

Is Caribbean tourism in overdrive? Investigating the antecedents and effects of overtourism in sovereign and nonsovereign small island tourism economies (SITEs)

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Abstract

Purpose – Drawing on theories of development economics and sustainable tourism, this research explores the differences between sovereign and nonsovereign small island tourism economies (SITEs) and identifies the antecedents and effects of overtourism in the Caribbean.

Design/methodology/approach – The research design is based on a comparative case study of selected Caribbean SITEs. Case study research involves a detailed empirical inquiry that investigates a contemporary phenomenon within its real-life context. The main purpose of a case study is to provide a contextual analysis of the conditions and processes involved in the phenomenon under study. A comparative case study is an appropriate research methodology to explore new multi-faceted concepts with limited empirical evidence.

Findings – The results confirm previous studies that nonsovereign SITEs have a distinctive overdrive toward tourism specialization. Moreover, the findings indicate that overtourism is driven by both global and domestic policy factors and generates significant economic volatility, social inequality and ecological stress. The paper discusses the tourism policy implications of the evolving economic disconnectedness, environmental decay and social tensions in SITEs in the Caribbean.

Originality/value – Policy recommendations are presented for transitioning toward a more inclusive development and strengthening the resilience of small island tourism development in the Caribbean.

Keywords Small island tourism economy, Overtourism, Nonsovereign island states, Resilience, Caribbean

Paper type Research paper

1. Introduction

It is a truism that international tourism is part and parcel of the Caribbean. Over the past century, tourism arrivals have grown tenfold, from less than five million visitors during the early 1970s to well over 36 million tourists in 2017 (Statista, 2020). Since the turn of the century, Caribbean tourism growth tripled (United Nations World Tourism Organization [UNWTO], 2019) and is expected to continue to grow over the next decade (World Travel and Tourism Council [WTTC], 2019). Recent tourism industry reports indicate that the Caribbean is gearing up for another tourism growth burst, attracting new hotel investors and well over 31,000 new accommodations in the construction pipeline (Britell, 2020). The Caribbean is



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indeed one of the most tourism-intense regions of the world with international tourism contributing, on average, to 20% of exports, 15% of GDP (gross domestic product) and 14% of labor (WTTC, 2019). Likewise, accounting for at least 13% of capital investments (WTTC, 2019), international tourism is one of the most resource-intense industries, including financial, human and natural resources (McElroy, 2006). In the wake of the global COVID-19 pandemic, the unprecedented plunge in Caribbean travel and tourism is a clear and present sign of both the value and the vulnerability of tourism across the Caribbean (International Monetary Fund – IMF, 2020).

Despite this significant and continued tourism growth, there are increasing signs that economic growth has largely stagnated across the Caribbean, especially in the smaller and more tourism-dependent island economies (Acevedo *et al.*, 2017; Peterson, 2019; Leigh *et al.*, 2017). Initial evidence suggests that the surge in international tourism has not contributed significantly to the lackluster economic growth since the early 2000s (Chamon *et al.*, 2017). Whereas tourism arrivals and accommodations have expanded and continue to grow across the Caribbean, tourism expenditures have not increased commensurately (Acevedo *et al.*, 2017). Therefore, the purpose of this exploratory study is to (1) investigate the status and qualities of overtourism in sovereign and nonsovereign Caribbean small island tourism economies (SITEs) and (2) examine the antecedents and effects of overtourism in mature SITEs in order to determine implications for industry and academics to help create a more sustainable model for small island tourism development.

This reality of overtourism is consistent with previous studies reporting stagnant growth and diminishing productivity in Caribbean tourism economies (Acevedo *et al.*, 2017; Peterson, 2017). Moreover, the performance of SITEs has lagged other (non-) Caribbean small island economies for at least a decade (Acevedo *et al.*, 2017). Thus, the confluence of enduring tourism growth with diminishing economic development in SITEs raises questions about the role and contribution of tourism for sustainable and inclusive development in the Caribbean (United Nations Sustainable Development Goals (UNSDG), 2018), especially considering the complex of economic and environmental shocks in addition to the longstanding social vulnerabilities and institutional weaknesses (International Monetary Fund [IMF], 2019; Peterson, 2019).

When a country has a focus on tourism as an economic advantage and a significant export industry, it is traditionally associated with economic production and growth (Brida *et al.*, 2016; Cannonier and Galloway, 2019; Croes, 2006; Croes *et al.*, 2021; Marsiglio, 2018). There are also potential adverse externalities related to this tourism specialization (Daye *et al.*, 2008; Dodds and Butler, 2019a; Duval, 2004; Gossling, 2002; Hall and Williams, 2008; McElroy, 2003; Peterson, 2009; Wilkinson, 1989). The tourism-led growth hypothesis proposes international tourism drives economic growth (Brida *et al.*, 2016). However, several studies indicate that this relationship is intermediated and moderated by several other contingency factors and tourism destination-specific conditions, including the capacity to adapt to and absorb large-scale, high-pace tourism construction and growth (Bishop, 2010; Cole, 2007; McElroy, 2006). The relationship between tourism specialization and economic growth is moderated by absorptive capacities (Acemoglu and Robinson, 2012; Baldacchino, 2006; Brautigam and Woolcock, 2001; Peterson, 2017), which describe the optimum level of tourism specialization that can be assimilated and absorbed by an economy before reaching an inflection point after which tourism specialization experiences diminishing returns and negative externalities (Dodds and Butler, 2019a; Marsiglio, 2018).

When reviewing the history of tourism in the Caribbean, it is increasingly apparent that *growth* rather than *development* remains the overriding focus, i.e. the quality of life for residents and, in turn, the quality of experience for visitors have not always met the various principles of sustainable tourism (Daye *et al.*, 2008; Duval, 2004; Joppe, 2019; Scheyvens and Biddulph, 2017). In fact, economic considerations and benefits of tourism specialization tend

to induce tourism myopia – a short-term growth orientation on tourism arrivals, receipts and (tax) revenues – and trigger a gradual tourism overshoot of socioecological ceilings with significant costs in the medium to long term (Dodds and Butler, 2019b; Ewing-Chow, 2019; Joppe, 2019; Marsiglio, 2017; Raworth, 2017).

Crandall (1994) concludes that while tourism is accepted as a significant boon to local economies, there is little realization on the part of government, tourism authorities and investors that tourism leads to economic spillovers, social changes and ecological challenges, especially when unplanned or uncontrolled. Although, certainly, this is not a new experience, this accelerating tourism spillover effect has recently been coined “overtourism” (Dodds and Butler, 2019b; Goodwin, 2017). Thus, coping with the short-term economic success of tourism growth is inextricably linked to managing and mitigating the risks of overtourism in contemporary tourism destinations (WTTC, 2019).

Whereas previous research on international tourism in the Caribbean focuses almost exclusively on the *sovereign* (independent) small island tourism states, *nonsovereign* (dependent) island tourism economies are generally less scrutinized and often excluded, largely due to their nonsovereign political status. Ironically, these subnational island jurisdictions are oftentimes relatively more tourism intense and prone to overtourism (Baldacchino, 2006; McElroy, 2006; Peterson, 2019; WTTC, 2019). Therefore, the heterogenous nature of Caribbean tourism economies, consisting of both sovereign island states and subnational jurisdictions, calls for the explicit acknowledgment and incorporation of subnational island jurisdictions in tourism studies, especially considering the political economic context of small island tourism development (Armstrong and Read, 2000; Daye *et al.*, 2008; McElroy, 2006). In fact, over the past decade, several studies have called for research on the political economy of small island tourism development in the (British, Dutch and French) dependencies in the Caribbean (Baldacchino, 2006; Bishop, 2010; Daye *et al.*, 2008; McElroy, 2006).

Consequently, this paper addresses the current state of overtourism in sovereign and nonsovereign SITES in the Caribbean. The aim of this exploratory study is to (1) investigate the status and qualities of overtourism in sovereign and nonsovereign Caribbean SITES and (2) examine the antecedents and effects of overtourism in mature SITES. In Section 2, the theoretical background of this study is discussed by reviewing the conceptual origins and mechanisms of overtourism. The research methodology is described in Section 3, followed by a presentation of the main findings, while conclusions and recommendations are presented in the final part of the paper.

2. Theoretical background

In general, overtourism describes the adverse impacts of uncontrolled tourism growth – an overshoot of tourism – that influences the quality of life and the well-being of citizens and the degradation of natural habitats and ecologies, which result in diminishing visitor experiences and expenditures, and consequently stagnating economic returns (United Nations World Tourism Organization – UNWTO, 2018). Overtourism portrays relentless, frequently unregulated, tourism growth that has moved beyond the level of acceptable change and absorptive capacity in a destination due to significant levels of tourism *intensity* (total visitors to population), tourism *density* (visitors per km²) and tourism *dependency* (tourism exports to GDP) (McElroy, 2006; World Travel and Tourism Council – WTTC, 2019). The compounding and composite effects result in significant pressures on infrastructure (i.e. congestion, transportation and energy), resource consumption and pollution (i.e. leakage and waste), spatial and cultural alienation (i.e. real estate and social identity) and visitors’ experiences and residents’ quality of life (Center for Responsible Travel–CERT, 2018; World Travel and Tourism Council – WTTC, 2019).

The genesis of overtourism dates back to at least the 1970s and 1980s when initial concerns were raised about the potential adverse social and environmental impacts of uncontrolled tourism growth and consequently the long-run economic repercussions thereof (Budowski, 1976; Butler, 1980; Cohen, 1978; Doxey, 1978; Dunkel, 1984; Farrell and Runyan, 1991; Getz, 1983; Holder, 1988; Mathieson and Wall, 1982; Richter, 1994; Wilkinson, 1989). By the early 2000s, several empirical studies reported on the negative externalities of tourism in SITEs (Bishop, 2010; Duval, 2004; McElroy, 2003, 2006; Sheller, 2003). Over the past decade, further evidence has been forthcoming on the role and rise of overtourism, albeit mainly focused on metropolitan areas and cities (Capocchi *et al.*, 2019; CERT, 2018; Dodds and Butler, 2019b).

As a concept, overtourism is rooted in development economics and discussions on overdevelopment, overdependency and overconsumption (Kohr, 1977; Meier and Stiglitz, 2001). From a postdevelopment theoretical perspective (Cowen and Shenton, 1996), overtourism refers to the social inequality and the environmental destruction due to excessive tourism consumption and tourism-related infrastructure expansion (Raworth, 2017). Overtourism is conceptually embedded in the study of how economies grow and societies change over the course of history (Meier and Stiglitz, 2001) and is frequently viewed in negative terms as the mutually constitutive reverse of inclusive development (Gupta and Vegeling, 2016; UNSDG, 2018; World Bank, 2018).

In development economics, it is not only the rate of real GDP per capita growth that matters but also more importantly the pattern of labor force participation and income distribution in growth (Meier, 2001). Inclusive development focuses on productive employment as a means of increasing income as well as raising standards of living and economic well-being (Gupta and Vegeling, 2016; Ianchovichina and Lundstrom, 2009; Rainir and Ramos, 2013; Rauniyar and Kanbur, 2010). Gupta and Vegeling (2016) emphasize the social and ecological aspects of inclusive development. Whereas social elements address citizen well-being and participation in labor and consumption markets, ecological elements concentrate on the conservation of local ecosystems, the management of ecosystem services and the regulation of environmental resources. Inclusive development stems from the realization that relentless economic growth often gives rise to negative externalities, extractive resource depletions and exploitative labor practices (Raworth, 2017), which are clear and present features of overtourism and readily acknowledged in SITEs (Daye *et al.*, 2008; Duval, 2004; Island Resource Foundation, 1996; McElroy, 2006; Pattullo, 1996; Sheller, 2003).

According to Scheyvens and Biddulph (2017), one of the most enduring critiques of tourism is its noninclusive development. They contend that tourism oftentimes provides opportunities for the privileged, creating profits for international (nonlocal) resorts and building exclusive enclaves for the rich, thereby excluding the indigenous community, marginalizing local cultures and lifestyles and depleting scarce natural resources (Scheyvens and Biddulph, 2017). In reflecting on the tourism overdependency in the Caribbean, Daye *et al.* (2008) indicate that there is significant economic volatility and leakage due to the outflow of capital. Duval (2004) concludes that if left uncontrolled, Caribbean tourism often leads to environmentally extractive and socially exclusive developments, which in the long run undermine future economic development. It is the unbalanced and unequal distribution of benefits and costs amongst stakeholders that nourishes overtourism.

Overtourism extends previous theoretical frameworks and models of tourism lifecycles and complex adaptive tourism systems. The origins can be traced back to notions of the tourism destination life cycle (Butler, 1980) and tourism carrying capacity (Mathieson and Wall, 1982), which have been widely discussed in the Caribbean. The concept of overtourism underscores the nonlinear, interdependent and dynamic nature of tourism systems, which encompass several interacting social, political, economic, ecological and digital subsystems,

especially within the small(er) scale of island economies (Peterson *et al.*, 2017). These complex adaptive tourism systems are “nested” or embedded within social ecologies and often evolve in distinct ways with extensive cascades of uncertain and oftentimes path dependent and long-term effects (Dodds and Butler, 2019b; Farrell and Twining-Ward, 2004).

In reflecting on the growth of Caribbean tourism, McElroy (2006) contends that part of the problem in the Caribbean is that much of the tourism growth during the late 1990s was too fast and fragmented. According to Farrell and Runyan (1991), this rapid and unbalanced growth of tourism produces an inherent propensity for environmental overrun and sociocultural disruption, which in due course would affect industry viability and economic sustainability. As the intensity and concentration of tourism growth increases, the capacity of delicate socioecological island systems to absorb these changes can be drastically exceeded and may produce undesirable resource degradation (Farrell and Runyan, 1991).

Due to their relatively limited size and scale, small states and islands tend to be more susceptible to external pressures and internal disturbances. Unlike the tangible economic benefits (e.g. employment exports, and foreign exchange earnings) that accrue in the short term, the long-term costs (e.g. beach erosion, coastal pollution, congestion and social inequality and poverty) often remain concealed until critical thresholds are crossed (McElroy, 2003). Whereas exogenous shocks occur in a sudden and disruptive manner, the externalities of overtourism cascade gradually over time until spilling over into the public domain.

The case in point is especially poignant in Caribbean SITEs that rely on their natural and social ecologies for safeguarding economic development and well-being. Whereas sustainable tourism requires the conservation of ecological integrity and environmental resources, its production is, paradoxically, largely dependent upon the consumption of nature-based tourism experiences (Williams and Ponsford, 2008). Likewise, whereas much of Caribbean tourism is staged by its cultural authenticity and natural hospitality, its production is labor-intensive with exhaustive demands on emotional labor (Shani *et al.*, 2014; Sönmez *et al.*, 2017). This ambiguity has epitomized much of the progress, pitfalls and perils of Caribbean tourism over the past century (Duval, 2004).

In discussing the ambiguous role of tourism as a small state development strategy in the Eastern Caribbean, Bishop (2010) concludes that despite offering real economic opportunities, tourism growth is far from being a silver bullet due to its impact on fragile marine environments, social dislocations and economic vulnerability. The amalgamation of these spillovers may bring about negative sentiments toward visitors as well as tourism labor immigrants (McElroy, 2003), thereby giving rise to social tensions and tourism backlash as experienced in several popular international tourism destinations over the past decade (Dodds and Butler, 2019b). Based on theoretical assumptions of development economics and previous tourism studies, the following proposition is put forward:

Proposition 1. Higher levels of overtourism in Caribbean SITEs are positively associated with lower labor force participation, more ecological stress and higher economic volatility.

The general effects of overtourism are frequently transmitted through direct as well as indirect channels (Scheyvens and Biddulph, 2017). Direct channels of overtourism transmission describe diminishing real GDP growth, economic volatility, stagnant tourism contribution to GDP, declining average visitor expenditures, increasing import leakages, growing resource consumption and tourism price inflation (Acevedo *et al.*, 2017). Overtourism also transmits through indirect channels, which affect local communities and natural habitats (Scheyvens and Biddulph, 2017). Indirect channels of overtourism transmission include declining labor force participation rates, uneven income distribution, foreign-ownership concentration of tourism industry, spatial concentration of tourism industry, real-estate price inflation, environmental degradation, loss of natural habitats and diminishing contribution of

tourism ecological services (Capocchi *et al.*, 2019; Daye *et al.*, 2008; Dodds and Butler, 2019b; Duval, 2004; Joppe, 2019; Koens *et al.*, 2018; McElroy, 2006). However, unlike direct transmission channels of overtourism, indirect effects often transpire and materialize in the medium to long term. Therefore, the following proposition is presented:

Proposition 2. The impact of overtourism in Caribbean SITEs is transmitted through both direct channels as well as indirect channels.

Previous studies indicate that overtourism stems from the complex dynamics of international tourism demand and local tourism supply (Acevedo *et al.*, 2017; Capocchi *et al.*, 2019; Daye *et al.*, 2008; Cole, 2007; Dodds and Butler, 2019b; Farrell and Twining-Ward, 2004; Joppe, 2019; Koens *et al.*, 2018; McElroy, 2006). In reviewing the progressive development and potential challenges of tourism growth across SITEs, McElroy (2003, 2006) discusses different interrelated causes of a tourism overrun, defined as high-density tourism with damaging levels of visitation due to tourism's sociocultural pressures and environmental footprint. The critical factors that spur overtourism in the Caribbean include the substantial inflow of foreign private tourism investments; the significant stock and rapid expansion of large-scale accommodation facilities; the growth in air traffic and cruise calls; the increase in labor immigration and the subsequent rise in unplanned coastal urbanization and real-estate infrastructures (McElroy, 2003, 2006). Previous studies indeed confirm that this system of an interlocked tourism supply chain, including the interlinked growth in tourism investments and airlift and the subsequent expansion of accommodations and required labor, contributes to surging levels of tourism intensity and density in the Caribbean (Acevedo *et al.*, 2017), which gradually engender a state of overtourism in SITEs (Cole, 2007; McElroy, 2006).

Furthermore, several structural features are conducive to overtourism, involving geographic proximity to affluent origin markets, fixed foreign exchange rate, progrowth economic policies and a political status, that foster political stability and access to international financing of infrastructure developments (McElroy, 2003, 2006). Bertram (2004) concludes that island economies whose close political linkages to former colonial powers survived the transition to the postcolonial era were the ones exhibiting relatively higher levels of economic growth up to the turn of the century. Baldacchino (2006) indicates that this relative success is directly linked to their degree of diligently managed and negotiated trade (including tourism) and the political use of simultaneous economic autonomy and close jurisdictional ties. Consequently, it is likely that these political linkages play a significant role in explaining the manifestation of overtourism in sovereign Caribbean SITEs. Based on previous studies (McElroy, 2003, 2006) and Bertram (2004) this study hypothesizes that sovereign Caribbean SITEs are relatively more prone to overtourism:

Proposition 3. In comparison to nonsovereign Caribbean SITEs, sovereign Caribbean SITEs experience significantly higher levels of overtourism.

Cole (2007) indicates that an overshoot in Caribbean tourism arises from several interdependent factors, including growing tourism demand; surpassing physical limits of beachfront or coastal areas for resort construction; increasing labor migration due to limited local workforce; growing visitors' sense of overcrowding and an escalation in residents feeling overwhelmed or displaced by visitors and/or immigrant workers. The latter describes intensifying sentiments of visitor annoyance and apathy by local communities (Doxey, 1978). The unfolding of these events triggers a spiral of demise where surging small island coastal tourism causes increasing crowding, congestion and contamination. Frequently, this leads to irreversible ecological destruction, social decay and aesthetic repulsion and a further uncontrolled spiraling effect (Dehoorne *et al.*, 2010).

In addressing the dominance of political linkages in nonsovereign island economies (Bertram, 2004) and the political economy of tourism development in small islands, several

studies discuss the influence of (inter)institutional actors and networks of power and control that shape tourism policies and influence tourism developments adversely (Baldacchino, 2006; Crandall, 1994; Duval, 2004; Bishop, 2010; Joppe, 2019; Richter, 1994). The political economy of Caribbean island tourism is oftentimes riddled by exclusion and extraction rather than inclusion and regeneration (Bishop, 2010; Daye *et al.*, 2008; Duval, 2004; McElroy and Albuquerque, 2002). Crandall (1994) and Richter (1994) contend that these tensions stem from a combination of factors, including narrow and concentrated economic beneficiaries of tourism, land disputes, increasing public-sector infrastructure strains and taxes, rising costs of living, excessive migration with limited career opportunities and social dislocations. According to Baldacchino (2006) and Bertram (2004), these features are closely intertwined with the political economy of nonsovereign island economies.

The confluence of these failures intensify the negative externalities due to several structural political economic conditions, including (1) a regulatory deficiency in environmental conservation and enforcement, (2) limited economic diversification and innovation, (3) lopsided (private) benefits and (public) costs of tourism growth, (4) marginal social inclusion and nongovernmental participation in tourism policy and development and (5) a strong and persistent bias toward short-term tourism promotion, expansion and growth (Bishop, 2010; Cole, 2007; Daye *et al.*, 2008; Dodds and Butler, 2019b; Joppe, 2019; McElroy, 2003). Moreover, Williams and Ponsford (2008) argue that politically-linked public institutions and agents tend to circumvent regulations and regulatory enforcement largely due to the economic “lock-in” of the tourism industry. Hall and Williams (2008) describe this tourism “lock-in” as path dependency, which is conducive to institutional failures (e.g. close personal and political ties and resource dependency), network failures (e.g. dissonance and ignorance of new developments) and capability failures (e.g. lack of institutional learning capabilities).

Underscoring the importance of institutional failures, Dodds and Butler (2019b) conclude that a key political economic enabler of overtourism is the mutually reinforcing attitude, or mindset, of both private- and public-sector stakeholders that favor short-term growth above all else, which subsequently nurtures institutional bonding and “blindness” (Hall and Williams, 2008). According to Nikola (2019), more often than not, government and tourism authorities contend that the problem of “too much tourism” does not exist or relate to their specific tourism jurisdictions. Based on previous tourism studies and findings, the following proposition is set forth:

Proposition 4. Higher levels of overtourism are associated with both international tourism demand as well as interdependent tourism supply factors.

In conclusion, whereas growing international tourism demand creates the conditions for overtourism, several interdependent domestic supply factors are regarded as the key determinants that drive overtourism (Acevedo *et al.*, 2017; Bishop, 2010; Cole, 2007; Dodds and Butler, 2019b; Duval, 2004; Joppe, 2019; Hall and Williams, 2008; McElroy, 2006; Richter, 1994; Williams and Ponsford, 2008). Overtourism is likely to ascend when both push and pull forces are mutually reinforcing, i.e. surging demand and expansionary supply. Consequently, the confluence and acceleration of multiple tourism demand and tourism supply forces shape the evolution of overtourism in Caribbean SITEs.

3. Research methodology

The aim of this exploratory study is to (1) investigate the status and qualities of overtourism in sovereign and nonsovereign Caribbean SITEs, and (2) examine the antecedents and effects of overtourism in mature SITEs. The two main research questions addressed are as follows: (1) *how do sovereign and nonsovereign SITEs in the Caribbean differ?* (2) *what are the main drivers and impacts of overtourism in selected Caribbean SITEs?*

3.1 Data compilation

Based on previous studies and available secondary historical data covering the years between 2000 and 2018 (Caribbean Tourism Organization–CTO, 2020; United Nations World Tourism Organization–UNWTO, 2019; World Bank–WB, 2018; World Travel and Tourism Council–WTTC, 2019), sixteen (16) Caribbean SITES were selected including both sovereign and nonsovereign SITES (see Table 1). The sovereign SITES comprise Antigua and Barbuda, The Bahamas, Barbados, Dominica, Grenada, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines. The nonsovereign SITES consist of Anguilla, Aruba, Bermuda, British Virgin Islands, Cayman Islands, Martinique, St. Maarten and the US Virgin Islands. Several Caribbean island tourism-dependent economies were excluded due to their relatively larger population size and land mass (e.g. Jamaica) or limited/incomplete data (e.g. Turks and Caicos). Previous studies indicate that both population size and land mass influence the shape and style of (over)tourism growth (Briguglio *et al.*, 1996; Cole, 2007; McElroy, 2006). Likewise, this study acknowledges that Caribbean SITES differ in their style and stage of tourism development, and in fact, a key element of interest in this study is whether sovereign and nonsovereign SITES differ in any systematic manner.

Building forth on previous studies, the following indicators and measurements were used subject to the availability of sufficient and complete data. The overtourism construct is formed by a composite of three sub-indicators including tourism intensity (total visitors to population), tourism density (visitors per km²) and tourism dependency (tourism exports to GDP) (Cole, 2007; Dodds and Butler, 2019b; McElroy, 2006). The tourism arrivals, cruise

Country	Political status (sovereignty)	Population density (Population/km ²)	Tourism density (total visitors/km ²)	Resort density (hotel rooms/km ²)	Tourism intensity (total visitors/capita)	Total GDP contribution (% of GDP)
Anguilla	Nonsovereign	163	2,396	10	15	62
Antigua and Barbuda	Sovereign	220	2,109	9	10	52
Aruba	Nonsovereign	622	10,539	40	17	87
The Bahamas	Sovereign	28	292	1	10	48
Barbados	Sovereign	668	3,047	13	5	41
Bermuda	Nonsovereign	1,343	14,453	40	11	17
British Virgin Islands	Nonsovereign	199	3,046	4	15	70
Cayman Islands	Nonsovereign	246	7,951	15	32	30
Dominica	Sovereign	96	609	1	6	33
Grenada	Sovereign	326	1,334	5	4	23
Martinique	Nonsovereign	333	934	3	3	14
St. Kitts and Nevis	Sovereign	202	4,195	6	21	27
St. Lucia	Sovereign	339	1820	8	5	42
St. Vincent and the Grenadines	Sovereign	284	728	10	3	46
St. Maarten	Nonsovereign	1,247	36,088	78	29	78
US Virgin Islands	Nonsovereign	301	4,262	9	14	59

Table 1. Stylized indicators of selected sovereign and nonsovereign Caribbean SITES (CTO, 2020; UNWTO, 2019; WB, 2018; WTTC, 2019)

visitor, population and trade data were drawn from the tourism publications and databases of the CTO, 2020, the UNWTO, 2019, the World Bank (WB, 2018) and the WTTC, 2019 and used to calculate to sub-indices of overtourism tourism intensity, tourism density and tourism dependency. To test for heteroskedasticity under assumption of nonlinearity, the White test was conducted with no significant effects (Chi-Square = 20; $p > 0.05$).

The dependent variables comprise the direct and indirect transmission channels of overtourism and are based on previously operationalized measurements by Capocchi *et al.* (2019), Daye *et al.* (2008), Dodds and Butler (2019b), Duval (2004), Gupta and Vegeling (2016), Joppe (2019), Koens *et al.* (2018) and McElroy (2003, 2006). Data on economic growth, income inequality, labor force participation and environmental pollution data were compiled from several databases from the CTO (2019a, b), the UNWTO (2019) and the WB (2018).

Likewise, the variables describing international tourism demand and domestic tourism supply are based on previous tourism studies (Acevedo *et al.*, 2017; Bishop, 2010; Cole, 2007; Dodds and Butler, 2019b; Duval, 2004; Joppe, 2019; Hall and Williams, 2008; McElroy, 2006; Richter, 1994; Williams and Ponsford, 2008). Based on tourism data from the UNWTO (2018), the WTTC (2019) and the WB (2018), tourism demand and supply were measured by the relative destination market share of Caribbean tourism arrivals, amount of airlift, number of accommodations and the size of tourism labor force (Acevedo *et al.*, 2017; Cole, 2007; McElroy, 2006; Richter, 1994). Furthermore, from an infrastructure perspective, the number and (spatial) concentration of cruise arrivals as well as resorts was measured. The number of rooms per resort was used as proxy measure for resort style (McElroy, 2006). The degree of tourism export specialization was calculated by analyzing tourism receipts, the ratio of tourism exports to GDP and total imports and exports as percentage of GDP (WTTC, 2019; WB, 2018).

3.2 Analyzing significant differences in overtourism

To identify the differentiating features of overtourism across sovereign and nonsovereign SITEs (see Proposition 3) and consistent with previous studies and measures (McElroy, 2003, 2006), the data were standardized across several indicators in order to normalize the data and facilitate comparative and inferential analyses. Available country data are standardized by using a min–max scaling method. The general formula for the min–max scaling (0, 1) is the following: $y = (x - \min X) / (\max X - \min X)$, where x is the original value, and y is the normalized value. For example, in terms of normalizing tourism intensity, the Cayman Islands received a standardized maximum score of 1 [(32–3)/(32–3)]. In similar fashion, the tourism density [(7,951–292)/(36,088–292)] and tourism dependency [(20–14)/(87–14)] scores are calculated and normalized. Subsequently, the normalized values of the different sub-indices are averaged to reach an overall composite overtourism index score. Due to data limitations and case sample constraints and based on previous studies (Kinseng *et al.*, 2018), a non-parametric test (Mann Whitney U test with Fisher exact significance test) was conducted to identify the significant differences between sovereign and nonsovereign Caribbean SITEs.

3.3 Analyzing regressors of overtourism

To explore the formative structure of the overtourism construct, in addition to reducing the number of individual variables and the potential multicollinearity, a principal component regression (PCR) analysis – a special form of partial least square regression – was applied (Bair *et al.*, 2006), in which the formative overtourism construct was regressed on the newly identified components. The small case sample size and data limitations precluded the use of structural equation modeling or path analysis. In PCR and consistent with previous studies

(Li *et al.*, 2018), instead of regressing the dependent variable, i.e. overtourism, on all the explanatory variables directly, the principal components of the explanatory variables are used as regressors. In applying PCR, there are three basic steps (Li *et al.*, 2018), i.e. to conduct a principal component analysis of the individual variables, identify the validity and reliability parameters of the principal components and run a stepwise multivariate regression analysis on the valid components to identify the significant regressors. In examining the main antecedents of overtourism (see Propositions 1, 2 and 4), the applied PCR follows production-like logic consisting of the different identified principal regressors (Du *et al.*, 2016). The production function form is estimated as a log-linear relationship using $\ln(Y) = a_0 + \sum a_i \ln(I_i) + \varepsilon$, with Y = overtourism composite index, I = antecedent factors (i.e. the PCR predictors) and a = coefficients.

4. Results

4.1 How do sovereign and nonsovereign SITES in the caribbean differ?

In examining the proposition that sovereign Caribbean SITES experience significantly higher levels of overtourism, the findings indicate that there are significant differences between sovereign and nonsovereign SITES (see Table 2). Caribbean nonsovereignities experience

Indicators	Sovereign SITES	Nonsovereign SITES	Difference	Fisher exact significance (<i>p</i>)
Tourism intensity (visitors per capita)	0.18	0.48	0.30	***
Tourism density (visitors per km ²)	0.04	0.27	0.23	**
Tourism dependency (% total contribution to GDP)	0.34	0.53	0.19	**
Tourism export specialization (% of total exports)	0.48	0.62	0.14	Ns
Tourism market share (% of Caribbean tourism market)	0.36	0.49	0.13	Ns
Trade openness (total imports and exports as % of GDP)	0.02	0.33	0.31	***
Resort density (number of hotel rooms per km ²)	0.22	0.43	0.21	**
Resort style (average number of rooms per resort)	0.20	0.27	0.07	Ns
Coastal resort density (number of resorts per coastal km)	0.20	0.32	0.12	Ns
Coastal visitor density (number of visitors per coastal km)	0.08	0.25	0.17	***
Coastal pollution (construction waste per coastal km)	0.31	0.50	0.19	**
Coastal length (km)	0.39	0.13	-0.26	***
Climate change impact (costs as % of GDP)	0.51	0.25	-0.26	***
Airlift (number of airline flights)	0.15	0.56	0.41	***
Cruise intensity (cruise to stay over visitor ratio)	0.24	0.31	0.07	Ns
Population density (residents per km ²)	0.19	0.40	0.21	***
Foreign labor force (migrant labor stock)	0.13	0.58	0.45	***

Note(s): ***(*p* < 0.01) and **(*p* < 0.05)

Table 2.
Stylized differences between sovereign and nonsovereign Caribbean SITES

higher levels of tourism intensity, density and dependency. Their trade openness and tourism specialization underscore a strong outward economic orientation, which is also corroborated by relatively more airlift and cruise calls. Demographically, nonsovereign SITEs have a larger migrant labor stock and population density ratio, largely due to tourism labor immigration and their sub-national jurisdictional status. Conversely, their coastal length is smaller with less coastal beach space. Consequently, coastal density levels for resorts, visitors and pollution are relatively greater in nonsovereign tourism dependencies. While not being significant, the cruise intensity and average resort size is slightly larger in nonsovereign SITEs due to the establishment of comparatively more international and larger resorts, as well as having more cruise calls.

In terms of climate change impact, nonsovereign SITEs are comparatively less prone to the costs of climate change when compared to sovereign SITEs. From a geopolitical perspective, nonsovereign SITEs may have access to finance and international assistance due to their subnational jurisdictional ties, and therefore more likely to absorb the costs of climate change (Baldacchino, 2006; Bertram, 2004; McElroy and Pearce, 2006). Alternatively, nonsovereign SITEs may be geographically dispersed and positioned on the peripheral of the Caribbean Hurricane belt, thereby reducing the direct exposure, risks and costs of extreme weather events. This would nurture the relatively uninterrupted and continuous expansion and growth of tourism. The findings indicate that climate change and tourism density are indeed negatively associated ($\beta = -0.14; p < 0.05$).

These results corroborate previous studies that nonsovereign Caribbean SITEs share a unique overtourism profile consisting of high tourism intensity, density and dependency levels; mature and expansive port and tourism infrastructures; large-scale beach front accommodations and international luxury chains; significant tourism promotion and tourism labor immigration and tourism-induced ecological stress with increasing social crowding especially in coastal zones (Budowski, 1976; Butler, 1980; Cohen, 1978; Dodds and Butler, 2019b; Doxey, 1978; Dunkel, 1984; Farrell and Runyan, 1991; Getz, 1983; Holder, 1988; Mathieson and Wall, 1982; McElroy, 2006; Wilkinson, 1989).

4.2 What are the main antecedents and effects of overtourism in selected Caribbean SITEs?

An unrestricted principal component analysis with Kaiser normalization and varimax rotation was conducted to identify the main constructs of overtourism. The analysis yielded five (5) components with satisfactory loadings (>0.60), acceptable adequacy (KMO > 0.68 ; Bartlett's test of sphericity < 0.001) and reliability (Cronbach $\alpha > 0.70$) for an exploratory study (see Table 3). Consistent with previous studies (Cole, 2007; Dodds and Butler, 2019b; McElroy, 2006), the findings indicate that the *status of overtourism* component incorporates tourism intensity, tourism density and tourism dependency, reflecting the volume, concentration and contribution of tourism, respectively.

Based on the (unweighted) average of tourism intensity, density and dependency sub-indices, a general overtourism index was calculated (see Table 4 for sub-indices). The average overtourism index demonstrates that the propensity for overtourism is relatively higher in nonsovereign SITEs, i.e. St. Maarten, Aruba, Cayman Islands, British Virgin Islands, Anguilla and the US Virgin Islands, which indeed share a unique and significantly different overtourism profile (Chi-square = 7.27 and $p < 0.01$), despite individual destination niche differences (see Table 4). These islands represent Dutch, British and US nonsovereign Caribbean SITEs. These results support the proposition that sovereign Caribbean SITEs experience significantly higher levels of overtourism.

Based on the results of the principal component analysis, three independent constructs – antecedents of overtourism – were identified, i.e. tourism supply chain, tourism architectural style and tourism export specialization. Whereas the *tourism supply chain* component describes the supply chain effect of the growth in airlift, accommodations and labor, the

Explanatory variables	Components				
	1. Overtourism status	2. Tourism ecological stress	3. Tourism supply chain	4. Tourism infrastructure	5. Tourism export specialization
Tourism intensity	0.85				
Tourism density	0.86				
Tourism dependency	0.68				
Coastal resort stress		0.96			
Coastal visitor stress		0.93			
Coastal pollution		0.85			
Resort density			0.89		
Airlift			0.92		
Migrant stock			0.81		
Cruise intensity				0.91	
Resort style				0.89	
Coastal length				0.61	
Tourism export specialization					0.91
Trade openness					0.86
Eigenvalue	7.11	2.36	2.06	1.5	1.08
Variance (cumulative %)	44.5	59.3	72.1	81.5	88.2
Internal consistency (Cronbach α)	0.71	0.89	0.84	0.73	0.79

Table 3.
Results of principal component analysis

tourism infrastructure component describes the spatial concentration and design of cruise and accommodation infrastructures in a specific geographic area or coastal zone. The *tourism export specialization* component describes the outward (export-led) economic orientation and tourism specialization focused on, e.g. tourism investments and expansion, export earnings and revenues and promotion. The *tourism ecological stress* component consists of coastal resort stress, coastal visitor stress and coastal pollution and is an indirect effect of overtourism. It describes the stressors and pressures from land- and marine-based tourism activities in (concentrated) coastal areas, which are conducive to ecological decay and coastal erosion (Duval, 2004; Ewing-Chow, 2019; Gosling, 2002; Hunter and Shaw, 2007; Marsiglio, 2018; McElroy, 2006; Williams and Ponsford, 2008).

The findings also indicated that several variables had insufficient factor loadings (<0.60) and were therefore disregarded and excluded from further analysis. These variables include relative tourism market share and population density and are both considered structural features of destination size (McElroy, 2006).

To examine Proposition 1, 2, and 4, regression analysis was conducted on the previously identified components to assess the relationship between the state of overtourism, tourism ecological stress and labor force participation. Due to the hypothesized nonlinear nature of tourism development (Butler, 1980; Farrell and Twining-Ward, 2004), a quadratic multivariate regression analysis was applied. The findings (see Table 5) indicate that a quadratic function has superior fit (F -test = 11.41 and $p < 0.001$) with an adjusted R^2 of 0.64 and a significant curve-linear relationship ($p < 0.01$) between the state of overtourism and tourism ecological stress ($\beta_2 = 0.96$ and $\beta_1 = 0.02$).

Selected SITES	Sovereignty*	Tourism intensity index (total visitors per capita)	Tourism density index (visitors per km ²)	Tourism dependency index (tourism-to- GDP)	Overtourism index (average of sub-indices)
St. Maarten	N	0.89	1.00	0.88	0.92
Aruba	N	0.48	0.29	1.00	0.59
Cayman Islands	N	1.00	0.21	0.22	0.48
British Virgin Islands	N	0.43	0.08	0.77	0.43
Anguilla	N	0.41	0.06	0.66	0.38
US Virgin Islands	N	0.39	0.11	0.62	0.37
St. Kitts and Nevis	S	0.61	0.11	0.18	0.30
Antigua and Barbuda	S	0.24	0.05	0.52	0.27
Bahamas	S	0.27	0.00	0.47	0.25
Bermuda	N	0.28	0.40	0.05	0.24
St. Lucia	S	0.09	0.04	0.39	0.17
Barbados	S	0.07	0.08	0.37	0.17
St. Vincent and the Grenadines	S	0.00	0.01	0.44	0.15
Dominica	S	0.13	0.01	0.27	0.14
Grenada	S	0.05	0.03	0.13	0.07
Martinique	N	0.01	0.02	0.00	0.01
Overall average		0.33	0.15	0.43	0.30
Average non-sovereign SITES		0.49	0.27	0.53	0.43
Average sovereign SITES		0.18	0.04	0.34	0.19

Note(s): *N: nonsovereign island state; S: sovereign island state

Table 4.
Overtourism in
selected SITES in the
Caribbean

Dependent variables	Independent component: overtourism state		
	Coefficient (β)	Adjusted R^2	Significance (p)
Real GDP growth	-5.28	0.39	*
Output volatility	0.84	0.23	**
Labor force participation	-2.14	0.29	**
Ecological stress	0.96	0.64	**

Note(s): **($p < 0.01$) and *($p < 0.05$)

Table 5.
Direct and indirect
effects of overtourism
in selected
Caribbean SITES

This concave relationship indicates that as the intensity and density of tourism increases, the ecological pressures grow and, more importantly, accelerate after exceeding a critical threshold, as measured by the inflection point. This underscores a tourism overshoot beyond the natural absorptive capacity of the local ecology, which generates negative pressures on real GDP growth in the long run. Furthermore, this adverse impact is compounded by the negative (nonlinear) effects of climate change ($\beta_2 = -0.75$; adjusted $R^2 = 0.28$; $p < 0.10$) on the real output. These results provide support for proposition that higher levels of overtourism in Caribbean SITES are positively associated with relatively more ecological stress (Proposition 1).

In terms of the labor market impact, the results of the quadratic regression analysis indicate that overtourism has a negative (curve-linear) effect on labor force participation

($\beta_2 = -2.14$; adjusted $R^2 = 0.29$; $p < 0.05$), which depicts a tourism overrun and exhaustion of the domestic labor market and tourism workforce capacity. Further analysis indicates that overtourism has a negative (curve-linear) effect on real GDP growth between 1995 and 2018 ($\beta_2 = -5.28$; adjusted $R^2 = 0.39$; $p < 0.05$) and is a significant source of output volatility – as measured by the output variance – in selected Caribbean SITEs ($\beta = 0.84$; adjusted $R^2 = 0.23$; $p < 0.05$). The results suggest that beyond a certain optimum state of tourism intensity, density and dependency, there is an exponentially adverse effect on the socioecology of selected Caribbean SITEs, including Anguilla, Aruba, British Virgin Islands, Cayman Islands, St. Maarten and the US Virgin Islands. These findings provide support for proposition that higher levels of overtourism in Caribbean SITEs are positively associated with relatively lower labor force participation and higher economic volatility (Proposition 1). Moreover, the results indicate that the impact of overtourism in Caribbean SITEs is transmitted through both direct as well as indirect channels (Proposition 2).

Turning toward to the antecedents of overtourism (see Table 6), the results indicate that three *supply-oriented* components influence the state of overtourism (adjusted $R^2 = 0.81$; $p < 0.05$). A significant association is found for tourism supply chain ($\beta = 0.47$; $p < 0.01$). Likewise, tourism infrastructure ($\beta = 0.30$; $p < 0.05$) and tourism export specialization ($\beta = 0.25$; $p < 0.05$) show significant positive relationships with the state of overtourism. From an international tourism *demand-based* perspective, the relative tourism market share (in the Caribbean) has a significant positive effect on the state of overtourism ($\beta = 0.26$; $p < 0.05$). Although the tourism supply chain effect shows a relatively stronger association, the findings indicate that there is no single factor that determines the extent or state of overtourism. Rather, it is a combination of mutually reinforcing supply and demand conditions and the multiplicative forces that shape the state of overtourism in selected Caribbean SITEs. These results provide support for proposition that higher levels of overtourism in Caribbean SITEs are positively associated with both international tourism demand and supply factors (Proposition 4).

5. Discussion

In reviewing the overall findings of this study, the general results corroborate previous research (Acevedo *et al.*, 2017; Baldacchino, 2006; Bishop, 2010; Capocchi *et al.*, 2019; Dodds and Butler, 2019b; Duval, 2004; Joppe, 2019; McElroy, 2006; Scheyvens and Biddulph, 2017; Richter, 1994; Williams and Ponsford, 2008) and support the research propositions (see Table 7). More specifically, the research indicates that there are significant differences between sovereign and nonsovereign SITEs in the Caribbean.

Nonsovereign SITEs are more likely to experience a higher propensity for overtourism and the adverse effects and risks thereof. Their longstanding outward economic growth orientation is geared at increasing tourism exports and fostering tourism investments, with a constant focus on expanding airlift, cruise calls and related tourism infrastructures and

Independent components	Dependent component: overtourism state		
	Coefficient (β)	<i>t</i> -test	Significance
Tourism supply	0.47	4.89	**
Tourism style	0.30	2.41	*
Tourism specialization	0.25	2.21	*
Tourism market share	0.26	2.24	*
Adjusted R^2	0.81		
Note(s): **($p < 0.01$) and *($p < 0.05$)			

Table 6. Antecedents of overtourism in selected Caribbean SITEs

Table 7.
Support for research
propositions

Proposition	Support	Reference studies and theories
In comparison to nonsovereign Caribbean SITEs, sovereign Caribbean SITEs experience significantly higher levels of overtourism	Support	Baldacchino (2006), Bertram (2004), Cole (2007) and McElroy (2003)
The impact of overtourism in Caribbean SITEs is transmitted through both direct channels as well as indirect channels	Support	Capocchi <i>et al.</i> (2019), Crandall (1994), Dodds and Butler (2019b), Joppe (2019) and Koens <i>et al.</i> (2018)
Higher levels of overtourism in Caribbean SITEs are positively associated with , lower labor force participation, more ecological stress and higher economic volatility	Support	Bishop (2010), Butler (1980), Dodds and Butler (2019b), Farrell and Runyan (1991), Gupta and Vegeling (2016), Joppe (2019), Marsiglio (2018), Meier (2001), Raworth (2017), Richter (1994) and Scheyvens and Biddulph (2017)
Higher levels of overtourism are associated with both international tourism demand as well as interdependent tourism supply factors	Support	Acevedo <i>et al.</i> (2017), Cole (2007), Dodds and Butler (2019b) and Joppe (2019)

services. These progrowth tourism policies usually entail numerous fiscal and economic incentives, including e.g. tax holidays, government guarantees and special concessions for international tourism investors and contractors. Furthermore, the private tourism sector is actively involved in the shaping of tourism policies and is an (in)direct beneficiary of tourism (tax) revenues.

The tourism infrastructure in nonsovereign SITEs is mainly characterized by large scale and international chain resorts, which are mostly concentrated in coastal areas. In addition, nonsovereign SITEs enjoy frequent cruise calls and experience higher cruise intensity levels. Their past tourism achievements have been rewarded with numerous destination marketing and branding awards, and they enjoy a relatively popular reputation among visitors, which reinforces further tourism intensity and export specialization.

Their subsequent demographic development is characterized by a comparatively large migrant labor stock and high population density, mainly due to tourism labor immigration stemming primarily from the increasing specialization in and style of tourism. The confluence of these factors generates higher coastal density levels and environmental pollution in nonsovereign tourism dependencies. Although not immune to the gradual “slow-burn” effects of global warming and sea level rise, nonsovereign SITEs are also comparatively less prone to the costs of extreme weather events when compared to sovereign SITEs.

These findings support previous studies that demonstrate an aggregate effect of multiple economic forces that shape and generate overtourism over time and space (Cole, 2007; Dodds and Butler, 2019b; Joppe, 2019; McElroy, 2006). More specifically, the results indicate that there are three main factors that engender a state of overtourism. These supply-driven factors are tourism export specialization, tourism supply chain and tourism infrastructure style. Furthermore, the propensity for overtourism is also influenced by international tourism demand and relative tourism market share. Thus, both tourism supply and tourism demand actively influence and shape the evolution of overtourism in select Caribbean SITEs; hence, supporting this study’s proposition that both international tourism demand as well as tourism supply affect the propensity for overtourism in Caribbean SITEs.

In terms of the effects of overtourism in select Caribbean SITEs, the findings indicate that the state of overtourism has an adverse impact on environmental and social conditions, as well as fueling relatively lower and more volatile economic growth. These findings support previous studies that indicate that social, ecological and economic impacts of overtourism are likely to coalesce (Budowski, 1976; Cole, 2007; Dodds and Butler, 2019b; Duval, 2004; Farrell and Twinning-Ward, 2004; Joppe, 2019; Mathieson and Wall, 1982; Marsiglio, 2018;

McElroy, 2006; Scheyvens and Biddulph, 2017). With regard to the quality of the environment, overtourism is positively associated with increased ecological pressures and stress due to the high concentration and density of (large) resorts and visitor hordes in specific coastal areas and delicate ecological zones. These negative environmental impacts accelerate exponentially over time upon exceeding local ecological absorptive capacities and surpass the ecological boundaries of Caribbean SITEs (Farrell and Runyan, 1991; Marsiglio, 2018; Raworth, 2017; Williams and Ponsford, 2008).

With reference to social conditions, overtourism produces significant pressures on the local labor market, thereby generating a surge in labor demand and the subsequent influx of substantial foreign labor immigration, which bring about considerable urbanization and increased population density, thus generating increasing levels of crowding and congestion in coastal areas. In the long run, the rise in the labor force is conducive to downside pressures on income equality and labor force participation in addition to eroding social capital (Bishop, 2010; Raworth, 2017; Richter, 1994; McElroy, 2006). Furthermore, decreasing levels of labor force participation can generate significant pressures on social costs and government expenditures (Dodds and Butler, 2019b).

From an economic perspective, the findings indicate that the state of overtourism has an adverse effect on economic stability due to several interrelated factors, including diminishing real GDP growth rates and increased output volatility. The results support previous studies and suggest that if persistent, these adverse conditions create downward pressures on real GDP per capita growth and abate economic well-being in the long run. This negative effect is, furthermore, exacerbated by the exhaustion of socioecological qualities in addition to accelerating climate change impacts.

6. Conclusions

This study explored the state, antecedents and effects of overtourism in sovereign and nonsovereign SITEs in the Caribbean. The aim of the exploratory research was to identify the differentiating overtourism qualities between sovereign and nonsovereign Caribbean SITEs and, subsequently, to examine the driving factors and impacts of overtourism in the Caribbean.

In terms of the first research question – *how do sovereign and nonsovereign SITEs in the Caribbean differ?* – the results indicate that (selected) Caribbean dependencies have a unique tourism profile that is relatively more conducive to overtourism. While politically and culturally diverse, these nonsovereign SITEs share several common features, including higher intensity, density and dependency levels on tourism service exports. They have a strong outward orientation toward trade and tourism specialization, which results in significantly more airlift and cruise calls, and relatively larger tourism market share in the Caribbean.

The expansive progrowth tourism policies in Caribbean dependencies are also conducive to more tourism labor immigration and higher population density, especially in coastal zones. Due to their relatively smaller coastal length and less beach space, in addition to relatively less (frequent and intense) extreme weather conditions, nonsovereign Caribbean SITEs also experience a higher density of (large-scale) coastal resorts, more beach visitors and amenities and the commensurate ecological pressures and environmental pollution that follow suit.

With reference to the second question – *what are the main drivers and impacts of overtourism in select Caribbean SITEs?* – the conclusions show that overtourism is shaped by both tourism supply and tourism demand forces, involving a combination of tourism export specialization, tourism supply chain and tourism architectural style. Conversely, international tourism demand and market share also influence the state of overtourism. Due to the dynamic, multifaceted and path dependent nature of overtourism, the adverse

externalities and impacts are experienced across social and ecological dimensions as well as economic stability. In addition to generating social inequality and environmental decay, overtourism also engenders diminishing real GDP growth and significant output volatility.

These results support the theoretical assumptions of development economics and previous political economic tourism studies in the Caribbean. More specifically, the findings confirm the adverse economic, social and environmental impacts of uncontrolled tourism growth and the potential societal backlash that may follow against tourism and visitors. By focusing exclusively and systematically on the (rapid) pace of tourism expansion for short-term gains rather than the pattern and productivity of tourism development for the long run, overtourism spurs extractive and noninclusive growth.

Although restricted to an exploratory study of selected Caribbean SITEs, the findings of this investigation provide a theoretical expansion and empirically enriched framing of the overtourism concept, including the antecedents and effects of overtourism and the dynamic interrelationships. By employing a political economic lens on the prominence of overtourism in Caribbean SITEs, the findings of this study contribute to a relatively more contextualized framing of the complexity and dynamics of overtourism, especially within the context of small island tourism politics and politicking. This conceptual model of overtourism provides several avenues for future research, including, but not limited to, the application and validation of the model in large(r) Caribbean and nonCaribbean SITEs and continental cities and metropolitan areas. Moreover, contingent upon available data, the application of econometric analysis, such as structural equation modeling or path analysis would provide further empirical scrutiny. Likewise, future studies should aim to incorporate larger and more complete datasets for hypothesis modeling and testing.

Alternatively, in-depth case studies could be conducted with a specific emphasis on the market and institutional forces that shape overtourism over time, thereby providing a more qualitative and politically enriched understanding of overtourism in the Caribbean future research which is also required to assess and quantify the total costs of overtourism in Caribbean SITEs, especially from a future oriented perspective. Simulation and scenario studies are highly recommended to build robust and future-proof evidence-based policies for mitigating and adapting to the risks of overtourism and climate change. More importantly, future studies should explore and assess the effectiveness of different tourism policy measures and tourism governance mechanisms for mitigating the risks of overtourism and adapting tourism systems in SITEs.

Acknowledging the exploratory nature and the delimitations of this study, the findings hold several policy implications for strengthening the resilience of Caribbean SITEs in the wake of the COVID-19 pandemic and other structural vulnerabilities, such as climate change. First and foremost, the findings testify to the contextual and dynamic nature of overtourism and more importantly to the need to address social and ecological developments explicitly, extensively and urgently in economic policies and institutional arrangements, especially in nonsovereign and tourism-dependent small island economies in the Caribbean. From a tourism policy measurement perspective and in line with the principles of sustainable tourism, Caribbean tourism authorities should adopt noneconomic measures of tourism growth and development. More importantly, social, labor, educational and environmental data compilation and analysis should be integral to the governance of tourism, especially in Caribbean SITEs, which are significantly more at risk from the negative externalities of relentless tourism growth in a small open economy. Including a more balanced mix of tourism impact measures would also provide an important feedback and feed forward loop to future tourism developments. Moreover, the responsible and related diversification of these political tourism economies would also benefit less volatile economic growth.

Furthermore, the results indicate that in the absence of structural reforms and policy reorientations, including, labor market reforms, targeted social and education programs,

environmental and urbanization policies and regulatory enforcement, the state of overtourism generates lower labor force participation, uneven income distribution and stagnant workforce development, in addition to rising environmental degradation and coastal erosion. To foster more inclusive and responsible forms of tourism and mitigate the risks of overtourism, Caribbean tourism authorities would benefit significantly from expanding the time horizons of current and future tourism developments by considering long-term developments in, e.g. social demographics, the labor force and economic well-being. Consideration should be given to strengthening labor force participation and equality, particularly of younger professionals. Likewise, to limit the adverse effects of overtourism, the enforcement of prudent tourism and environmental regulations is recommended, including the use and application of (geographic) zoning rules and maintaining capacity limits for fragile ecological areas. In addition, it is fundamental that the pacing of tourism development is incorporated in medium to long-term development.

In the long run, overtourism fuels diminishing economic growth and increasing economic volatility. Rather than simply devising buffers for absorbing shocks and bouncing back to previous dependent paths of stagnant economic growth, fostering 21st century resilience of Caribbean SITEs requires building innovation and institutional capabilities to anticipate shocks, to adapt and learn, and bounce forward toward new paths of development. Thereto, it is essential that Caribbean tourism destinations build and extend their collaborative platforms with multiple stakeholders, including social and environmental agencies and nongovernmental organizations. More critically, tourism governance matters, and the ability to govern judiciously matters even more in Caribbean SITEs that are now experiencing an unprecedented economic crisis in the wake of the global health pandemic.

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