

Article

Pre-Emptively Managing Overtourism by Promoting Rural Tourism in Low-Density Areas: Lessons from Madeira

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Abstract: Overtourism refers not only to situations in which carrying capacity levels have been exceeded, but also to those in which tourists and residents share negative feelings of discomfort and other emotions, loss of quality of life and unpleasant experiences in their activities of daily life. The growing number of places struggling with the problem of overtourism suggests that brand new approaches are required to minimize the effects of excessive tourism. However, the impacts of overtourism are place-specific and a one-size-fits-all approach is inappropriate. Many destinations still have a considerable margin to manoeuvre but are nonetheless heading towards increasingly unsustainable levels of tourists per square kilometer. Such regions have time to take some pre-emptive measures based on principles of sustainable development using greener and energy-saving technologies. Over the past few decades, degrowth has arisen as an unorthodox approach based on principles of fairness and social and environmental justice. In certain areas, such as island economies, the economic dynamics remain largely dependent on the tourism sector, which forces the local actors to think and act differently. In this study, we analyze the strategies employed by Madeira to counter the negative effects of oversaturation in a pre-emptive way. The findings of this case study, based on the data at the county level, are enhanced by a panel data analysis of a number of relevant explanatory variables explaining the dispersion of tourists to the rural hinterland. The results suggest that the development of the rural hinterland has proven capable of exerting a progressively positive influence well beyond the borders of the rural hinterland by accommodating a growing share of the increasing numbers of tourists welcomed in the region in the 2002–2019 period, at the expense of the main capital city. This study confirms the importance and potential of the development of the rural hinterland to tackle overtourism in the main tourism areas. In terms of recommendations, it is suggested that local operators and policy-makers must develop efforts to research new ways to adopt energy-saving projects and develop tourism products that incorporate eco-friendly behaviors.

Keywords: overtourism; sustainable development; Madeira Island; panel data; energy-saving initiatives



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1. Introduction

Before March 2020, it was not rare to read media reports on the issues of overtourism, antitourism or tourismophobia, based on examples of overcrowded places such as Barcelona and other major cities. The media did not fail to notice angry residents inviting tourists “go home” [1–4]. The increasing public dissonance was quite evident in the last quarter of 2019 (5), at a time when vocal complaints were heard about the negative impacts of overtourism [5]. As a result of such developments with far-reaching political implications, a number of destinations accelerated the inputting of measures based both on economic taxation and non-market parameters to manage overtourism. In its essence, overtourism is linked to two basic intertwined phenomena: an unacceptable and politically problematic reduction in residents’ quality of life and decreasing levels of the quality of the

tourist experience [5]. Anti-tourism movements organized by alienated residents aggregate activists and protestors determined to fight for a better quality of life for inhabitants of cities and rural areas [6]. Residents in major urban areas have experienced the negative effects of tourism development, such as rising rents and unaffordable housing leading to their displacement from the areas where they were born and grew up to the suburbs or other cities; noise and litter; access restrictions and degradation of the social fabric of local communities; along with changing neighborhood characteristics due to phenomena such as gentrification [6,7]. The lack of functionality of the city center as a result of the “urban touristification, museumification and disneyfication” is another matter for concern in some areas ([8] p. 1, [7,9,10]). In a number of cases, the local residents have been forced to see “conversion of these neighborhoods into urban theme parks of a touristic nature” ([11] p. 3; [7]). Overexploitation of natural resources has been felt by residents in the rural hinterland.

Tourists also have several reasons to complain. Tourists complain about ruined or degraded experiences as a result of long, uncomfortable and endless queues and the hours of waiting to visit the most popular museums and iconic urban parks. Even in smart cities applying ICT tools to manage carrying capacity issues, tourists may complain about limited seating capacity in many key tourist hotspots or about being invited to visit other unwanted alternative places.

Overtourism is seen as a complex, contentious and multidimensional contemporary phenomenon ([12], p. 14). Koens, Postma and Papp [13] consider that the “marketability and popularity” of the term “overtourism” sped up the data entry process into the academic debate of an ill-defined and difficult-to-operationalize concept. Such conceptual difficulties explain why González and Ruano [4] consider that a number of key stakeholders have succeeded in enforcing a particular narrative corresponding to their interests and aspirations, in terms of how tourism development must be understood and which type of solutions must be tested, implemented and maintained in order to cope with overtourism. Nonetheless, Dredge [14] and Pasquinelli and Trunfio [8] consider overtourism not as a new phenomenon but rather “an old wine in new bottles”, because the negative impacts of tourism have been examined in the literature since the 1970s. Moreover, most destinations are not yet on the verge of being overrun by an excessive number of tourists causing major disturbances [7]. The problem is whether the current trends of sustained growth will take the destination to its maximum installed capacity, and then to poor quality experiences and finally to the deterioration of the destination’s image abroad. In most instances, it is still possible to prevent an “unsustainable future”, based on the adoption of measures at the earliest phases of the mature stage of the lifecycle (2019).

In several cities, the rapid increase in the number of tourists has led to unsustainable mass tourism; to overcrowding and negative environmental impacts; resentment against the negative effects of cheap accommodation promoted by private rental via Airbnb; inflated prices in the real estate sector and increasing cost of life; unaffordable rental prices; dissatisfaction with their current lives; and gentrification in working-class districts [1,6,11,13,15]. Others have complained about the “extended presence of tourists that seemingly undermines the sense of community based on social relationships” ([6], p. 2). In other areas, the opposite phenomena have been observed, with residents and local politicians complaining about the current levels of underdevelopment of the tourism sector [16]. In such circumstances, most local actors demand more decisive action to fight the current high rates of unemployment amongst young residents, depopulation, an ageing population and the lack of opportunities for locally generated development. In these cases, a tourism-led growth agenda would be implicitly welcomed by a significant fraction of the population. Therefore, it must be acknowledged that overtourism is destination- or local- and neighborhood-specific, so that a one-size-fits-all approach is not advisable. This study’s objective is to shed light on the role to be played by the rural hinterland in lowering the pressure felt by the most recognizable tourist hotspots in established destinations.

In this paper, we attempt to reframe the topic of overtourism from the point of view of territories overdependent on tourism and much more favorably disposed towards “development” scenarios depicting continued growth, although labeled as sustainable, as well as the commercial success of this economically highly important sector. Objectively, the contextual setting under analysis, i.e., the Autonomous Region of Madeira, does not suffer and is far from overtourism, except for a few exceptions. Moreover, most local voices speaking out against tourism development lack focus on the specific overtourism-related problems, take quite a generic environmental stance. In addition, most visitors are very pleased with the current experience. However, the local government has been well aware of the urgent need to implement in advance several measures to slow down the current dynamics in the main capital city by channeling investments and tourists to its periphery. This paper contributes to the literature on overtourism and tourism-led local development by analyzing the present trends of tourism expansion in the rural hinterland of an established destination based on the identification and discussion of the main drivers of the current dispersion of tourism growth across counties. In order to take measures in advance based on alternative policies, the local Destination Management Organization (DMO) must understand the dynamics of the tourism system based on a spatial focus of analysis. Therefore, in this paper we examine how to use the pre-overtourism phase as an “opportunity to plan for a better future”. COVID-19 has forced destinations to acknowledge the need to plan structural changes and to build up a more sustainable and resilient system [16]. In the same vein, the current stage of development of tourism may help decision-makers to define a proactive strategy to avoid large-scale issues linked to overgrowth and overtourism. The motivation to address this is that overtourism was a serious issue in a number of destinations; nowadays, most destinations are experiencing just the opposite. As observed by Gülşen et al. ([17], p. 13) “the tourism industry could undercut many problems without having to panic and implement over-the-top strategies”.

Overtourism is in many instances a notoriously urban-centered phenomena strongly supported by media campaigns and activism from civil society. Such campaigns have enjoyed a high level of success, backed up by the raising of public awareness on the topic, forcing the authorities to adopt a number of degrowth initiatives in areas subject to strong pressure from tourism. Numerous studies are available, such as those analyzed in the literature review section, to document the recent experiences in this regard. However, a gap is clearly discernible in the literature because similar challenges faced by other less-known regions, without a high density of dissent voices, have been less researched. In this study, we analyze the practical example of the efforts developed by a region lacking viable alternatives in other industries but well aware of the long term advantages of improving the overall experience for guests by avoiding oversized hotels and overconcentration of tourists in a narrow strip of the territory. A very practical way by which the local government has been able to welcome more tourists while avoiding an “excessive concentration” of negative impacts in particular zones of the city consists of “reallocating” the tourism dynamics to the rural hinterland. This also plays a crucial role in strengthening the territorial cohesion and spatially balanced development on an all-island basis. This research is conducted with the motivation to identify ways to tackle overtourism, in a pre-emptive, quiet and out-of-the-spotlight manner, by “testing” whether the development of the rural hinterland on islands has the potential to positively affect the destination prospects from both economic and environmental points of view if applied properly. This article aims to look at the increasing number of tourist heading to rural areas in order to comprehend the extent to which the current policies have been successful in addressing the development gap between the main city and surrounding areas and the rural hinterland. Therefore, the generic research question is to what extent can the development of the rural hinterland possibly contribute to tackling future issues of overtourism in a region such as Madeira. In this regard, this study contributes to fill in a gap in the literature.

This paper is organized as follows. Section 2 presents a review of the literature, focusing particularly on the concept of overtourism. In Section 3, the recent evolution

of tourism in Madeira is described as an example of a mature destination that is dispersing tourists towards the periphery both from spatial and core product points of view. Section 4 discusses the methods used in the study, involving a data panel regression analysis. Section 5 then presents the findings of the study, including the identification of the variables that are most influential in explaining the current dispersion of tourists. Section 6 presents the main conclusions of this study and suggests some future directions for research in this subject area.

2. Literature Review: From Overtourism to Opportunities to Promote Greener Sustainable Growth Development

Overtourism has been one of the most researched topics in recent years. However, there is a lack of consensus as to the type of measures that would be appropriate. As observed by Mihalic [16], overtourism remains a contentious issue, with various interpretations and theoretical approaches provided in the literature [13,18,19]. The literature provides several definitions more suitable to understanding the current dynamics in urban settings and tourism hotspots. For example, Nepal and Nepal ([6], p. 4) understand overtourism as “a phenomenon of a popular destination or a sight becoming overrun with tourists in an unsustainable way: (See also [20]). Gülşen et al. ([17], p. 1) link overtourism to a “very large influx of visitors at a destination that causes various negative consequences in that particular space”. Overtourism also refers to “the impact of tourism on a destination, or parts thereof, that excessively influences perceived quality of life of citizens and/or visitors in a negative way” ([21], p. 4). On the basis of a wider geographical definition, Higgins-Desbiolles [22] understand overtourism in the context of exceeding carrying capacity limits, by declaring that “overtourism describes a situation in which a tourism destination exceeds its carrying capacity—in physical and/or psychological terms”, which leads to “deterioration of the tourism experience for either visitors or locals or both”. Most authors agree that if “allowed to continue unchecked, overtourism can lead to serious consequences for popular destinations” [12,21,22]. Koens et al. [13], quoted by Pasquinelli and Trunfio [8], identified five main themes in overtourism: “(a) overcrowding in public spaces; (b) pervasiveness of visitor impact due to inappropriate behaviors; (c) physical touristification of city centers and other often-visited areas; (d) residents pushed out of residential areas partly due to Airbnb and similar platforms dedicated to apartment rental; (e) pressure on the local environment”. From a measurable point of view, Nepal and Nepal [6] argue for a “healthy density” of tourists, defined by the number of visitors per square kilometer and the right intensity in terms of the number of tourists across the destination [5]. While most scholars agree on a limited number of qualitative aspects, a consensus is yet to be reached regarding quantitative targets and which policies work in practice. Territories such as Madeira, which are not yet teeming with tourists, should look carefully at the analysis developed by Nepal and Nepal [6].

Even the concept of sustainable tourism, which is part of the prevalent paradigm governing our understanding of tourism development, while “intellectually appealing”, fails to a large extent to be put into effect [22,23]. Despite the hype surrounding the idea of sustainability, the measures implemented “allow essentially the same behavior as before” ([24], p. 121). As observed by Chettiparamb and Kokkranikal [25], there is no consensus on how to implement the concept of sustainability, and the current set of measures is “not yet close to sustainability” ([25], p. 528, [26]). Moreover, in many cases, despite all of the publicity, such measures are “alarmingly unsustainable” ([27], p. 117).

The negative impacts of overtourism are real. Both tourists and residents may complain about overloaded infrastructure due to heavy traffic and traffic congestion. Environmentalists highlight very high levels of energy consumption, massive waste generation and damages to natural ecosystems caused by pollution and overuse of scarce natural resources. Others point out the current threats to the local culture and heritage as a result of mass tourism, which threaten the destination’s overall identity and cultural integrity [28], inducing inflation, leading to unaffordable housing for the middle class and real estate

speculation coupled with the gentrification of old neighborhoods, as well as unemployment in the off-season due to the overdependence on tourism, as mentioned by most authors. In other cases, the problem lies not in the number of tourists per se but in arrogant tourists' behavior, generating tourism-phobia and anti-tourism reactions amongst locals [29].

Given the many potential negative impacts, the number of voices in academia advocating a degrowth agenda is hardly surprising [30]. However, for all purposes, tourism is the mainstay of the economy of islands, with most locals compelled to adopt a "pro-growth ideology" whether they want it or not and to follow a "growth fetish of tourism" in line with the neoliberal paradigm ([12] p. 1930), [31]. In most cases, Small Island Developing States (SIDS) and non-independent territories affiliated with the EU are reliant on tourism-led growth as a measure of last resort for development ([12], p. 1926, [32–43]). In the island context, adopting a degrowth agenda or eschewing the "growth imperative" while still struggling to reach high levels of human development is politically unpalatable for the moment. Even if most territories are eager to "diversify the economic structure away from the tourism monoculture", "tourism remains an essential source of income that is capable of boosting and regenerating local economies ([7], p. 3). Nevertheless, we have seen an "open questioning of an activity that had never before been the subject of such a profound debate in the media" ([4], p. 17). While tourism is no longer understood as a "goodness" ([5], p. 17), major changes in line with a radical transformation of the economy and society would imply "a drastic transformation of the tourism industry and its metabolism" ([12] p. 1927; [35]) at the global level. In most cases, partly by virtue of the absence of alternatives, SIDS are happy to explore the "never-satiated . . . consumerist dynamic", always ready to travel to "seek out newer and more novel tourism destinations and experiences" ([12] p. 1931; [27]). Tourists heading to islands "driven by restlessness, boredom and new ways to escape reality . . . are perpetually seeking new experiences", which has been matched at the island level by the development of new market niches and "alternative" products ([12] p. 1031; [36]). Islands can only move on to a more sustainable and greener stage if "structural changes" to the global economic model and tourist phenomena are made available globally ([3], p. 560).

It is worth mentioning that the tourism sector on islands may even be understood as a promotional tool for change [37] and a factor leading to sustainable practices [38]. As observed by Balsalobre-Lorente et al. ([37], p. 4) and Leitão and Shabaz [39], in the long run the tourism sector may even encourage higher levels of environmental awareness among residents and tourists alike based on the widespread use of sustainable practices and cleaner and greener energies, and as a consequence a contribution to tackle climate change.

For the reasons mentioned above, most islands continue to pursue a growth agenda "strongly embedded in a capitalistic sociopolitical system" ([16] p. 1, [40–42]). A similar phenomenon can be observed elsewhere, even in places overrun by tourists. Mihalic ([16], p. 6) observed that if most residents in overcrowded places benefit directly or indirectly from tourism, reaching a consensus on the issue is not easy. Contrary to expectations, a sizeable number of residents may even welcome higher numbers of tourists. A UNWTO [21] report on overtourism provides evidence to conclude that the "majority of residents in eight overcrowded European cities believed there should be no limitations to the growth of visitor numbers" ([21], p. 9). Most residents still prefer the status quo, which is "continuous tourism growth"; in fact, most fear a "deep transformation of tourism dynamics and tourism degrowth, as proposed by some pioneering contributions on overtourism" ([8] p. 3, [5,43,44]). Such voices, in all likelihood, would appreciate "that most value from tourism does remain locally" ([8] p. 1; [43]), which may lead outsiders to conclude that the reasoning behind the current protests are rather economic in nature. Backed locally by the electorate, policy-makers think that they will ultimately succeed in "coping with success" [16,45] by minimizing and preventing severe negative impacts, instead of becoming "victims of their own success" at a later stage ([46], p. 230). However, in practice, they live dangerously, constantly on a razor's edge [6].

In a number of instances, the “problem” from the local residents’ point of view lies in the increasing levels of income inequality, which is quite often a by-product of the lack of tourism development in the periphery of the main tourism hotspots. Small towns in the rural hinterland are prone to be overlooked by regional politicians, operators and investors [32]. In such circumstances, tourism does not contribute to the quality of life of those living in the periphery, and many local stakeholders are irritated by insufficient tourism opportunities and benefits. The evidence available suggests that residents welcome tourism if they can benefit directly or indirectly from it [6,16]. If politicians are well aware and conscious of this situation, they can implement measures to redirect and disperse tourists to less-known attractions based on the development of “new tourist routes” in the rural periphery to ensure the right densities of tourists both in the core and peripheral areas ([17], p. 1). In theory, this approach can generate higher levels of fairness and justice and degrowth (in the existing core areas) in a socially sustainable way [20]. Of course, this requires both investment in infrastructure and local entrepreneurial initiative. There is evidence to suggest that well-planned tourism dispersal to the rural hinterland may deliver substantial benefits to residents, without compromising sustainability and territorial cohesion [47]. On the contrary, this approach is likely to be effective in preventing the negative consequences of “overtourism” in the core areas.

Another critical advantage of pursuing a rural-based approach lies in offering real opportunities to accelerate a transition towards greener solutions for energy efficiency, innovative and sustainable architectonic and urbanity solutions and increased dependence on renewable energy. As pointed out by Nowacki et al. [48], tourism is considered an energy- and emission-intensive industry in need of a strategic redirection. Tourists heading to rural areas are more amenable to enjoying eco-friendly experiences, staying in brand new buildings, adopting all requirements or solutions according to best sustainable and greener practices and buying more green products. The evidence available suggests that such visitors may display eco-friendly behavior and a higher propensity to adopt a positive attitude and willingness to act towards complex and contentious environmental issues. Moreover, such visitors are more likely to use smart destination tools [49] owing to their academic background. Lilley et al. [50] claim that tourists opting to nature tourism and ecotourism in the rural hinterland are ready to welcome environmental initiatives, even those with significant impacts in terms of higher prices.

Several proposals to address overtourism have been developed in the literature, for example the optimization of tourist flows based on alternative products and alternative locations, as mentioned above, along with supply-side constraints and limits such as spatial planning, imposing limits to the number of accommodation facilities available and reducing demand in peak periods. The development of community-based festivals designed to build a positive image of urban areas, instill pride in residents and improve relationships between locals and tourists [51] have been suggested by Oklevik et al. [52], Peeters et al. [9] and UNWTO [21]. Tourism taxes and rebranding the tourism sector based on new attractions or shared experiences were the initiatives proposed by Séraphin et al. [51]. Koens et al. [13] discussed the issue of infrastructure improvements to reduce tourist pressure in the core areas, based on improved levels of accessibility to the periphery. Soares et al. [29] considered that controlling the level of access to public spaces based on technological solutions coming from the field of smart tourism can be useful in preventing certain areas from becoming overcrowded in certain days and hours. At the micro level, Peeters et al. [9] and Postma and Schmuecker [53] proposed compensation for residents financed by tourist taxes, and small projects compatible with higher shares of local employment and community engagement to reduce local conflicts. Demarketing was discussed by Gülşen et al. ([17], p. 1). The authors argued that destinations should adopt a “proactive strategy for preventing large-scale issues that may arise due to overtourism and disorder” by redirecting marketing efforts to alternative areas.

Pasquinelli and Trunfio [8] indicated that overtourism can be solved based on a mix of regulation, management and marketing. The regulatory approach includes measures

such as tourist taxes, licensing and control of the number of hospitality and commercial establishments in operation, as well as limited access to old towns and urban centers. The management approach tries to control the development path of the tourism sector without imposing coercive measures. For example, the DMO tries to anticipate market trends and involve a number of stakeholders in the co-creation of the destination to avoid conflicts of interest [8]. Measures to develop alternative routes in the rural hinterland, a new range of experiences in the urban landscape based on the cultural, historical and literary resources and other initiatives aimed at advertising market niches such as rural tourism, as strategies focused on dispersing tourists away from the most popular attractions, should also be envisaged. Such strategies can also be envisaged as leading to higher levels of involvement and participation of the local communities in the planning and development of their localities through the local elections [29]. Rasoolimanesh et al. [54] contend that the involvement of local residents in the tourism development process will lead to increased levels of awareness of the sector's benefits and costs, followed by increased levels of participatory involvement in the local decision-making processes. By the same token, Jaafar et al. [55] consider that the residents' level of information about the impacts of tourism will influence their level of support in favor of tourism development. In underdeveloped areas, further tourism development will lead to more jobs, quality of life improvements, public services and leisure attractions. Moreover, initiatives based on smart technologies (e.g., smart ticketing and dynamic pricing) can be employed to limit pressure on certain areas of the city and to push the benefits of the tourism economy towards less-crowded urban and peripheral areas [56]. As for dispersal strategies, which are often mentioned in the overtourism debate, research efforts should assess the degree of substitutability between established tourist hotspots and alternative solutions in the periphery by asking tourists about their preferences, expectations and constraints in this regard. Any attempt here must adopt a realistic stance to avoid deferring the problem or frightening off tourists, thereby exacerbating the negative effects.

The marketing approach is linked to the development of marketing and communication tools applied to new products [57]. For example, apps generating huge amounts of data can be used to profile visitors, define market niche segments, identify peak hours and convey messages adapted to the social media needs and learning needs of visitors in terms of social and environmental responsibility. Nowadays, a wide range of technologies is available to manage overtourism, such as "real-time technologies and travel cards to monitor tourist flows; apps to stimulate dynamic time-based dispersal; dynamic pricing and virtual reality to disperse tourist flows; social media usage by locals to promote alternative attractions and circulate information about traffic, parking and facilities; and digital platforms and big data analysis to assess tourism performance and impacts" ([8], p. 4).

Given the overall importance of the tourism sector, especially on islands, governments have been slow in implementing measures in line with the sustainable development paradigm. It is no wonder that there is an existing gap between the theoretical constructs found in the literature and the current level of practical implementation ([16] p. 1, [26,27,35]). For this reason, scholars have been attempting "to reframe the overtourism phenomenon" within the wider conceptual framework of urban development and the rethinking of tourism models ([8], p. 1). While the concept of degrowth based on principles of equity and inclusion rather than on market growth principles may be appealing from an academic point of view [5,12,43,44], overtourism can only be addressed by taking into account the key economic, social and political issues as they are understood by the majority of the population and key stakeholders. On islands, this means being tolerant, at least for now, of a growth-based agenda, including welcoming "indirect" measures such as control of the development path of the tourism sector via dispersion of tourists from the core areas to the rural hinterland. To illustrate the line of reasoning developed in this section, we turn our attention to recent developments in Madeira.

Much of the ongoing debate on the topic of overtourism has been based on well-known examples from key European cities, with other less-known areas facing similar

challenges but going largely unnoticed, notwithstanding the good examples of solutions that can be found in such peripheral areas. As such, this study seeks to illuminate this research gap based on a concrete example (case study) to understand the extent to which the policies being established based on the development of the tourism dynamics in the rural hinterland have been able to reduce the pressure in the main tourism areas. Statistical data are analyzed to find an answer to the research question in the following sections.

3. Contextual Setting

Tourism Development in Madeira

Madeira's archipelago is located about 400 km from the coast of Africa, 1000 km from Lisbon, 555 km from Gran Canaria, and 1000 km from Ponta Delgada, the capital city of Azores [58]. Madeira belongs politically, culturally and ethnically to Europe, but is located over the African Plate, and as with most islands Madeira shows some social, cultural and political peculiarities. Madeira is an autonomous Portuguese region that accounts for 0.87% of the total Portuguese land surface, according to the data provided by the local Statistical Office; the current population of nearly 251,060 inhabitants represents 2.43% of the Portuguese population. Madeira is characterized by a "mild temperate" climate, with some differences between the south coast, which benefits from mild temperatures, and the north coast, experiencing cooler temperatures in winter [58]. The mountainous orography is a determinant factor defining precipitation levels, with areas located in the Madeira Natural Park receiving as much as 2800 mm (110 in) of precipitation a year [59]. The mild temperatures explain to a certain extent the low levels of seasonality. However, a tendency towards an increasing number of visitors in the high season, i.e., in the summer (June, July, August and September), at the expense of the low season (November, December, January and February) is clearly evident in Figure 1.

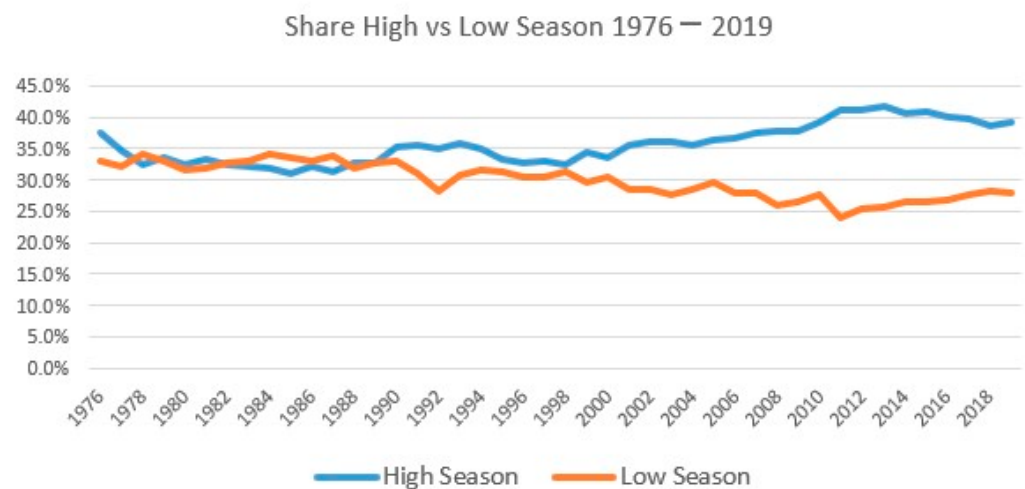


Figure 1. Low season versus high season. Source: Own calculations based on data from the Statistical Office.

Madeira has been a popular year-round tourist destination since the 1890s, well known for its levadas (walking paths), landscapes and New Year's Eve celebrations that offer unique fireworks shows, considered some of the most famous in the world [58–60]. Dozens of cruise ships wait for the fireworks show every New Year's Eve. Madeira can be defined as an example of a "tourism periphery" destination in the Atlantic. Increased levels of accessibility to and from key European countries has resulted from the introduction of low-cost flights, now operating on a daily basis to and from Lisbon. The island's main attractions for tourists are based on the quality of its natural resources, cultural traditions, welcoming nature, top quality accommodation and safety [58–60]. Tourism has a bicentenary tradition, being a heavy contributor to social and economic life. By taking into account all direct and indirect effects of tourism, the evidence provided by the Tourism

Satellite Account in the Statistical Office website indicates that tourism accounts for 23% of the GDP and 16% of employment.

According to the data provided by the local Statistical Office (available in <https://estatistica.madeira.gov.pt/>, accessed on 1 December 2021), Portuguese nationals accounted for 22.7% of the total number of visitors in 2019. In the same year, British nationals accounted for 30.4% of the total number of visitors, followed by Germans (23.2%), French (9.3%), Scandinavians (8.7%) and Dutch nationals (5.3%). The region is characterized by increased levels of seasonality; the months of July to September saw 39.1% of the total number of visitors, while the corresponding percentage for 1976 was 27.8%. In contrast, the low season (from November to February) accounted for 33% in 1976, with the corresponding percentage for 2019 being 27.8%. For 2019, the total expenditure was 1.2 billion euros, in 2016, corresponding to 23% of the GDP. Madeiran tourism expenditure reached 9.38% of the Portuguese total expenditure for goods and services in tourism.

As mentioned by Ismeri ([60], p. 136), “with 30,000 beds and 1 million visitors, tourism is far from the mass offer of the Canary Islands but also far from the scarce hotel capacities of the Azores: far from the mass approach of the former but far from the ‘niche’ approach of the latter”. Therefore, overtourism is not a major issue for now, and most segments of the local civil society, along with policy-makers and entrepreneurs, will welcome further increases in terms of the number of tourists. Nevertheless, the local government has continuously taken actions to improve the overall quality of the tourism sector based on new locations, new market niches, new attitudes and new behaviors amongst tourists. In the following sections, we provide more evidence in this regard.

This high dependency on tourism (accounting for 23% of the total GDP) means a high vulnerability to the unpredictable and uncertain movements of tourists determined by phenomena, such as catastrophic natural hazards (e.g., the flash floods of 20 February 2010); distant threats affecting the aviation sector, such as volcanic eruptions and forest fires; and increasing levels of competition from other destinations that are more equipped and with vastly superior cultural and heritage products.

Aware of the constraints imposed by the degree of vulnerability regarding external events, the sector has been urged to take a more resilient approach based on the diversification of their key markets of origin and main products, the locations of the tourism facilities and their key comparative advantages. Furthermore, the sector has been succeeding in reorientating the dynamics of the demand from densely populated central areas to the sparsely populated rural hinterland, in the wake of huge investments dedicated to the development of the road sector linking Funchal, the capital city, to the rural hinterland. The first results of the faster implementation of upgrades in terms of accessibility and public services are already evident.

For example, the rural tourism sector in Madeira is proving to be successful in terms of the number of establishments in operation and number of guests. Madeira had 61 rural establishments in operation in 2019, with 530 rooms available and a lodging capacity of 1158. Data regarding the evolution of the supply side from 1995, the first year with available data, points to sustained growth at an average rate of 12.04% per year for the period of 1995–2019, a testimony to the continuous investment in the sector. This positive trend was more pronounced in 1995–2005, suggesting some signs of maturity. The sector welcomed 42,459 guests in 2019 (158,159 nights), accounting for 2.67% (1.947%) of the total number of guests (nights) recorded in Madeira. Figure 1 shows the evolution of the number of guests, which experienced an annual growth rate of 19.11% in 1995–2019. The number of nights soared from 3119 in 1995 to 158,862 in 2019.

However, data on the length of stay (3.72 vs. 5.11), occupancy rate (42.2% vs. 58%) and revenue per available room (32.21€ vs. 44.29€) show a less favorable scenario compared to the sector as a whole. The sector employs 260 employees (as of 2019), accounting for 3.6% of the total number of individuals employed in the tourism sector. The rural tourism segment is apparently more labor-intensive than the sector as a whole (163.4 guests per employee in the tourism sector and 220.26 guests per employee in the tourism sector in

total) and more likely to create jobs. Data on ADR suggest that the sector has been able to charge a price premium (69.75€ vs. 68.83€). In recent years, rural tourism has been under pressure, being negatively affected by the local lodging sector (see Figure 2). An increasing number of local lodging units can be found scattered around the island, offering price advantages and a more individualistic approach to enjoy the rural hinterland.

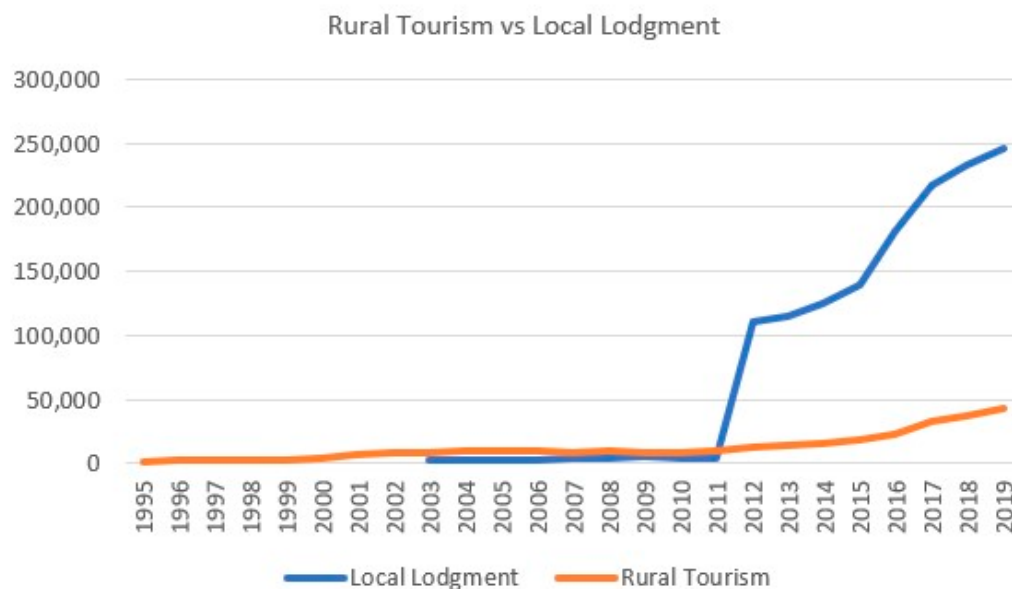


Figure 2. The rural tourism sector versus local lodgments. Source: Own calculations based on data from the Statistical Office.

The available data suggest that the tourism sector has brought considerable benefits to the local economy, and of course to the already-established local accommodation services. Moreover, benefits such as job creation; the valorization of the local agricultural and gastronomic, cultural and historical resources; as well as investments in public services must also be mentioned here. The spatial distribution of tourism by the rural hinterland is, therefore, very beneficial to the counties located outside Funchal because it has led to further investments and improvements of the road network, new business ventures, the attraction of immigrants and the promotion of the reintegration of returnees from traditional emigration areas in South America, a particularly relevant issue in terms of the economic development of a depopulated and underdeveloped area.

The success of the tourism dispersion strategy can be checked at the county level, allowing us to study not only the dynamics of the rural tourism sector, but also the achievements of the sector as a whole, taking all markets niches (rural tourism, local lodgment, classic hotels located in rural areas, etc.) into consideration. By rural areas and the rural hinterland in this study, we mean all counties besides Funchal, the main capital city. Funchal has a population of 103,754 inhabitants, corresponding to 40.86% of the total as of 2020.

4. Methods

In order to gain an overview of the spatial dynamics of tourism development in Madeira, this study used panel data from 10 counties from 2002 to 2017 based on data availability from the local Statistical Office. Based on the data on the number of guests, number of establishments, population size, area size and number of rooms available, it was possible to calculate a number of figures in terms of annual growth rates, compounded annual growth rates, tourists per inhabitant, tourists per square kilometer and the weight in terms of the total number of tourists at the county level. The early conclusions of this study were substantiated by findings and the analysis of such figures, as shown in Table 1.

Funchal was excluded from the analysis to gain an overview of the spatial dispersion occurring in recent years.

Table 1. Key figures related to the study.

Municipalities	Share 2002	Share 2019	Var. Share	CAGR	Ratio T/P 02	Ratio T/P 19	T/P 2019/2002	Ratio T/A 2002	Ratio T/A 2019	T/A 2019/2002
Madeira				2.90%	3.93	6.26	1.6	1230.8	1984.9	1.6
Calheta	2.2%	6.1%	3.9%	9.2%	1.80	8.90	5.0	193.1	867.0	4.5
C.Lobos	0.5%	1.8%	1.3%	11.2%	0.13	0.83	6.3	88.6	538.2	6.1
Funchal	71.3%	62.7%	−8.6%	2.1%	6.62	9.61	1.5	9232.7	13,096.3	1.4
Machico	2.4%	3.6%	1.2%	5.3%	1.10	2.91	2.6	354.0	848.5	2.4
Ponta do Sol	0.7%	1.3%	0.6%	6.4%	0.87	2.44	2.8	157.1	451.2	2.9
Porto Moniz	1.0%	1.9%	1.0%	7.1%	3.29	13.24	4.0	115.2	369.0	3.2
Ribeira Brava	1.4%	1.2%	−0.2%	2.1%	1.05	1.54	1.5	205.1	291.0	1.4
Santa Cruz	12.7%	11.0%	−1.7%	2.0%	3.85	3.82	1.0	1531.7	2137.9	1.4
Santana	1.5%	1.6%	0.1%	3.2%	1.72	3.83	2.2	155.8	266.7	1.7
São Vicente	1.5%	2.3%	0.8%	5.5%	2.41	7.21	3.0	188.2	467.3	2.5
Porto Santo	4.9%	6.5%	1.6%	4.6%	10.29	19.97	1.9	1121.6	2412.4	2.2

Share 2002—share of the number of guests of the total for 2002; Share 2019—share of the number of guests of the total for 2019; Var. Share: share 2019–share 2002; CAGR—compound annual growth rate for 2002–2019; ratio T/P02—ratio of tourists per habitant for 2002; ratio T/P19—ratio of tourists per habitant for 2019; T/P 2019/2002—(T/P02)/(T/P19) ratio; T/A 2002 ratio—number of tourists per km² for 2002; T/A 2019 ratio—number of tourists per km² for 2019; T/A 2019/2002—(T/A02)/(T/A19) ratio.

The second part of the Results section is based on an analysis of drivers of the current spatial dynamics reflected in the increased numbers of tourists taking a holiday in the rural hinterland. Due to the characteristics of the dataset, containing both spatial (at the county level) and temporal (annual data covering the period 2002–2019) dimensions, panel data models are a suitable approach for the analysis of tourism dynamics in the period under analysis. Based on the theoretical framework provided in the literature [50,61–63], the spread of the tourism dynamics to the rural hinterland, expressed by the variable total number of guests in year y in the spatial unit i (G_{it}) is linked to the following explanatory variables:

$$G_{it} = f(\text{GRAM}_{it}, G_{i,t-1}, \text{Rooms}_{it}) \quad (1)$$

where G_{it} denotes the total number of guests in county i in year t , $G_{i,t-1}$ represents the lagged (1) values of G_{it} , GRAM_{it} stands for the number of tourists at the regional level and Rooms_{it} represents the number of rooms available and the supply-side dynamics. In this study, we assume that the demand dynamics is affected by the overall dynamics of the tourism sector at the regional level as a result of advertising campaigns promoting the island's core values, which are strongly anchored by the rural landscape and positive word of mouth (WOM) reviews, leading to repeat tourism and visits from family and friends in the next season. Therefore, we hypothesize in this paper that the overall dynamics of the rural tourism sector, and by extension the spatial dynamics channeling tourists to the four corners of the islands, are determined to a great extent by the "Madeira" brand, which is still strongly attached to the "Funchal" brand.

Previous studies have suggested that repeat visitors account for 40–50% of all visitors in Madeira, as a result of higher levels of satisfaction and willingness to recommend and return [60]. Therefore, $G_{i,t-1}$ takes into account the impacts of the high repetition rates of revisits recorded in such studies, with a larger number of tourists in year t leading to further increases in year $t + 1$.

Of course, further investments in accommodation capacity will create more favorable conditions (e.g., promotional campaigns abroad, locations offering superb views over the sea) to draw more tourists to the area. As mentioned above, the rural hinterland has benefited since the 1990s from a high level of public investment and interventions in

several critical areas, such as the road system connecting the main cities and villages to the capital city, resting areas, health facilities, and museums. As a result, there has been a surge in private investment in restaurants, subsidiaries of rent-a-car companies, hotels, local lodging, eco- and adventure tourism companies and other services. In many cases, a tourist hosted in the periphery can access all types of leisure services needed to enjoy a pleasant stay without requiring further assistance from companies located in the capital city of Funchal. The variable Roomsit captures the increasing amount of accommodation provided in the rural hinterland following the massive amount of public investment in the transportation system.

To control heteroscedasticity, Equation (1), shown above as $(Git = f(GRAMit, G_1it, Roomsit))$ is transformed into the natural logarithmic form. Therefore, the coefficients show the elasticity coefficient between a dependent variable and the explanatory variables:

$$\ln Git = \beta_0 + \beta_1 \ln GRAMt + \beta_2 \ln Expenditureit + \varepsilon it$$

where β_0 stands for the constant term, β_1 and β_2 represent the coefficients of explanatory variables and ε shows the error term.

Panel data analysis involves several tests and steps, namely preliminary diagnostic tests, unit root tests, a cointegration test and regression estimation. A number of econometric issues, such as cross-dependence, slope heterogeneity, autocorrelation, heteroscedasticity and multicollinearity, may pose problems in terms of compromised statistical inferences [63].

Panel data analysis offers a number of advantages. For example, inferences are drawn based on larger samples. Panel data modeling allows for the control of individual heterogeneity in the sample, which cannot be done with simple time series analyses. Moreover, more complex relationships between the variables can be modeled and time-invariant, county-specific factors can be added. Of course, a number of limitations and shortcomings must be mentioned, namely the cross-section dependence and short time series, which are factors in this the case. The literature on the topic also mentions design and data collection problems, namely in terms of coverage and non-response, which appear not to impact this study. Problems with measurement errors and selectivity are also mentioned [64–66].

5. Results

This section analyzes the evolution and dynamics of the rural tourism sector (in more detail) and the current growth dynamics in the rural hinterland in Madeira to provide an understanding of the sector's spatial dynamics. Section 3 provides data on the recent development of the rural tourism sector. Further details about the overall development of this market niche, in line with the study main objectives, are provided in this section.

As part of its diversification strategy, the sector has built up hotels and infrastructure outside Funchal following a wave of investments in the road system. As found by Toerien [29], increased levels of accessibility are followed by new business ventures that are translated quite logically into the development of new combinations of recreation facilities, lifestyle amenities and even investments in the manufacturing sector. In fact, over the last few years, the numbers of guests have been increasing steadily in rural counties in Madeira (see Table 2). In 2002, Funchal received 71.3% of the total number of guests. Around two decades later, in 2019, Funchal still received the largest number of guests (997,416), but this number accounted for just 62.7% of the total; Santa Cruz, closed to Funchal, was the second-ranked county, with 174,240 guests, representing 11% of the total guests in Madeira.

Table 2. CD and slope homogeneity tests.

Pesaran's test of cross-sectional independence	6.466	0
Friedman's test of cross-sectional independence	48.336	0
Slope homogeneity test		
Δ test	2.115	0.034
Δadj test	2.467	0.014
Autocorrelation		
Wooldridge test	31.974	0.002
Heteroscedacity		
Modified Wald test	4373.27	0

The municipalities located on the North Coast attracted the smallest number of guests of all counties in Madeira, although such areas have been successful in recording increasing numbers of tourists. While the region as a whole grew at a rate of 2.9% between 2002 and 2019, the municipalities identified as rural in nature with very low population densities reported above-average growth rates. For example, Calheta in the western part of the island grew at a rate of 9.2% per year. While the number of tourists in the region increased by 60% between 2002 and 2019, Calheta saw a 349% increase in the same period. Therefore, we are witnessing progressive incorporation of the rural hinterland in the patterns of tourism development and comparatively reduced levels of pressure on the main tourist routes,] in and around the capital city (See Table 1). By using the same percentages (percentages by county) computed for 2001, the capital city (Funchal) would be forced to host a great number of tourists (129,341).

In terms of tourism intensity, the ratio of visitors per inhabitant for Madeira was around 6.2 tourists per resident in 2019, a significant increase from 2002 (3.9 tourists per inhabitant). The municipality facing the highest level of pressure is Porto Santo, an island located 43 km (27 mi) northeast of Madeira Island, with a ratio of 19.96 tourists per inhabitant. Porto Santo's tourism has been based on 'sun-and-sea' aspects, meaning that it cannot be directly compared to the other counties. The second-ranked municipality in this regard is located in the western part of the island (Porto Moniz). In terms of the ratio of tourists per square km, Funchal ranks first with 13,096 tourists per km², followed by Porto Santo, with 2412.4 tourists per km².

The data suggest that the tourism pressure has been continually redistributed since 2002 to the rural hinterland in general, and in particular to areas virtually untouched by tourism until the late 1990s. While the number of tourists per km² has been multiplied by a factor of 1.6 at the regional level, Funchal experienced an increase of just 40%, with some areas such as Calheta experiencing a noticeable increase. Regardless of the indicator used to determine excess visitors levels, such as the carrying capacity, local resident dissatisfaction or tourist satisfaction and environmental degradation, Madeira cannot be considered as a classic example of an overcrowded area, as mentioned before, at least from a journalistic and visual perspectives, but for a few exceptions [17]. However, a recent study commissioned by the Office of the Ombudsman [67] indicated that Funchal, the main capital city, has been affected by the impacts of tourism in terms of the local lodgment format, housing prices and housing affordability in relation to the local population's income levels. An increasing number of local residents have been unable to rent a home at affordable prices because of the increasing number of two- and three-bed apartments transformed into tourist accommodation, as is the case in Lisbon. The only solution left is to answer their request for social housing. Another example of overtourism can be found in the long queues in some tourism hotspots.

To identify the variables explaining the results provided so far, namely the increasing number of visitors heading to the rural hinterland, we first explored the impacts of the overall dynamics of the tourism industry on the rural tourism sector. Based on a simple OLS regression pointing to a 3.5% change in the number of rural tourists per every one-

percent increase in the number of guests in Madeira, we tentatively concluded that the rural tourism sector follows a different growth trend characterized by growth rates above the average. Tests employed to determine the existence of cointegration failed to accept the null hypothesis of a cointegration relationship between the variables rural guests and total guests, leading us to conclude that the rural tourism sector has been able to overcome some of the structural weaknesses characterizing the sector at the regional level, such as increased pressure from competitors abroad.

Before proceeding to a closer examination of the drivers of the current expansion of the tourism dynamics to the rural hinterland, it is important to explain in a descriptive manner the impacts of the global dynamics at the regional level on the rural hinterland, as indicated in the preceding paragraph. The image being conveyed abroad is still strongly related to a number of strategic advantages, such as top-quality accommodation, proximity to the sea, a slower pace of life, a distinct culture and a historically charged urban area (Funchal), plus environmental quality. As stated by Peter Wise (Financial Times, 9 May 2006), Madeira's secret is its natural beauty, classy hotels, and tax breaks. Tourism demand is based on "the affluent over-50s" searching for opportunities to enjoy the calmness and aesthetically pleasant landscapes. In fact, for some visitors and residents, Madeira Island "conjure images of white-haired tourists in straw hats taking tea on the lawn", given the overwhelming importance of the mature and senior segments.

While most images provided in tourist brochures, publications and TV and Internet adverts are filled with fantastic photographs showing superb landscapes located in the central mountainous ridge and in the rural North Coast, such areas still lack a proper identity. Therefore, we consider that one of the explanatory variables explaining the trend observed in the rural hinterland is the overall number of tourists reaching the region every year.

The analysis that follows is based on the econometric model described in the previous section. Table 2 presents the results of several CD and slope homogeneity tests. The Breusch and Pagan LM test is appropriate for small samples ($T > N$), which is the case here. The test shows that CD exists in the panel under analysis. The presence of CD shows that a shock in one county is transferred to other counties. Therefore, the tourism dynamics in a given rural county is sensitive to the development of the sector in other counties. The presence of CD in the panel suggests that it is advisable to apply second-generation unit root and cointegration tests. The results from slope homogeneity tests in the panels (delta ($\sim \Delta$) and adjusted delta ($\sim \Delta$) tests) point to slope heterogeneity in all panels. The tests also suggest the presence of autocorrelation, heteroscedasticity (modified Wald test and Breusch–Pagan or Cook–Weisberg test) and multicollinearity. However, there is no multicollinearity in the panels, as the VIF value is less than 5. We tested the integration order for variances based on the CIPS unit root test.

Table 3 displays a summary of the panel unit root tests, i.e., the Levin–Lin–Chu t -test, which is used to check the stationarity of the variables both at the level form and their first difference form. Based on the results of Levin–Lin–Chu test (LLC bias-adjusted test statistic ($t = -3.86$; $p < 0.000$), we accept the null hypothesis of a unit root in favor of the alternative that I_{Guests} , $I_{\text{GuestsRAM}}$, $I_{\text{Guests-1}}$ and I_{Room} are stationary. However, the variables under analysis are stationary in their first differences; that is, at this level, I_{Guests} , $I_{\text{GuestsRAM}}$, I_{Guest_1} and I_{Rooms} have unit roots but are difference-stationary. The Im–Pesaran–Shin test shows that I_{Guests} , $I_{\text{GuestsRAM}}$, I_{Guest_1} and I_{Rooms} are not stationary at the form level but are difference-stationary. Finally, based on the CIPS test, we can confirm that I_{Guests} , $I_{\text{GuestsRAM}}$, I_{Guest_1} and I_{Rooms} are difference-stationary variables.

Table 3. Unit root tests.

llc Tests	Unadjusted t	Adjusted t *	p-Value	
lGuests	−3.8559	−0.9924	0.1605	unitroot
Dlguests	−9.8248	−7.2400	0.0000	stationary
lGuestsRAM	0.9407	5.6200	1.0000	unitroot
dlGuestsRAM	−9.8248	−7.2400	0.0000	stationary
lRooms	−4.0296	−0.2894	0.3861	unitroot
dlROoms	−10.2423	−6.9495	0.0000	stationary

*: That the output that comes from STATA 17. It's technical and therefore maybe not important to explain both from the point of view for both specialist and non-specialists. The most important issue is to the indication that the series under analysis are stationary in first differences, and therefore a meaningful causal relationship can be identified.

All variables are, therefore, stationary at first difference, leading us to apply a cointegrating approach to obtain reliable estimates of the coefficients. Because the counties under analysis share several similarities, our results could be affected by cross-sectional correlation. The results of the Pasaran CD test for cross-sectional dependence suggest cross-sectional dependence (Pasaran test = 6.466; Prob. = 0.000). As there is evidence of cross-sectional dependence, we use the Driscoll and Kray standard errors procedure. In order to confirm the existence of a long-run link between the selected variables in the presence of CD, we apply the Westerlund cointegration test (results not shown). The results point to a long-run cointegration in all panels, although at the 10% level of significance.

Table 4 shows the impacts of the variables lGuestsRAM, lGuests-1 and lRooms on lGuests using Driscoll–Kraay (D/K) standard error regression. The results confirm the overall impacts of regional dynamics expressed by the growth rate of the total number of guests in the region. Looking at the coefficients in column 2, the effect of the overall growth of the number of guests on the demand at county level is positive and statistically significant. The results indicate that per 1% increase in the number of tourists in Madeira, a 0.7% increase is recorded in the number of guests in the rural hinterland. The impact of the lagged variable of the variable lGuests_1 is 0.58, which indicates that every increase at the level of 1% in the previous year leads to a 0.58% increase in the following year, which corroborates our repeat visitation hypothesis. Per each increase of 1% in terms of the number of rooms available, the number of guests is increased by 0.42%.

Table 4. Co-integration results.

Variable	Coeff.	Prob.
lGuestsRAM	0.7043703	0.055
lGuests_1	0.5791503	0.033
lRooms	0.4156135	0.100
_cons	−7.914918	0.049

Our results suggest that the policy measures aimed at spreading the effects of tourism in the rural hinterland have been quite successful. These findings show that the wave of investment fueled by EU funds has led to a surge in the number of establishments located in rural areas along the western and northern parts of the islands of all types, as well as to an increase in the number of tourists based on active measures promoted by such establishments to attract tourists. The current levels of growth have been driven by a self-sustained growth process reliant on a mix of first visits and repeat visitation. The impact of the variable lGuests_1 highlights the importance of marrying a quantitative approach based on a higher number of establishments and increased number of arrivals with measures seeking to improve the overall quality of the tourism product. Satisfied visitors tend to revisit the destination and to share positive WOM reviews, resulting in continuous growth [55,68]. Our results also suggest that the rural hinterland is the main beneficiary of the increased number of tourists recorded at the regional level, which points

to the capacity of the tourist system to reduce the existing pressures on natural resources and urban facilities in the main tourist destinations, such as Funchal.

Between 2012 and 2019, the region attracted an additional of 512,346 guests. Of these, 42.5% were hosted in the other areas surrounding Funchal, lowering the pressures imposed on the infrastructure, public services and traffic flows in the capital city. In hindsight, the strategy of displacing tourists to the rural hinterland has proven successful, because the COVID-19 pandemic has fueled a great demand for quality space in rural areas and in the countryside. The intense debate regarding the future of tourism brought about by COVID-19 suggests that the region is moving in the right direction, and that the dispersion of tourists is an effective way of mitigating overtourism.

Data recently published by the Statistical Office (see Table 5) broadly endorse the objectives and priorities defined by the local government in diversifying away from Funchal from a different but complementary perspective. The counties with the greatest success in limiting their losses in terms of the number of guests in 2020 were precisely those ones located in the periphery with low population density. In these cases, the most prevalent type of accommodation is the small- or medium-sized hotel, along with small units operating in the rural tourism segment and local lodgment units with just a few rooms available, which is exactly what the most health- and risk-conscious visitors want.

Table 5. Losses in terms of arrivals (2019–2020).

Counties		Absolute Change	Perc. Change
Santana	Rural and periphery	−11,129	−43.7%
Calheta	Rural and periphery	−47,126	−48.8%
São Vicente	Rural and periphery	−19,292	−52.4%
Ponta do Sol	Rural and periphery	−11,009	−52.8%
Porto Santo	Sea and sand destination	−61,667	−59.4%
Porto Moniz	Rural and periphery	−19,502	−63.7%
Santa Cruz	Close to the capital city	−111,557	−64.0%
Madeira	Region as a whole	−1,021,992	−64.2%
Funchal	Capital city	−661,370	−66.3%
Câmara de Lobos	Close to the capital city	−18,765	−66.8%
Ribeira Brava	Close to the capital city	−14,445	−75.8%
Machico	Close to the capital city	−46,130	−79.7%

6. Conclusions

In most instances, in well-established hotspots, restrictions of one kind or another are inevitable to avoid the most negative aspects of overtourism. Some destinations charge direct taxes (such as city tax, lodging tax, entrance fees, visa fees, departure tax) or indirect local corrective taxes aimed at reducing demand based on the concept of negative externality and marginal social costs. Quite often, the only measurable impact of a tax-based approach lies in collecting extra taxes to finance expenditures designed to improve the quality of the tourist experience or to protect natural areas, with the number of tourists paradoxically continuing to rise. In such cases, only bans on new hotels and prohibition of access to strategic but vulnerable areas will be effective. There has been an effort to identify the most appropriate instruments and strategies to redress overtourism or to avoid reaching that phase.

In the case of Madeira, the local authorities have resorted to non-market-based measures (basically public investment opening up the rural hinterland based on improved indexes of accessibility and legal measures aimed to control the supply side in terms of the number of accommodation places available), such as preventing owners from renting flats to tourists or defining upper limits in terms of the supply of hotels and accommodation capacity. The region is on the verge of introducing smart destination tools such as electronic reservations and ticketing systems, helping to manage carrying capacity limits to control the most damaging aspects of tourism. However, the most effective approach has been to focus on the dispersion of tourists in the rural hinterland.

The generic research question addressed in this study was focused on determining to what extent the development of the rural hinterland contributes to tackling in a pre-emptive manner potential problems of overtourism in regions such as Madeira. The findings suggest that the Madeira has succeed in diverting a sizeable share of the growth in the number of arrivals recorded in the 2002–2019 period from the capital city to the rural hinterland. This fact implied less tourists strolling around or leaving the town by car. This is a practical way of putting less strain on society and on the urban environment. The city of Funchal is more livable and cheaper than would have been possible in the “business as usual scenario”; that is, further development of the tourism sector in the main city to accommodate increasing numbers of tourists. In general terms, we may conclude that the dispersion of the tourism dynamics towards the rural hinterland was relatively successful in slowing down the evolving process leading towards unsustainability, mainly in terms of the housing sector and road system.

Therefore, in this study, we demonstrate that the current growth dynamics experienced at the regional level can be translated into more private investment being channeled to the rural hinterland, alleviating the increasing burden on the main city. In the absence of the current trend of spatial dispersion, Funchal will be required to host an extra volume of around 512,346 tourists.

A number of practical and social implications must be taken into account. Firstly, the imposition of the tourism dynamics on the rural hinterland puts new and often greater demands on the social and ecological characteristics of such regions. It is, therefore, important to avoid a type of pseudo-tourism development by exporting overtourism-related problems from the main city to the rural hinterland. Therefore, better planning backed by scientific studies and analysis is required. Secondly, the current dynamics offer the opportunity to promote complex and co-created experiences clustered around market niches such as ecotourism, agrotourism and health and wellness tourism in combination with other traditional experiences staged around nature. The increasing number of tourists walking around rural areas should lead to strong entrepreneurial orientation among local residents and returnees and to the development of dynamic capabilities by established companies. In addition, the local authorities must develop the institutional and analytical capacity necessary to take advantage of the opportunities offered by current trends. The current drive to develop the rural hinterland must be coupled with further research on the current economic, sociological and political trends influencing visitors.

Further research is also needed to understand the drivers of eco-friendly behaviors and the content of the WOM reviews being conveyed over social media. Moreover, further research is needed to study the possibility of financing new investment projects that promote renewable energies, responsible rural tourism, ecotourism and new consumption habits based on greener practices, attitudes and behaviors.

While we must acknowledge the limitations of the case study approach, we cannot fail to mention that the results obtained are highly relevant for the region under analysis. In the end, this study contributes to the ongoing discussion on the complexities of adopting a tourism growth approach.

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References

- Colomb, C.; Novy, J. *Protest and Resistance in the Tourist City*; Routledge: London, UK, 2016.
- Martín-Martín, J.M.; Martínez, J.M.G.; Fernández, J.A.S. An Analysis of the Factors behind the Citizen's Attitude of Rejection towards Tourism in a Context of Overtourism and Economic Dependence on This Activity. *Sustainability* **2018**, *10*, 2851. [CrossRef]
- Milano, C. Overtourism, malestar social y turismofobia. Un debate controvertido. *PASOS Rev. Tur. Y Patrim. Cult.* **2018**, *16*, 551–564. [CrossRef]
- Velasco González, M.; Ruano, J.M. The Crossfire Rhetoric. *Success in Danger vs. Unsustainable Growth*. Analysis of Tourism Stakeholders' Narratives in the Spanish Press (2008–2019). *Sustainability* **2021**, *13*, 9127. [CrossRef]
- Milano, C.; Novelli, M.; Cheer, J.M. Overtourism and tourismphobia: A journey thorough four decades of tourism development, planning and local concerns. *Tour. Plan. Dev.* **2019**, *16*, 353–357.
- Nepal, R.; Nepal, S.K. Managing overtourism through economic taxation: Policy lessons from five countries. *Tour. Geogr.* **2019**, *23*, 1094–1115. [CrossRef]
- Gravari-Barbas, M.; Guinand, S. Introduction: Addressing Tourism-Gentrification Processes in Contemporary MeTropolises. In *Tourism and Gentrification in Contemporary Metropolises: International Perspectives*; Routledge: London, UK, 2017; pp. 1–21.
- Pasquinelli, C.; Trunfio, M. Reframing urban overtourism through the Smart-City Lens. *Cities* **2020**, *102*, 102729. [CrossRef]
- Peeters, P.; Gossling, S.; Klijs, J.; Milano, C.; Novelli, M.; Dijkmans, C.; Eijgelaar, E.; Hartman, S.; Heslinga, J.; Postma, A.; et al. *Research for TRAN committee—Overtourism: Impact and Possible Policy Responses*; European Parliament: Brussels, Belgium, 2018.
- Pasquinelli, C. Tourism Connectivity and Spatial Complexity: A Widening Bi-dimensional Arena of Urban Tourism Research. In *Tourism in the City. Towards an Integrative Agendas*; Bellini, N., Pasquinelli, C., Eds.; Springer: Cham, The Netherlands, 2016; pp. 29–50. [CrossRef]
- Madeira, A.; Palrão, T.; Mendes, A.S.; López-Morales, E. Perceptions about tourism and tourists in historic neighborhoods: The case of alfama. *Sustainability* **2021**, *13*, 8357. [CrossRef]
- Higgins-Desbiolles, F.; Carnicelli, S.; Krolikowski, C.; Wijesinghe, G.; Boluk, K. Degrowing tourism: Rethinking tourism. *J. Sustain. Tour.* **2019**, *27*, 1926–1944. [CrossRef]
- Koens, K.; Postma, A.; Papp, B. Is Overtourism Overused? Understanding the Impact of Tourism in a City Context. *Sustainability* **2018**, *10*, 4384. [CrossRef]
- Dredge, D. "Overtourism" Old Wine in New Bottles? De Gruyter: Berlin, Germany, 2017. Available online: <https://www.linkedin.com/pulse/overtourism-old-wine-new-bottles-dianne-dredge/> (accessed on 7 December 2021).
- Alonso-Almeida, M.-D.; Borrajo-Millán, F.; Yi, L. Are Social Media Data Pushing Overtourism? The Case of Barcelona and Chinese Tourists. *Sustainability* **2019**, *11*, 3356. [CrossRef]
- Mihalic, T. Conceptualising overtourism: A sustainability approach. *Ann. Tour. Res.* **2020**, *84*, 103025. [CrossRef]
- Gülşen, U.; Yolcu, H.; Ataker, P.; Erçakar, I.; Acar, S. Counteracting Overtourism Using Demarketing Tools: A Logit Analysis Based on Existing Literature. *Sustainability* **2021**, *13*, 10592. [CrossRef]
- Dodds, R.; Butler, R.W. Introduction. In *Overtourism: Issues, Realities and Solutions*; Dodds, R., Butler, R.W., Eds.; De Gruyter: Berlin, Germany, 2019.
- Gretzel, U. The Role of Social Media in Creating and Addressing Overtourism. In *Overtourism: Issues, Realities and Solutions*; Dodds, R., Butler, R.W., Eds.; De Gruyter: Berlin, Germany, 2019; pp. 263–276.
- Dickinson, H. Dear Dictionaries, This Is Why Overtourism Should be Your 2018 Word of the Year, Travel—Comment. The Telegraph. 20 April 2018. Available online: <https://www.telegraph.co.uk/travel/comment/overtourism-word-of-the-year/> (accessed on 1 December 2021).
- UNWTO. *Overtourism? Understanding and Managing Urban Tourism Growth Beyond Perceptions: Executive Summary*; UNWTO: Madrid, Spain, 2018.
- Higgins-Desbiolles, F. Sustainable tourism: Sustaining tourism or something elsemore? *Tour. Manag. Perspect.* **2018**, *25*, 157–160. [CrossRef]
- Crisp, P. The effectiveness of sport within social intervention projects: A UK case study. *Phys. Cult. Sport. Stud. Res.* **2021**, *89*, 55–65. [CrossRef]
- Wheeller, B. Sustaining the ego. *J. Sustain. Tour.* **1993**, *1*, 121–129. [CrossRef]
- Chettiparamb, A.; Kokkranikal, J. Responsible tourism and sustainability: The case of Kumarakom in Kerala, India. *J. Policy Res. Tour. Leis. Events* **2012**, *4*, 302–326. [CrossRef]
- Buckley, R. Sustainable tourism: Research and reality. *Ann. Tour. Res.* **2012**, *39*, 528–546. [CrossRef]

27. Higgins-Desbiolles, F. The elusiveness of sustainability in tourism: The culture-ideology of consumerism and its implications. *Tour. Hosp. Res.* **2010**, *10*, 116–129. [CrossRef]
28. Gierczak-Korzeniowska, B. The condition of a tourist brand and tourist attractiveness of the Podkarpackie region—An analysis based on the brand asset valuator model. *Pol. J. Sport Tour.* **2019**, *26*, 34–39. [CrossRef]
29. Soares, J.-R.-R.; Casado-Claro, M.-F.; Lezcano-González, M.-E.; Sánchez-Fernández, M.-D.; Gabriel, L.-P.-M.-C.; Abril-Sellarés, M. The Role of the Local Host Community's Involvement in the Development of Tourism: A Case Study of the Residents' Perceptions toward Tourism on the Route of Santiago de Compostela (Spain). *Sustainability* **2021**, *13*, 9576. [CrossRef]
30. Olszewski, M. Effect of cooperation with universities on the innovativeness of tourism enterprises. *Pol. J. Sport Tour.* **2021**, *28*, 30–34. [CrossRef]
31. Murray, W. The second wave of globalisation and agrarian change in the Pacific Islands. *J. Rural Stud.* **2001**, *17*, 135–148. [CrossRef]
32. Toerien, D. A small-town economic revitalisation conundrum: Focus on tourism, manufacturing, or both? *Energies* **2021**, *14*, 7568. [CrossRef]
33. Leitão, N.C.; Lorente, D.B. The Linkage between Economic Growth, Renewable Energy, Tourism, CO₂ Emissions, and International Trade: The Evidence for the European Union. *Energies* **2020**, *13*, 4838. [CrossRef]
34. Yigitcanlar, T.; Sabatini-Marques, J.; Lorenzi, C.; Bernardinetti, N.; Schreiner, T.; Fachinelli, A.; Wittmann, T. Towards Smart Florianópolis: What Does It Take to Transform a Tourist Island into an Innovation Capital? *Energies* **2018**, *11*, 3265. [CrossRef]
35. Fletcher, R.; Blazquez-Salom, M.; Murray, I.; Blanco-Romero, A. Special Issue on Tourism and degrowth, Journal of Sustainable Tourism Call for Papers. 2017. Available online: <http://explore.tandfonline.com/cfp/pgas/rsus-si-degrowth-4q2017> (accessed on 1 December 2021).
36. Górska, P.; Krzysztozek, J.; Korcz, A.; Bronikowski, M. Does fitness enhance learning/academic performance? *Biomed. Hum. Kinet.* **2018**, *10*, 163–168. [CrossRef]
37. Balsalobre-Lorente, D.; Gokmenoglu, K.K.; Taspinar, N.; Cantos, J.M. An approach to the pollution haven and pollution halo hypotheses in MINT countries. *Environ. Sci. Pollut. Res.* **2019**, *26*, 23010–23026. [CrossRef] [PubMed]
38. Majdak, P. *Rozwój Zrównoważony i Innowacje w Turystyce*; Studia i Monografie; Akademia Wychowania Fizycznego J. Piłsudskiego w Warszawie: Warsaw, Poland, 2016.
39. Leitão, N.C.; Shahbaz, M. Economic growth, tourism arrivals and climate change. *Bull. Energy Econ.* **2016**, *4*, 35–43.
40. Bramwell, B.; Higham, J.; Lane, B.; Miller, G. Twenty-five years of sustainable tourism and the Journal of Sustainable Tourism: Looking back and moving forward. *J. Sustain. Tour.* **2017**, *25*, 1–9. [CrossRef]
41. Hall, C.M. A typology of governance and its implications for tourism policy analysis. *J. Sustain. Tour.* **2011**, *19*, 437–457. [CrossRef]
42. Hunter, C. Sustainable tourism as an adaptive paradigm. *Ann. Tour. Res.* **1997**, *24*, 850–867. [CrossRef]
43. Cheer, J.M.; Milano, C.; Novelli, M. Tourism and community resilience in the Anthropocene: Accentuating temporal overtourism. *J. Sustain. Tour.* **2018**, *27*, 554–572. [CrossRef]
44. Cheung, K.S.; Li, L.H. Understanding visitor–resident relations in overtourism: Developing resilience for sustainable tourism. *J. Sustain. Tour.* **2019**, *27*, 1197–1216. [CrossRef]
45. WTTC; McKinsey & Company. *Coping with Success. Managing Overcrowding in Tourism Destinations*; World Travel and Tourism Council: London, UK; McKinsey Company: London, UK, 2017.
46. Cheer, J.M.; Milano, C.; Novelli, M. Afterword: Overtourism or just the beginning? In *Overtourism: Excesses, Discontents and Measures in Travel and Tourism*; Milano, C., Cheer, J.M., Novelli, M., Eds.; CABI: Wallingford, UK, 2020.
47. Khanra, S.; Dhir, A.; Kaur, P.; Mäntymäki, M. Bibliometric analysis and literature review of ecotourism: Toward sustainable development. *Tour. Manag. Perspect.* **2021**, *37*, 100777. [CrossRef]
48. Nowacki, M.; Chawla, Y.; Kowalczyk-Anioł, J. What Drives the Eco-Friendly Tourist Destination Choice? The Indian Perspective. *Energies* **2021**, *14*, 6237. [CrossRef]
49. Zaragozí, B.; Trilles, S.; Gutiérrez, A.; Miravet, D. Development of a common framework for analysing public transport smart card data. *Energies* **2021**, *14*, 6083. [CrossRef]
50. Lilley, M.B.; Firestone, J.; Kempton, W. The Effect of Wind Power Installations on Coastal Tourism. *Energies* **2010**, *3*, 1–22. [CrossRef]
51. Séraphin, H.; Zaman, M.; Olver, S.; Bourliataux-Lajoie, S.; Dosquet, F. Destination branding and overtourism. *J. Hosp. Tour. Manag.* **2019**, *38*, 1–4. [CrossRef]
52. Oklevik, O.; Gössling, S.; Michael, H.; Jacobsen, S.; Kristian, J.; Petter, G.; McCabe, S. Overtourism, optimisation, and destination performance indicators: A case study of activities in Fjord Norway. *J. Sustain. Tour.* **2019**, *27*, 1804–1824. [CrossRef]
53. Postma, A.; Schmuecker, D. Understanding and overcoming negative impacts of tourism in city destinations: Conceptual model and strategic framework. *J. Tour. Futures* **2017**, *3*, 144–156. [CrossRef]
54. Rasoolimanesh, S.M.; Ringle, C.M.; Jaafar, M.; Ramayah, T. Urban vs. rural destinations: Residents' perceptions, community participation and support for tourism development. *Tour. Manag.* **2017**, *60*, 147–158. [CrossRef]
55. Jaafar, M.; Rasoolimanesh, S.M.; Lonik, K.A.T. Tourism growth and entrepreneurship: Empirical analysis of development of rural highlands. *Tour. Manag. Perspect.* **2015**, *14*, 17–24. [CrossRef]
56. Neirrotti, P.; De Marco, A.; Cagliano, A.C.; Mangano, G.; Scorrano, F. Current trends in Smart City initiatives: Some stylised facts. *Cities* **2014**, *38*, 25–36. [CrossRef]

57. Font, X.; McCabe, S. Sustainability and marketing in tourism: Its contexts, paradoxes, approaches, challenges and potential. *J. Sustain. Tour.* **2016**, *25*, 869–883. [[CrossRef](#)]
58. Almeida, A.; Correia, A.; Pimpão, A. Segmentation by benefits sought: The case of rural tourism in Madeira. *Curr. Issues Tour.* **2013**, *17*, 813–831. [[CrossRef](#)]
59. Madeira Tourism Office. 2021. Available online: <https://www.visitmadeira.pt/en-gb/madeira/climate> (accessed on 1 December 2021).
60. Ismeri Europa. *Growth Factors in the Outermost Regions: Final Report*; European Commission: Brussels, Belgium, 2011; Volume II.
61. Ali, Q.; Yaseen, M.R.; Anwar, S.; Makhdam, M.S.A.; Khan, M.T.I. The impact of tourism, renewable energy, and economic growth on ecological footprint and natural resources: A panel data analysis. *Resour. Policy* **2021**, *74*, 102365. [[CrossRef](#)]
62. Gogonea, R.-M.; Baltălungă, A.; Nedelcu, A.; Dumitrescu, D. Tourism Pressure at the Regional Level in the Context of Sustainable Development in Romania. *Sustainability* **2017**, *9*, 698. [[CrossRef](#)]
63. Rahman, R.; Shahriar, S.; Kea, S. Determinants of Exports: A Gravity Model Analysis of the Bangladeshi Textile and Clothing Industries. *FIIB Bus. Rev.* **2019**, *8*, 229–244. [[CrossRef](#)]
64. Hsiao, C. Panel data analysis—Advantages and challenges. *Test* **2007**, *16*, 1–22. [[CrossRef](#)]
65. Davies, A.; Lahiri, K. A new framework for testing rationality and measuring aggregate shocks using panel data. *J. Econom.* **1995**, *68*, 205–227. [[CrossRef](#)]
66. Frees, E. *Longitudinal and Panel Data, Analysis and Applications in the Social Sciences*; Cambridge University Press: Cambridge, UK, 2004.
67. Office of the Ombudsman. Implementação de Políticas Públicas sobre a Habitação Social na Região Autónoma da Madeira. 2021. Available online: <https://www.provedor-jus.pt/documentos/implementacao-de-politicas-publicas-sobre-a-habitacao-social-na-regiao-autonoma-da-madeira/> (accessed on 1 December 2021).
68. Sharpley, R. Tourism, sustainable development and the theoretical divide: 20 years on. *J. Sustain. Tour.* **2020**, *28*, 1932–1946. [[CrossRef](#)]