demand for overnight stays at regional level, dealing with averages from aggregate data. Moreover, this paper assumes that the change in the overnight stays is determined only by the change in price, without considering all the other determinants of the demand for the number of overnight stays.

3.5 Conclusion and Policy Recommendations

Hospitality managers frequently select distinct pricing approaches based on a combination of several factors, which include cost structures, competitors' prices, and customer value perceptions of hospitality services. Revenue management is an advanced form of peak-load pricing in which the numbers of discounted rooms that are sold for a certain date are based upon the anticipated demand for accommodations and the price elasticity within each of the various market segments. To maximize revenue, the hotel will only offer corporate rated rooms during periods of high demand, while discounted rooms will be offered during low demand periods. Thus, elasticities allow the demand segmentation across the booking horizon as well as to establish optimal prices to maximize the revenue. Most empirical studies estimate the price elasticity of demand for tourism through a demand function. These models try to predict the price elasticity of demand segments based on the average demand across the booking horizon. However, their results vary, in part due to differences in the mathematical models, functional forms, level of aggregation, econometric approach (time series or cross-sectional) and duration (short-run or long-run) and measurement difficulties.

This paper explored whether the innate need for status influences overnight stays behavior across NUTs II regions in Portugal for 2013–2019. Bearing this in mind, an alternative way to calculate price elasticities using the "number of overnight stays", and the "revenue per occupied guest room", at regional level, was proposed. This approach, comparing regional price elasticities, based on tourist accommodations occupancy and revenue have the advantage of being simple and lacking the econometric problems found in some studies. The results confirm the existence of conspicuous consumption in overnight stays in most Portuguese regions, especially in the Centro, Alentejo and Madeira regions in peak seasons in 2019. Also, in average terms over 2013–2019, the region of Algarve shows evidence of conspicuous consumption of overnight stays. Yet, since the peak seasons are of short duration, the conclusions about the magnitude of elasticities must be handled with caution. These results are relevant not only for tourism management but also to tourism planning

at regional level. Thus, the results suggest that regional authorities, especially those in the Centro and Alentejo regions, should promote 5-star (luxury) hotels and other hedonistic forms of tourism to attract tourists with a desire for status and prestige. According to INE, in 2013–2019 the overnight stays in 5-star hotels represented 19% of total hotel overnight stays. In the context of economic crisis, this is particularly relevant for spending on future travels. Avenues of future research include estimating a demand function (e.g., a model log–log, with several determinants of demand, where the estimated price coefficient reflects the price elasticity of demand, holding all other determinants constant).

Acknowledgements This paper is financed by National Funds of the FCT—Portuguese Foundation for Science and Technology within the project «UIDB/04928/2020».

References

1. Gao, Y.L., Guillet, B.D., Wang, P.: Effect of price change alert on perceptions of hotel attribute-based room pricing (ABP) versus traditional room pricing (TRP). Int. J. Hosp. Manage. **92**, 102725 (2021)
2. Fleissig, A.R.: Expenditure and price elasticities for tourism sub-industries from the Fourier flexible form. Tour. Econ. 1354816620938170 (2020)
3. Croes, R., Ridderstaat, J., Bąk, M., Zientara, P.: Tourism specialization, economic growth, human development, and transition economies: the case of Poland. Tour. Manage. **82**, 104181 (2021)
4. Alrawabdeh, W.: Seasonal balancing of revenue and demand in hotel industry: the case of Dubai City. J. Revenue Pricing Manage. 1–14 (2021)
5. Fernando, I.N.: Tourism competitiveness by shift-share analysis to way-forward destination management: a case study for Sri Lanka. J. Tour. Services **11**(21), 88–102 (2020)
6. Khamzaeva, D.S.: The problem of seasonality in tourism. Theoret. Appl. Sci. **11**, 337–340 (2020)
7. Eugenio-Martin, J.L., Cazorla-Artiles, J.M.: The shares method for revealing latent tourism demand. Ann. Tour. Res. **84**, 102969 (2020)
8. Wong, I.A., Zhang, G., Zhang, Y., Huang, G.I.: The dual distance model of tourism movement in intra-regional travel. Current Issues Tour. 1–9 (2020)
9. Ventura, R.V., Cabo, M., Caixeta, R., Fernandes, E., Aprigliano Fernandes, V.: Air transportation income and price elasticities in remote areas: the case of the Brazilian Amazon region. Sustainability **12**(15), 6039 (2020)
10. Cothran, J.W., Bowker, J.M., Larson, L.R., Parajuli, R., Whiting, J.W., Green, G.T.: Fee hikes at state parks in georgia: effects on visitation, revenues, welfare, and visitor diversity. J. Park Recreat. Administ. **38**(3) (2020)
11. Chi, J.: Is there complementarity or substitutability among Hawaiian islands? Evidence from the autoregressive distributed lag approach. Curr. Issues Tour. 1–15 (2020)
12. de la Peña, M.R., Núñez-Serrano, J.A., Turrión, J., Velázquez, F.J.: A new tool for the analysis of the international competitiveness of tourist destinations based on performance. J. Travel Res. **58**(2), 207–223 (2019)
13. Heffer-Flaata, H., Voltes-Dorta, A., Suau-Sanchez, P.: The impact of accommodation taxes on outbound travel demand from the United Kingdom to European destinations. J. Travel Res. **60**(4), 749–760 (2021)
14. Crouch, G.I.: Homo sapiens on vacation: What can we learn from Darwin? J. Travel Res. **52**(5), 575–590 (2013)

15. Kock, F.: What makes a city cool? Understanding destination coolness and its implications for tourism. Tour. Manage. **86**, 104317 (2021)
16. Alvarado-Sizzo, I.: Spatial representations, heritage and territorial-synecdoche in contemporary tourism. Tour. Geograph. 1–20 (2021)
17. Han, Y., Lee, H.: Lifestyle experiences: exploring key attributes of lifestyle hotels using instagram user-created contents in South Korea. Sustainability **13**(5), 2591 (2021)
18. Vives, A., Jacob, M., Aguiló, E.: Online hotel demand model and own-price elasticities: an empirical application in a mature resort destination. Tour. Econ. **25**(5), 670–694 (2019)
19. Abrate, G., Quinton, S., Pera, R.: The relationship between price paid and hotel review ratings: expectancy-disconfirmation or placebo effect? Tour. Manage. **85**, 104314 (2021)
20. Ivanov, S., Del Chiappa, G., Heyes, A.: The research-practice gap in hotel revenue management: insights from Italy. Int. J. Hosp. Manag. **95**, 102924 (2021)
21. Mousavi, E.S., Hafezalkotob, A., Makui, A., Sayadi, M.K.: Hotel pricing decision in a competitive market under government intervention: a game theory approach. Int. J. Manage. Sci. Eng. Manage. 1–11 (2021)
22. Vives, A., Jacob, M., Payeras, M.: Revenue management and price optimization techniques in the hotel sector: a critical literature review. Tour. Econ. **24**(6), 720–752 (2018)
23. Bayoumi, A.E.M., Saleh, M., Atiya, A., et al.: Dynamic pricing for hotel revenue management using price multipliers. J. Revenue Pricing Manage. **12**(3), 271–285 (2013)
24. Vinod, B.: An approach to adaptive robust revenue management with continuous demand management in a COVID-19 era. J. Revenue Pricing Manage. **20**(1), 10–14 (2021)
25. Lee, S.: Study of demand models and price optimization performance. Doctoral Thesis, Georgia Tech Theses and Dissertations, School of Industrial and Systems Engineering (2011). Available at: https://smartech.gatech.edu/bitstream/handle/1853/42914/lee_seonah_201112_phd.pdf
26. Divisekera, S.: A model of demand for international tourism. Ann. Tour. Res. **30**(1), 31–49 (2003)
27. Canina, L., Carvell, S.: Lodging demand for urban hotels in major metropolitan markets. J. Hosp. Tour. Res. **29**(3), 291–311 (2005)
28. Aziz, H.A., Saleh, M., Rasmy, M.H., et al.: Dynamic room pricing model for hotel revenue management systems. Egyptian Inf. J. **12**, 177–183 (2011)
29. Acuna-Agost, R., Thomas, E., Lhéritier, A.: Price elasticity estimation for deep learning-based choice models: an application to air itinerary choices. J. Revenue Pricing Manage. 1–14 (2021)
30. Najafabadi, H.A., Shekarchizadeh, A., Nabiollahi, A., Khani, N., Rastgari, H.: Dynamic pricing for information goods using revenue management and recommender systems. J. Revenue Pricing Manage. 1–11 (2021)
31. Correia, A., Kozak, M.: Exploring prestige and status on domestic destinations: the case of Algarve. Ann. Tour. Res. **39**(4), 1951–1967 (2012)