Touristification, smartization, and social sustainability in European regions

Amit Birenboim*
Department of Geography, The Hebrew University of Jerusalem and Department of Geography Human Environment, Tel Aviv University and
Mt Scopus, 919051Jerusalem, Israel
E-mail: amit.birenboim@mail.huji.ac.il
ORCID: 0000-0002-7087-9634

Salvador Anton Clavé
Department of Geography, Research Group on Territorial Analysis and Tourism Studies, Universitat Rovira i Virgili
C. Joanot Martorell, 15, 43480 Vila-seca, Catalonia, Spain
E-mail: salvador.anton@urv.cat
ORCID: 0000-0001-9818-2778

Andrea Ganzaroli
Department of Environmental Science and Policy, University of Milan
Via Celoria, 2, 20133 Milano, Italy
E-mail: andrea.ganzaroli@unimi.it
ORCID: 0000-0002-2270-1970

Anna Bornioli
Erasmus Centre for Urban, Port and Transport Economics, Erasmus University Rotterdam,
Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands
E-mail: bornioli@ese.eur.nl
ORCIDID: 0000-0001-9452-2907

Susan Vermeulen
Erasmus Centre for Urban, Port and Transport Economics, Erasmus University Rotterdam,
Burgemeester Oudlaan 50, 3062 PA Rotterdam, The Netherlands
E-mail: s.j.vermeulen@ese.eur.nl
ORCIDID: 0000-0003-3705-0960

Michal Zuckerman Farkash
Department of Geography and Human Environment, Tel Aviv University
Zelig 10, Tel Aviv, Israel
E-mail: michalf1@mail.tau.ac.il
ORCID: 0000-0002-7603-9476

Ana Pastor Alcaraz
Department of Geography, Research Group on Territorial Analysis and Tourism Studies, Universitat Rovira i Virgili
C. Joanot Martorell, 15, 43480 Vila-seca, Catalonia, Spain
E-mail: ana.pastor@urv.cat
ORCID: 0000-0002-0085-0959

Josep A. Ivars Baidal
Tourism Research Institute, University of Alicante
Carretera Sant Vicent del Raspeig s/n, 03690, Alicante, Spain
E-mail: josep.ivars@ua.es
ORCID: 0000-0002-9238-2792

* Corresponding author

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Authors Biography

Amit Birenboim is a Senior Lecturer at the Department of Geography at The Hebrew University of Jerusalem. His research interests include human spatial behavior, tourism mobility and health geography.

Salvador Anton Clavé is a Full Professor at the Department of Geography at University Rovira i Virgili. His research interests include the evolution of tourism destinations, destination planning, policies and governance and tourism related sustainable development issues.

Andrea Ganzaroli is an Associate Professor at the Department of Environmental Science and Policy at University of Milan. His research interests include the evolution of regional innovation systems and smart tourism related development issues.

Anna Bornioli is a Senior Researcher at the Erasmus Centre for Urban, Port and Transport Economics at Erasmus University Rotterdam. Her research interests include sustainable mobility, healthy behaviours and tourism mobility.

Susan Vermeulen is a Researcher at the Erasmus Centre for Urban, Port and Transport Economics at Erasmus University Rotterdam Her research interests include spatial economics, sustainable transport and tourism mobilities.

Michal Zuckerman Farkash is a PhD student at the Department of Geography and Human Environment at Tel Aviv University. Her research focuses on social and environmental impacts of tourism, and on possible mitigation measures.

Ana Pastor Alcaraz is a PhD student at the Department of Geography at University Rovira i Virgili. Her research focuses on tourism governance, destination planning and smart tourism in urban contexts.

Josep A. Ivars Baidal is a Full Professor at the Department of Regional Geography at Alicante University. His research interests cover tourism policy, planning and management of tourism destinations, as well as sustainability and innovation in the field of tourism.

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Abstract

Touristification and smartization processes are commonly associated with economic growth strategies. Here we emphasize and demonstrate the need to consider the implication of these processes on social sustainability. Initial results imply that: (1) regions not specialized in tourism are associated with a lower share of population in poverty; and (2) regions' "smartness" level is negatively associated with the share of poverty. However, in regions highly specialized in tourism, smartization demonstrated an opposite association of increased intra-regional poverty. As residents' quality of life is becoming a key policy consideration, understanding the effect of these socio-economic processes on socially sustainable growth has timely implications for regional planning, including for post-COVID-19 recovery strategies.

Keywords: social sustainability; smart regions; tourism specialization; European regions; smart tourism

Introduction

Touristification and smartization are often associated with urban development strategies that support economic growth. The current study contributes to the investigation of these two processes in two ways. First, although sustainability is often considered a central pillar of smartization, social issues are rarely taken into account in the emergent smart destination indicator systems (Ivars-Baidal et al., 2021). Here, we call to test the impact of smartization and touristification on social sustainability rather than on economic growth. Second, smartization and, to some extent, touristification are strongly connected to urban processes and the "smart city" paradigm. Here, we emphasize the need to investigate these two processes at the regional level, a scale often neglected in research (Gretzel, 2018).

Touristification and smartization

Evidence suggests a positive relationship between regional tourism specialization and economic growth, though this may be dependent on characteristics of structural and regional economy (Li et al., 2016). However, touristification's negative, less sustainable economic effects have also been documented in the literature. First, as tourism is a labour-intensive industry, specialization may lead to reduced efficiency and productivity (Harb & Bassil, 2020). Second, touristification may crowd out investments in human capital, as these are not rewarded in the context of tourism (Harb & Bassil, 2020). Third, tourism may significantly depreciate the value of natural and cultural resources in the long run with the increase in tourism pressure (Parrilla et al., 2007). Fourth, some touristification processes may be associated with the elimination of jobs in other sectors and the reduction of economic variety as a consequence of the so-called "Dutch disease," affecting the overall resilience of the regional economic system (Chao et al., 2006).

Smartization has often been marketed as a utopian solution for many social and urban issues, including economic stagnation, exclusion of social groups, inefficient supply of services, and traffic congestion (Hollands, 2015). However, much criticism has been directed at smart initiatives and their ability to support more sustainable and equitable societies. For example, it has been suggested that smartization is derived from a neo-liberal ideology and that noncompliant citizens will be left behind. Furthermore, some argue that smart initiatives are promoted by profit-driven corporations that are not entirely committed to promoting socially sustainable urban living (Hollands, 2015). Job

loss is another issue; automation processes may generate socioeconomic gaps between groups in the short run.

Smartization processes are also apparent within tourism and linked to the concept of smart tourism ecosystem. The smart tourism ecosystem is characterized by the intensive use of information and smart technologies to deliver intelligent tourist experiences (Gretzel et al., 2015). It is an open and dynamic system where actors join through digital platforms and social media, and in which functions may be redistributed among these actors due to processes such as the sharing economy that are supported in this ecosystem. Consequently, smart tourism ecosystem implies a shift from business-centric model and demands new avenues of research that connect the processes of touristification and smartization with their implications in the social sphere. Hence, within the tourism context, smartization has been viewed by some as an opportunity to nurture economic growth through, for example, the reduced cost of labour-intensive activities and the support of more effective tourist management (Boes et al., 2016; Gretzel et al., 2015). On the other hand, it has been argued that tourism smartization may enhance socially and economically unsustainable practices. For example, digital tourist platforms, such as Airbnb, may crowd out investments in other sectors, contribute to processes of gentrification (Cocola-Gant & Lopez-Gay, 2020) and generate negative spillovers on the competitiveness of forward and backward supply chains (Ganzaroli et al., 2021). Furthermore, the adoption of smart tourism platforms may reduce investments in the quality of human capital.

While the review above implies that complex relations between touristification, smartization and social sustainability exist, the literature does seem to support the following hypothesizes that are tested in this study: (H1) the more tourism-specialized the region is, the less socially sustainable it is; (H2) the smarter the region is, the more socially sustainable it is; and (H3) smartization, if coupled with high tourism specialization, makes a region more socially sustainable. In this research letter we test the hypothesis while focusing on one dimension of social sustainability, the share population in poverty.

Methodology

Data used for this study were comprised of a combination of Eurostat statistics, the European Union Statistics on Income and Living Conditions (EU-SILC), and Labour Force Survey (EU-LFS) datasets on the NUTS2 regional scale. A region's "smartness" was assessed using the percentages of workers in the high-tech sector ("smart people"). Touristification was assessed using location quotient (LQ) for the EU, with relation to specialization in tourism divided into terciles. For social sustainability (dependent variable) we used the percentage of the population in poverty/deprivation. Data was obtained for two periods, 2013 and 2018, for each region, while differentiating between settlements based on their degree of urbanization (three levels of DEGURBA: urban, suburban, and rural). Therefore, the multi-level models that were employed using R had four levels: DEGURBA, NUTS region, year, and NUTS-year (see supplementary materials for a detailed explanation about the variables' classifications and the utilization of the multi-level model).

Results

The multi-level model in Table 1 suggests first that lower tourism specialization (LQ-low) is associated with a lower (−0.042 percentage points) share of population in poverty. Regions that are highly specialized in tourism (LQ-high) do not deviate significantly from the LQ average in terms of poverty rates. Second, region's "smartness" is negatively associated with the share of poverty in the model, implying that smartization is associated with greater sustainability. These results were

obtained when controlling for housing burden, income from rent, regional GDP per capita, and age groups.

Third, the interactions between region smartness and LQ demonstrate that smartness is associated with higher poverty rates in regions highly specialized in tourism compared to regions with average tourism specialization. This may indicate that smartization decreases social sustainability in regions specializing in tourism compared to regions with average specialization.

Table 1: Multi-level model for testing the association between touristification, smartification, and inequality

	M1 Smartness=High-tech sector
Tourism LQ: Low (<0.85)	-0.042**
	(-0.018)
[reference category] Tourism LQ: Avg (0.85–1.15)	
Tourism LQ: High (> 1.15)	-0.005
	(-0.015)
Region "smartness"	-0.016***
	(-0.003)
Smartness * Tourism LQ low	0.007
	(-0.005)
[reference category] Smartness * Tourism LQ avg	
Smartness * Tourism LQ high	0.007*
	(-0.004)
Share of housing burden	0.024
	(-0.016)
Share of income from rent	-0.127***
	(-0.03)
GDP per capita	0.000
	(0.000)
[reference category] Age group: 15–29	
Age group: 30–49	0.097***
	(-0.005)
Age group: 50–64	0.083***
	(-0.006)
Age group: Over 65	-0.021***
	(-0.006)
Constant	0.089***
	(-0.022)
Sd(Time)	0.004
Sd(DEGURBA)	0.004
Sd(NUTS)	0.007
Sd(nutsyear)	0.03
Sd(nutsyear:Low LQ)	0.032
Sd(nutsyear:Avg LQ)	
Sd(nutsyear:High LQ)	0.056
Sd(residual)	0.06
Observations	967
Log-likelihood	1,213.31
Akaike inf.crit.	-2,382.62
Bayesian inf.crit.	-2,275.66

Dependent variable: Share of population in poverty/deprivation
*p<0.1;**p<0.05;***p<0.01

4. Discussion and conclusions

In this study, we made a first attempt to examine the intricate association between smartization, touristification, and inequality on the intra-regional level. Our aim was to advance a discussion that goes beyond regional economic growth towards questions of equality and social sustainability. In line with our first hypothesis, our exploratory study suggests that tourism specialization is not necessarily associated with greater sustainability (i.e., poverty deprivation). We also have support to our second hypothesis that smartization processes contribute to social sustainability. However, when coupled with high tourism specialization, respectively, smartization processes seem to increase poverty compared with regions with average tourism specialization. This last finding is somewhat contrary to our third hypothesis. In general, it is understood that long-term investments in human capital, smart infrastructure, and smart ecosystems more generally will cultivate more sustainable regions. Nevertheless, results of our third hypothesis do not reinforce this statement for regions highly specialized in tourism. Obviously, this research letter only delivers initial insights into these issues. However, we have the hope that researchers and policymakers will further consider these matters, test them empirically, and come to a more conclusive understanding. In any case, the results do highlight the complexity and challenges in establishing sustainable and socially equitable regional development strategies in European tourism regions.

It should be noted that our study refers to the pre-pandemic period. Importantly, tourism has been one of the sectors most affected by COVID-19. This has raised concerns about resilience and social sustainability in regard to tourism development. Post-COVID-19 recovery plans are likely to take these concerns into consideration in highly specialized regions. Visions about the socially unsustainable nature of some forms of tourism development also converge with the pre-pandemic discourse on overtourism. This is especially significant in a context where tourism has been a strategic choice for developed and emergent tourist regions in the smart specialisation promoted by the EU Cohesion policy in the 2014-2020 financial framework (Biagi et al., 2021). It seems that tourism will continue to have a central role in the new 2021-2027 programming period. Therefore, new initiatives in tourism and smart specialization require a good understanding of their potential impact on regions' social sustainability.

We should bear in mind that our temporal and geographical perspective on smartization processes is limited, as it is based on two temporal observations (2013, 2018), and refers to certain European NUTS2 regions due to issues of data availability. Furthermore, our operationalization of the main constructs—smartization, touristification, and inequality—was limited to variables available in the NUTS2 Eurostat dataset, and it could rightfully be argued that these are suboptimal. For example, the concept of social sustainability goes beyond poverty deprivation to include aspects such as equality, cultural diversity, labour rights and community resilience which are not included here. More adequate variables and indicators should be used in future investigations. In order to establish causal relationships between smartization and touristification and social sustainability, research could rely on longitudinal data of greater scope that can portray the sequential evolution of regions and on tools such as instrumental variable regressions. Finally, in this study we conceptualized smartization and touristification as two separate constructs. Future investigation should also consider the convergence of these two concepts into "smart tourism" and smart tourism ecosystems as a new framework for the governance and management of tourism destinations (Boes et al., 2016; Gretzel et al., 2015; Ivars-Baidal et al., 2019). Currently, we still lack adequate data to support such investigation, but new relevant data sources have become available in recent years.

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