Chapter 15
Nature, Tourism, Growth, Resilience and Sustainable Development

João Romão

Abstract This perspective article takes into account several previous studies focusing on the relations between territorial resources, tourism dynamics, economic performance (both in terms of growth and resilience), sustainable development and smart specialization in a large number of European regions. Supported by different methodologies, the results of different international comparative analysis and an individual case-study are used in order to define and to investigate the particular relations between natural features of the territories and their utilization for tourism purposes, along with different types of impacts. Revealing that Southern European regions are mostly following strategies of cost-leadership based on the provision of mass tourism products and services with low value-added, the results of these works also show that the long-term economic benefits of this type of path-dependence evolution are limited, both in terms of economic growth and also in terms of the socio-economic resilience of these regions when facing negative external shocks. In particular, the high importance of the tourism sector within regional processes of specialization makes them especially vulnerable both to the impacts of overtourism and no-tourism. Possible strategies for diversification of the regional economic structures are discussed, taking into account the current conditions of regional development.

Keywords Endogenous resources · Tourism-led growth · Sustainability · Europe · Resilience · Smart specialization

15.1 Introduction

The utilization of natural resources for tourism development has been broadly analyzed, both in terms of their positive aspects (the creation of unique and differentiated tourism products and services based on the specific features of the destinations) and also focusing on the possible negative implications (potential degradation or destruction of sensitive ecological resources due to overuse). In most of the cases,

J. Romão (✉)
Yasuda Women's University, Hiroshima, Japan
e-mail: joao_romao@me.com

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these analyses focus on specific case-studies, creating difficulties for the comparison between different areas and destinations (Weaver and Lawton 2007; Lu and Nepal 2009). In fact, comparative analyses of the impacts of tourism dynamics in environmentally sensitive areas on regional economic growth and sustainable development are scarce.

Recent extensive studies on European regions addressed these problems in an international context: first by analyzing the relation between natural resources and tourism demand (Romão 2015) and with tourism competitiveness (Romão et al. 2017); and then, in a broader sense, investigating the impacts of nature and tourism on economic growth (Romão and Nijkamp 2018) or on regional sustainable development (Romão and Neuts 2017). These analyses cover an extensive set of European NUTS-2 regions, and they are often supported by techniques for spatial analysis, allowing for the identification and discussion of specific aspects of the Mediterranean region. More recently—and only focused on regions where tourism and hospitality services are assumed as priority sectors within smart specialization strategies (mostly located in the Mediterranean area) the relations between tourism dynamics, regional growth and socio-economic resilience are scrutinized (Romão 2020). These international comparative studies are complemented by a specific case-study focused on aspects of resilience in a tourism-dependent South European region (Romão et al. 2016).

This article frames the previous analyses within the scarce related literature and uses the results obtained as a starting point for the discussion of overall policy and managerial implications related to destination differentiation, environmental protection, economic growth and regional development. In particular, aspects related to overtourism (Dodds and Butler 2019) and no-tourism (the severe reduction or complete suspension of tourism activities due to the COVID-19 pandemics) [Gössling et al. 2020] are discussed. The existence of a large number of areas with abundant classified natural resources coexisting with massified forms of tourism, creating low value-added for the regional economies and limited impacts on growth and sustainable development appear as a major problem identified for most of the Southern European regions. Strategies of differentiation aiming at increasing the value added by the tourism sector, while limiting the number of tourists emerge as essential strategic options.

The above-mentioned studies are presented in detail in Sect. 15.2, starting with a discussion of the relation between nature, productivity and tourism (2.1), followed by an analysis of its implications on regional growth and sustainable development (2.2) and concluded by an assessment framed by the concept of resilience and integrated into the context of the definition of smart specialization strategies in European regions. Section 15.3 discusses all these results, suggesting that, as a result of their path-dependent processes of tourism development, Southern European regions are particularly vulnerable both to the problems related to overtourism and no-tourism. Section 15.4 concludes the chapter.

15.2 Over-Specialization in Tourism

15.2.1 Nature, Productivity and Tourism

The problematic relation between natural resources and tourism dynamics in the Mediterranean area is introduced in this Section, by considering two studies analyzing the same large sample of 237 NUTS-2 European regions—from Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxemburg, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and the United Kingdom (excluding small islands). The data cover the period 2006–2012 but the characteristics and relationships under analysis to correspond to structural aspects of the territories, being subject to relatively slow processes of transformation, in particular those related to the ecological features of territories, including their classification, regulation and utilization. These two studies are complemented by a third one, comprising the same set of regions, but focused on the impacts of immaterial aspects of the territories (like the qualifications of the work-force or regional innovation capabilities) on the productivity and competitiveness of the tourism sector. Due to unavailability of relevant data, some Mediterranean regions (mostly from the Balkan region) are not considered in the studies. However, some general tendencies identified in the econometric models computed may be of interest for all the Southern European regions.

During the period under analysis, a significant development in urban tourism could be globally observed, with the related rising importance of the contribution of several metropolitan areas in different locations of the continent for the growth of tourism in Europe. However, the Mediterranean "macro-region" was still a major tourist destination within the European context. As documented in Romão (2015) [Table 1], Île de France (Paris), Cataluña (Barcelona) and Inner London were among the 10 regions with higher volumes of tourism demand in 2012, while Outer London, Merseyside (Liverpool) and Berlin were among the 10 regions with higher growth rates of tourism demand between 2006 and 2012.

Moreover, the Southern part of Europe also revealed a very high concentration of valuable natural resources, as expressed by the share of the regional territories classified and protected within the Natura 2000 network (following harmonized criteria for biodiversity in the European Union). Figure 15.1 shows the spatial concentration in the Southern part of Europe of the univariate local indicators of spatial association (LISA) for this variable, with the clusters of regions with relatively high scores (high share of regional territory under protection both in the region and also in the contiguous territories) represented in red. On the contrary, clusters of regions with low scores for both variables are represented in dark blue. In South Europe, it is still possible to observe the existence of some regions with relatively low scores surrounded by regions with high scores (light blue). Finally, a few regions represented in light-red exhibit relatively high scores, although they are surrounded by regions with small fractions of their territories protected under Natura 2000.

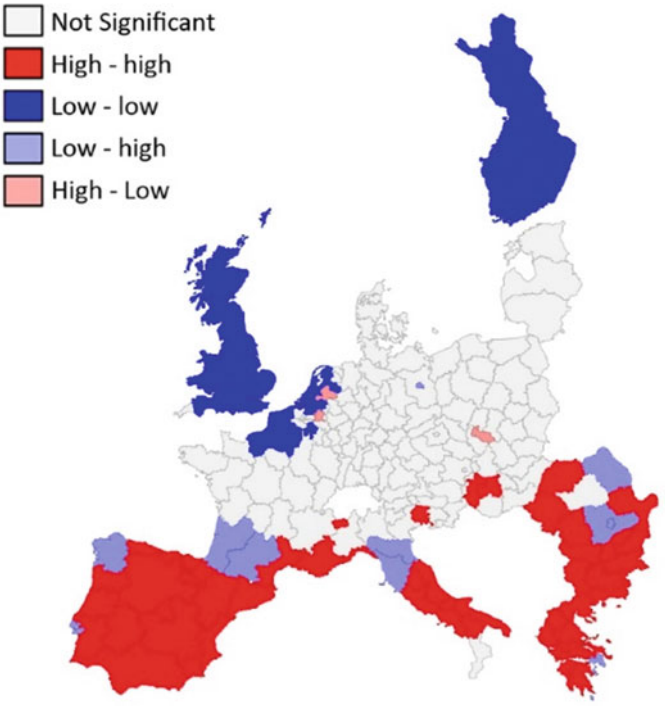

Fig. 15.1 Local indicators of spatial association for natural resources (Share of the Territory Classified as Natura 2000). *Source* European Commission, D.G. Environment

The percentage of the regional territory classified as Natura 2000 would be the indicator used for estimation of the determinants of regional tourism demand (Romão 2015) and regional tourism competitiveness (Romão et al. 2017). In the first case, the regional endowment in natural resources was found to have a positive relation with the nights spent in accommodation establishments, the dependent variable in the model. However, in the second case, natural resources would reveal a negative correlation with the gross value added by the tourism sector, the variable used as a proxy for regional competitiveness. This general tendency was identified by an econometric model, including the overall set of regions under analysis and covering a very large part of Europe. However, Fig. 15.2, representing bivariate local indicators of spatial association (LISA), shows that the problem is mostly observed in Mediterranean regions, where many regions with high scores for the protection of natural resources achieve low levels of value added by tourism activities (represented by light blue colour).

The combined analysis of the results of these two models and related exploratory spatial analyses suggests that many Mediterranean regions assumed forms of mass tourism development in areas with rich and sensitive natural resources, generating relatively low levels of value-added and economic benefits for the local populations,

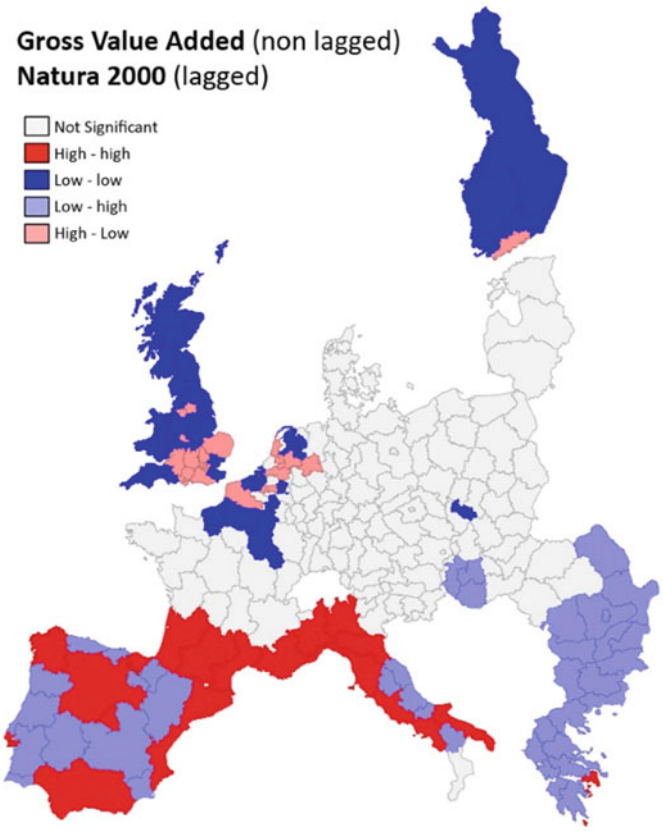

Fig. 15.2 Local indicators of spatial association relating natural resources and economic growth. *Source* Originally published in Romão et al. (2017)

despite the potential negative impacts on ecosystems and landscapes. These results would be complemented by a different type of analysis of the determinants of regional tourism competitiveness, comprising the same regions but focusing on the impacts of both traditional production factors (physical and human capital) and other contextual variables, such as level of specialization in tourism, the intensity of innovation, labour qualification or productivity (Romão and Nijkamp 2019).

In this case, assessing the relations between tourism specialization and competitiveness was particularly relevant: when specialization in tourism was measured by the share of the gross value added by this sector within the regional economy, a positive impact on the competitiveness of tourism activities was observed; however, there was a negative correlation with the gross value added by the tourism sector (the variable used to assess competitiveness) when considering the share of employment in tourism activities. This confirms the results obtained in the previously mentioned

studies (Romão 2015; Romão et al. 2017), by clarifying that low levels of productivity are obtained in regions with labour intensive and low value-added tourism services.

15.2.2 Growth and Sustainable Development

By applying similar spatial econometric methods and focusing on the same regions and the same period, Romão and Nijkamp (2018) modelled and analyzed the impacts of territorial characteristics and tourism dynamics on regional economic growth, considering as dependent variable the annual gross of the domestic product per habitant (at constant prices for 2003 and harmonized according to Purchasing Power Standards). By using an augmented (endogenous) production function, the authors could identify a general process of convergence between regions (higher growth levels for the less developed ones) and positive impacts of growth arising from the regional investment in R&D and the qualifications of the work-force.

Regarding the impacts of tourism dynamics, only the share of tourism within regional value-added emerged as a determinant of regional growth, as tourism demand and the share of tourism in regional employment did not reveal a statistically significant correlation. Thus, only partially the "tourism-led-growth hypothesis" (Brida et al. 2016), assuming that tourism dynamics always has a significant impact on economic growth, could be confirmed. However—and most significantly—natural resources were found to be negatively correlated with economic growth. Taking into account the complementary results obtained in the previous studies, this is related to the positive correlation identified by Romão (2015) between natural resources and tourism demand, coexisting with a negative correlation between the endowment in natural resources and the value-added generated by the tourism sector (Romão et al. 2017). The local indicators of the spatial association presented in both studies clearly show that these problems have a particular incidence in the Mediterranean European regions.

In a broader perspective and focusing on a slightly larger sample of 252 European NUTS-2 regions, Romão and Neuts (2017) offered a comprehensive analysis of the previous relationships and impacts assuming the triple bottom line approach to sustainable development. The economic growth was measured according to the regional gross domestic product (GDP) per inhabitant (at current prices), the social dimension of sustainability was assessed by the level of regional unemployment (as a measure of social cohesion), while the environmental dimension was evaluated according to the level of CO2-emissions. Although the sample had some differences, and the method (structural equation modelling) was completely different from the previous approaches, the results were consistent, thus confirming the previous analyses.

In relation to tourism dynamics, the results showed that a higher share of employment in tourism is both related to high tourism demand and also to a low value-added by tourism services. On the other hand, high tourism demand and high value-added

by tourism positively affect economic growth. However, the higher importance of employment in tourism appeared as correlated with higher levels of regional unemployment. In the particular case of natural resources, they appeared as positively related to both measures of tourism specialization (share of tourism in the gross value added and regional employment). This shows the importance of these assets as sources of path-dependence (Martin 2014). It was also identified (or confirmed) that higher endowments of natural resources were correlated with lower gross value added by tourism. Moreover, in this case, it was observed a negative correlation between these resources and the levels of employment.

Additionally, the approach proposed by Romão and Neuts (2017) revealed the existence of high levels of tourism demand associated with low value-added by tourism activities, confirming that—for these regions, which are mostly located in Southern Europe—tourism supply relies on mass products and services, related to an unsustainable utilization of resources (as shown by the negative correlations between natural resources, gross value added in tourism and regional economic growth). Moreover, the importance of tourism is correlated with high unemployment. At the same time, the only positive element in terms of the triple bottom line of sustainability is the low level of CO2-emissions (although this can be related to the low development of other economic activities, like manufactures). For the regions where tourism sector plays a prominent role, it seems clear that its contribution for sustainable development is far from satisfactory, which has particular impacts on the Mediterranean region.

15.2.3 Resilience and Smart Specialization

The previously mentioned studies comprised a particular period of evolution of socio-economic systems, starting with a general tendency of economic growth, followed by an international recession impacting regional economies all over the world (starting in 2007 but with impacts in different moments and with different magnitudes for different regions). As the negative effects of this external shock persisted for several years—and the ability of the economies to avoid and to manage these impacts or to recover a growth path—the concept of socio-economic resilience would be largely adopted from engineering or ecological approaches to social science analyses (Modica and Reggiani 2014). In this context, Romão et al. (2016) analyzed the impacts of this international crisis in a specific Southern European region (Algarve, Portugal, where tourism is primarily based on mass sun-and-sea products with high seasonality, despite the abundance of sensitive ecological resources in large parts of the territory).

This study focused on the inter-sectoral relations within the regional economic structure and noted that the significant reduction in tourism activities observed in 2008 and 2009 would be quickly recovered, with the pre-crisis regional tourism demand being reached in 2010. However, high levels of unemployment would persist for a much more extended period, affecting, in particular, the youngest population. By considering four economic sectors (tradable goods, construction, tourism and

non-tradable goods) and their inter-relations over a relatively long period, the analysis identified self-reinforcing mechanisms arising from the interactions between construction, tourism and non-tradable goods. These mechanisms operate both in terms of the inter-sectoral impacts of these activities on regional employment and on the value-added to the regional economy, being noteworthy that the tradable sector (comprising agriculture, fisheries and manufactures) was excluded from this dynamics, clearly losing importance within the regional economic structure over time.

When the international crisis affected tourism dynamics, there was also a significant negative shock on the construction sector, which had assumed large importance in regional employment over the previous two decades. In this context, the persistence of the problems of high unemployment (and lack of resilience) did not appear to be related to the dynamics of tourism, but to the evolution in the construction sector, whose recovery would be much slower. Confirming that regions highly dependent on tourism and construction would reveal lower levels of resilience, as observed by Milio (2014), the study emphasized the importance of the analysis of inter-sectorial relations and specialization patterns for the analysis of the long-term socio-economic impacts of tourism.

Following these concerns and taking into account sectoral priorities assumed within smart specialization strategies (RIS 3—regional innovation strategies 2014–2020) (Foray et al. 2012), Romão (2020) analyzed a broad set of regions over a relatively long period (2006–2017). By focusing on places where tourism was defined as one of the priority sectors for smart specialization, the study includes a large number of Southern European regions (45 territories from Portugal, Spain, Italy, Greece, Cyprus and Malta) among the 55 NUTS-2 regions under analysis. However, some territories from Germany (2 regions), Denmark (4), Austria (2) and Romania (2) were also considered.

As the time-frame for the analysis included a period of growth, an international recession and a process of recovery, it was possible to identify different types of economic impacts of tourism on regional economies: the relation with growth ("tourism-led growth hypothesis") and also different aspects of regional resilience, as defined by Martin et al. (2016)—vulnerability (how to manage the impacts of a recession), shock absorption (how the negative impacts were integrated into the economic structure) and recovery (how to return to a growth path). Additionally, the study explored how different forms of relatedness between tourism and other priority sectors for the regional economies—considering different levels and types of proximity—could have different impacts on their socio-economic performance.

It was interesting to confirm the process of convergence between the most and the least developed regions previously noted by Romão and Nijkamp (2018). However, in this case, it was also possible to observe that the most developed regions are the most resilient ones, revealing lower levels of vulnerability when facing negative impacts, higher ability to absorb a shock and a faster recovery towards a new path of economic growth. On the other hand, different (and eventually contradictory) effects of tourism dynamics were identified: tourism demand and the high importance of tourism within the regional value-added (a measure of specialization) contribute positively to the

regional economic performance, both in terms of growth and resilience (when looking at the aspect of vulnerability and recovery). However, the high importance of tourism within the regional employment is negatively correlated with economic growth, while increasing regional vulnerability and slowing down the process of recovery, was associated with higher levels of unemployment.

The results also revealed positive impacts on growth and resilience arising from diverse options of smart specialization priorities, suggesting that different choices based on existing and path-dependent regional capabilities may lead to positive results. For example, the analysis revealed positive impacts from sectors with high proximity (like agriculture and food or mobility and transports) and also less proximity (like manufactures of advanced materials and technologies), suggesting that both related and unrelated variety potentially play a relevant role within regional innovation strategies. Thus, tourism may constitute a central element in a cluster of related activities, within a regional innovation strategy that may also consider other (unrelated) clusters of sectors (Boschma et al. 2016). Moreover, it was observed that a much higher number of unrelated sectors contributes to increasing regional resilience than to promote economic growth, suggesting that unrelated variety offers higher benefits for regional employment than related variety, as proposed by Frenken et al. (2007). However, it was again observed that specialization in the construction sector is correlated with low levels of regional resilience.

15.3 Overtourism Meets No-Tourism: Evolutionary Life-Cycles and Path-Dependent Futures

The characteristics of tourism dynamics described in the different studies presented in the previous Section relate to a situation in which the Southern regions of Europe are mature tourism destinations, well-integrated into international flows, with high demand (at least in the summer season) and the corresponding infrastructures to support tourism activities (for example, accommodation and transport services, entertainment, cultural and recreational facilities). Following the evolutionary conceptualization proposed by Butler (1980) for tourism destinations, Mediterranean regions passed, in general terms, through a long phase of development, in which demand tends to increase relatively fast, substantial investments in infrastructures are made, international companies are attracted, and the specialization in tourism tends to be reinforced in regional economic systems, by mobilizing financial resources for investment, territorial resources to accommodate infrastructures, facilities and services, knowledge and technological applications, along with different types of skills related to tourism activities (Kožić 2019). Eventually reaching a stage of stagnation (due to physical constraints to growth or loss of attractiveness), some regions have passed that development stage. On the other hand, very few territories in the Southern part of Europe can be considered in the initial stages of the cycle (exploration and involvement).

In this sense, overtourism (Dodds and Butler 2019; Sæþórsdóttir and Hall 2020) constitutes an important challenge for tourism in the protected areas of the Mediterranean, thus requiring appropriate solutions. In fact, as the previous studies suggest, current tourism dynamics generally relies on the supply of mass tourism products and services, with potentially high negative impacts on sensitive ecological resources, low value-added, a reduced contribution for economic growth, high vulnerability to external adverse shocks and low levels of socio-economic resilience. Thus, even the slow processes of convergence towards the levels of development of the most advanced European economies can be overturned when a period of recession occurs, with significant social consequences, in particular concerning the levels of unemployment and related inequalities.

The new recession faced by the global economy as a consequence of the COVID-19 pandemic brings the question of resilience back to the centre of the discussions about regional development strategies, in particular those involving a prominent role for the tourism sector. In fact, the systematic, long and generalized lockdowns imposed in many countries had unprecedented consequences for tourism activities, not only in terms of temporary losses of revenues and rising levels of unemployment but also implying the collapse of a large number of companies operating in different types of tourism-related services (Hall et al. 2020). Eventually, sensitive ecosystems could recover from excessive tourism pressure during this period, although these results do not seem clear yet, as pointed out by Corlett et al. (2020). In this context, challenges related to overtourism were suddenly replaced by challenges related to no-tourism—the absence of tourism—in the Mediterranean regions.

Similar structural circumstances are emphasizing the problems related to both overtourism and no-tourism: only if and when the tourism sector achieves a critical socio-economic role in a region, the negative consequences of the excess of tourism (for example, degradation of resources, inflation, distortion of economic structures, deindustrialization, disturbance of lifestyles and loss of quality of life) or related to the absence of tourism (such as economic stagnation, unemployment, risk of poverty, lack of public funds, unused infrastructures, facilities and services) can be observed. Regions where tourism is scarce and not crucial within the regional economic structures surely do not suffer the negative impacts of overtourism or no-tourism.

It must be taken into consideration, however, that regional development (including the aspects related to tourism) is an evolutionary process with different sources of path-dependence, as systematized by Martin (2014). Focusing only on those with direct relation with tourism, several aspects can be generally identified in tourism-dependent regions: sunk costs (large-scale investments, like those related to transportation infrastructures or thematic parks for entertainment), agglomeration economies, different types of knowledge spin-off or technological lock-in (related to high specialization in tourism and concentration of knowledge in this sector) and interregional linkages and dependencies (arising from the territorial dispersion of tourism attractions and resources). With particular importance for the Mediterranean area, natural resources also constitute a strong source of path-dependence, once tourism dynamics is often strongly linked to natural features of the territories.

The constraints imposed by those *sunk costs* as sources of path-dependence are more important when the regions reach the stage of development within the life cycle model proposed by Butler (1980). During that (eventually long) period, tourism demand has fast growth, opening essential business opportunities, which tend to be very attractive to capital investments, the labour market and even to local authorities, as a form of ensuring a relatively fast process of economic prosperity. However, this process may also lead to the concentration of knowledge and innovation capabilities in activities with low value-added and low potential for the integration of advanced technologies, thus constraining the opportunities for development in the future, as exemplified by Kožić (2019) when looking at the qualifications of the work-force in Croatian regions.

In general terms, Southern European regions mostly follow a competitive strategy based on low prices (cost-leadership). These dependencies were historically reinforced, and their importance constrains the opportunities to implement significant changes towards the implementation of differentiation strategies based on the richness of their natural and cultural resources. This different strategic approach could potentially lead to a more sustainable form of tourism development based on the provision of unique experiences supported by local, territorial resources. Such a strategy should also contribute to generating higher value-added for the regional economies, by reinforcing the linkages with other local economic activities, rather than promoting a continuous increase in the number of visitors. In particular, digital technologies can potentially promote the emergence of innovative services enhancing the interrelations between tourism and the sectors with higher proximity, exploring the related variety within the regional economic structures (Neffke et al. 2009).

Diverse creative industries linked to the promotion, understanding and interpretation of local natural and cultural heritage, along with other territorial features, may contribute to tourism diversification while supporting the emergence and consolidation of new activities. On the other hand, activities related to mobility, transports, energy consumption and production or water saving, with an important role within the tourism sector, may also be a source of technological development and innovation with impacts on other industries, while contributing to create and to promote an image of sustainability of the destination.

Taking into account the aspects related to resilience and the different shocks (described in detail by Gössling et al. 2020) severally affecting the tourism industry in the last two decades (9/11 attacks, the international crisis started in 2007 or different pandemic diseases until the recent COVID-19), a strategy of diversification, clearly reducing the regional dependence on tourism activities, seems highly advisable for the Mediterranean regions. Such a strategy should offer positive impacts both in terms of controlling the problems related to overtourism and also the negative impacts related to the absence (or severe reduction) of tourism demand, if and when this occurs. As such, the results obtained by Romão (2020) seem to support a strategic combination of unrelated clusters of related activities (Boschma et al. 2016), where tourism would play a central role within one of them. In fact, strategic development options supported by a diversified regional economic structure seem clearly more

adequate to achieve a process of sustainable development, while reinforcing regional resilience.

15.4 Conclusion: How Much Is Too Much?

Supported by a detailed analysis of the relations between natural resources, tourism, specialization patterns, growth, resilience and sustainable development, this work emphasized how an excessive dependence on the tourism sector may lead to a strong regional vulnerability both to overtourism and to no-tourism. In the first case, sensitive territorial resources can be threatened by the excessive presence of tourists, while local communities do not achieve significant long-term economic benefits arising from the provision of mass tourism products and services, supported by labour-intensive production processes and generating low levels of value-added. Although the studies supporting these conclusions do not distinguish between nature-based tourism practices or others, or if they are developed inside or outside sensitive natural areas (which justifies more detailed further research), it is still clear that regions with a higher endowment of natural resources are generally attracting large volumes of tourists, while achieving relatively low levels of value-added for the local economies. On the other hand, they are strongly exposed to negative shocks, potentially affecting tourism demand, thus implying severe socio-economic problems for local communities.

It is also noteworthy that tourism development may be seen as a long-term process, with strong sources of path-dependent, not only including the natural resources that open the opportunities for the supply of very attractive tourism products (like sun and sea), but also all the investments in infrastructures, mobilization of capital resources and investments, local knowledge and skills, technological capabilities or firm creation processes, which tend to concentrate around the tourism sector during the (typically long) stage of development of the destinations. Despite these potential opportunities, overspecialization in tourism may also bring long-term problems related to lack of regional resilience, low levels of technological development, low value-added by the regional economy or degradation of the qualifications of the labour force.

Analyzing the process of local tourism development and identifying if and when tourism starts to be a problem rather than a solution seem crucial policy questions in order to achieve better socio-economic performance and a more sustainable long-term development process. Tourism offers significant benefits in the short-term but severely constraining opportunities in the future. The sector is also highly sensitive to a crisis, as the COVID-19 pandemics emphasized. In this context, supporting the development of clusters of activities not related to tourism (and preferably with higher levels of technological incorporation and value-added), along with the promotion of the potential interactions between tourism and (relatively) related sectors (including food production, information and communication technologies, creative industries, mobility and transports, or energy production and distribution) appear as

crucial challenges for smart specialization and regional innovation strategies in the Mediterranean area.

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