AN ANALYSIS OF THE RELIANCE OF SMALL ISLAND DEVELOPING STATES ON TOURISM

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Abstract

Small Island Developing States (SIDS) include low-lying coastal countries that share similar sustainable development challenges. For example, SIDS have limitations in regards to the raw materials, skilled labor, and technology necessary to compete in the global export markets. Therefore, tourism has become one of the most important industries in most SIDS and it is important to understand the true nature and impact of tourism in these countries. The purpose of this paper is to examine the reliance on tourism by SIDS countries relative to Non-SIDS countries. This study uses panel data from 1995 through 2010 for all of the countries in the five regions where there are SIDS. The findings demonstrate that there is a significant difference in tourism as a percentage of GDP, with SIDS having a higher percentage. Also, the comparison of other tourism variables suggests that SIDS rely more on tourism than Non-SIDS.

An Analysis of the Reliance of Small Island Developing States on Tourism

1. Introduction

Tourism is a multi-billion dollar industry and it is normally one of the top three industries in most countries throughout the world, regardless of the country's level of development. In fact, developing countries tend to rely more on tourism because they don't have other products that they can export due to a lack of production and technological expertise (McIntyre, 2011; Sinclair, 2002). Tourism can contribute in terms of increased income and employment. For example, tourism has become the top priority for the government of South Africa to eliminate the country's socio-economic inequality (Muhanna, 2007), and Cuba is in the process of developing a sustainable tourism industry (Winson, 2006). In particular, small developing island states (SIDS) have limitations in regards to the raw materials, skilled labor, and technology necessary to compete in the global export markets.

Small Island Developing States (SIDS) include low-lying coastal countries that share similar sustainable development challenges, including small populations, limited resources, remoteness, vulnerability to global developments and external shocks (such as natural disasters), and excessive dependence on international trade. Their growth and development is often further inhibited by high transportation and communication costs, high government spending on public administration and infrastructure, and an inability to create economies of scale. The group, SIDS, was first recognized at a United Nations conference in June 1992, and the first Global Conference on Sustainable Development of SIDS was held in Barbados in April 1994. Currently, there are fifty-two small island states (and territories) included in the list used by the United Nations Department of

Economic and Social Affairs in monitoring the sustainable development of SIDS. These countries are often categorized by their three regions: Africa, Asia & Pacific, and Latin America & Caribbean. These states and territories also work together in the United Nations through the Alliance of Small Island States (AOSIS).

The purpose of this paper is to examine the importance of tourism for small developing island states (SIDS) relative to other Non-SIDS countries. In addition, an analysis is performed to determine if there are significant differences between SIDS based on geographic location. The following discussion provides a background of the previous research in the field of tourism as it relates to SIDS and sustainability. In most cases, the analysis is either conceptual or it focuses on one country as a case study. In some instances, the study includes a few countries, but researchers have seldom included all SIDS in the research design. The three regions where SIDS are most prevalent are Sub-Saharan Africa, East Asia & Pacific, and Latin America & Caribbean.

2. Literature Review

There has been a good deal of research in the area of sustainable island development. The studies range from Caribbean countries (Craigwell and Maurin, 2007; Griffith, 2002) to European countries (Chen, 2006; Sharpley, 2003), and global analyses including island nations throughout the world (Shareef and McAleer, 2006). Most of these articles examine the impacts of tourism on small islands and developing nations, while some focus on forecasting tourism demand and managing destinations (Carlsen, 1999). This research leads to discussions on policy issues facing islands such as ecotourism in Cuba (Winson, 2006) or the effects of climate change (Belle and

Bramwell, 2005; Ghina, 2003). The final result is a comprehensive overview of the effect of tourism on the overall economic development of islands and how they can prosper by controlling the development process (Kokkramikal et al., 2003; Sahli and Nowak, 2007).

Craigwell and Maurin 2007) established a reference cycle (based on real output) for Barbados over the quarterly period 1974-2003, and linked the aggregate output cycle to the cycles of the individual sectors that comprise real output. The authors concluded that the tourism cycle closely resembled that of the aggregate business cycle. Griffith (2002) looked at four Caribbean Community and Common Market (CARICOM) countries to examine their economic performance, including tourism, from about 1970 to 1997. The article explains the expansion of tourism in Barbados from a luxury destination to a mass-appeal destination with many companies benefiting, including hotels, taxis, handicraft shops, and local food producers. Additionally, all of the same products available to tourists were made available to the locals, resulting in a favorable environment for tourism expansion and a high percentage of repeat visitors. Initially, other countries did not take advantage of the favorable international environment for tourism expansion. For example, the government of Trinidad and Tobago did not encourage export tourism, Guyana did not take advantage of eco-tourism opportunities, and Jamaica suffered to some degree from its choice of export markets. Over time, most of the countries did improve once they realized the importance of tourism to the economy. Other studies examined policy issues for island nations as well. Altinay and Hussain (2005) questioned the environmental impacts of accommodations investments in North Cyprus, and Jayawardena (2003) evaluated the future of tourism in Cuba.

Chen (2006) combined quantitative and qualitative techniques to develop a multi-dimensional model that includes modules for geographic information system applications, economic impact assessment, forecasting modeling, accessibility modeling, seasonality modeling and alternative modeling. The 'Gederi' project that resulted in the island tourism multi-dimensional model (ITMDM) was funded by the European Union involving 11 island regions of Europe: Balearics (Spain), Bornholm (Denmark), Crete (Greece), Corsica (France), Gotland (Sweden), Gozo (Malta), Ionian (Greece), Sardinia (Italy), Sicily (Italy), Western Isles (Great Britain) and Aland (Finland). The eight main themes include: (1) what the meaning of accessibility is in the island environment, (2) sustainable tourism in the islands, (3) what strategies can be adopted to encourage people to remain living on or move to islands suffering from depopulation, (4) how the mismatch between the supply of training and the demands of the employment market in the island environment can be resolved, (5) how the image of the island can be used as a means of developing and marketing local products, (6) how to improve the islands' rapid response capability in the face of major natural or environmental risks, (7) what sort of higher education policies could make an effective contribution to the economic development of the islands and (8) which integrated strategy for the development and management of island regions?

Tourism is often the principal source of employment and foreign exchange earnings for island states, and the dominant economic sector (Ghosh, 2011). Sharpley (2003) conducted a case study on the island of Cyprus to address the issue of over-dependency by island states on tourism, thereby restricting overall economic development. The case study demonstrates that promoting mass tourism has proven to be

an effective vehicle of development, including the socio-economic development of the island since the mid-1970s. The author concluded that promoting sustainable or 'quality' tourism might not be as effective as the mass marketing approach. Additionally, Kokkranikal et al. (2003) addressed the issue of the added importance of sustainability-oriented tourism development for islands, given the fact that they face geographic, environmental, structural, and political limitations. In the case of Lakshadweep it was found that this approach proved effective in minimizing the negative impacts of tourism. Mycoo (2006) examined the policies employed in Barbados to determine if there was a real focus on sustainable tourism. It was found that there were some things done 'indirectly' that benefited the island in this regard, but there weren't formal policies in place to ensure long-term success, or sustainability. Finally, Cabo et al. (2007) studied the phenomenon referred to as 'Dutch Disease' in regard to the economies of two Spanish islands (i.e., Balearics and Canary Islands). Dutch disease is a condition that describes the reaction of a rapidly growing economy on finding new export uses for natural resources at the expense of long-term economic growth. The results showed that the islands experienced a reduction in their levels of education and training in the labor force, innovation, and technological progress, thereby compromising their prospects for long-term growth.

Some authors used 'small island developing states' (SIDS) to examine sustainable tourism because they are unique in nature regarding limited resources and dependence on tourism. For example, Fotiou, Buhalis and Vereczi (2002) used SIDS in their examination of the necessary components for sustainable ecotourism development. Ghina (2003) explored the status of sustainable development in SIDS using the Maldives

as a case study. SIDS face challenges such as ecological fragility and economic vulnerability, but the author felt that the main challenge was environmental vulnerability – e.g., climate change. The increased frequency of events such as extreme weather and sea-level rising will threaten the sustainability of the economy (e.g., tourism), and it is, therefore, incumbent upon developed countries to provide assistance (financial and technical) to SIDS.

Similarly, Belle and Bramwell (2005) examined the importance of policies addressing climate change impacts on the coast and ecosystems of Barbados, and how policy makers and tourism managers differed. The researchers found that tourism managers didn't view policy interventions as favorable as the government policy makers, even though both felt it was very likely to be damage to the coast and the ecosystems. Subsequently, Amelung and Viner (2006) used a tourism climatic index to examine possible climate change scenarios for the Mediterranean region and they provided a case study on the Balearic Islands. Climate was determined to be a competitive advantage for the islands and any drastic changes in climate could have a long-lasting negative impact on the region.

Another vein of research on sustainable tourism development involves the dependence (or over-dependence) of small economies on tourism and the long-term effects. Ayres (2000) showed concern for the increasing dependency of Cyprus on tourism and the social, cultural, and environmental costs associated with continued development. Vanegas and Croes (2003) discussed the evolution of tourism in Aruba and mentioned the positive impacts like income generation and employment. However, the authors also mentioned some of the drawbacks like financial outlays and the social,

cultural, and environmental impacts that are more difficult to assess. Scheyvens and Momsen (2008) addressed the notion that negative conceptualizations of small island states as environmentally vulnerable and economically dependent can be problematic for sustainable tourism development. Instead, the authors focused on the strengths of small island states such as the natural beauty, cultural capital, and good economic performance.

Aiyer (2008) viewed the United Nations grouping of small island developing states with landlocked developing countries and least developed countries as a suggestion that small states are on a par with the least developed countries. The analysis determined that policies and institutions utilized by various countries was more important in determining GDP and GNI (after controlling for location) than the size of the country. The researcher also discussed the inherent advantages and disadvantages of small states and concluded that small states receive disproportionate benefits from tourism (e.g., they have the most beaches and exotic scenery), and that tourism rises as world prosperity increases.

Other researchers have proposed new methods for managing island destinations. Carlsen (1999) suggested a systems approach for small island tourism destinations using soft systems methodology (SSM). The advantages of SSM are that it can accommodate social and environmental processes, as well as economic factors. This is an extension of previous approaches that focused mainly on economic impact. Shareef and McAlteer (2005) examined the level of volatility and its impact on international demand for small island tourism economies (SITEs). The researchers pointed out the importance of accounting for the conditional variance in tourism demand models in an attempt to improve tourism policy and marketing decisions. Sahli and Nowak (2007) proposed a

trade theoretic approach for modeling the role of inbound tourism on overall economic development. In particular, the researchers set out to prove that there are negative economic impacts from tourism, other than the leakages, in addition to the well-documented negative social and environmental impacts. They use the general macroeconomic equilibrium technique (CGE) to demonstrate the necessity to focus on the level of labor and land use related to tourism.

Reddy (2008) developed a set of sustainable tourism rapid indicators (STRIs) and integrated them into the sustainable tourism development (STD) research using Andaman and Nicobar Islands in Asia. The STRI development framework involved five stages: 1) identification of potential indicators, 2) referral based on other research, 3) cross-checking and measuring possibilities using key informant surveys on local stakeholder groups, 4) test the STRI process using key informant surveys on tourists and residents, and 5) assessment and justification to determine if indicators are rapid, reliable, and suitable based on the survey data. This process resulted in 7 economic STRIs: demand and supply of local services, wages evaluation, quality of accommodation, tourist expenditure pattern, tourism employment index, ownership of tourism firms, and empowerment of small-scale industries and local skills. This process was for one group of islands at one point in time, so future research needs to address other islands over a longer time period.

Another model is proposed by Lim and Cooper (2009) to aid in optimizing island tourism development. The authors combine three theoretical models (processes of change, complexity and chaos theory, and dialectical analysis) to create their multifunctional interactive process cycle (MIPC). The model is calibrated using a set of

island tourism statistical indicators (ITSIs) that are collapsed into four factors that provide the parameters to identify the stages of island tourism development. The ITSIs are similar to the components of the external environment in marketing, and the four factors that were identified are: external, internal, managerial, and key factor. The MIPC is meant to be an improvement on the traditional tourist area life cycle (TALC) theory.

3. Methodology

The data for this study consist of six economic variables obtained for a panel of countries from the World Bank Group's WDI Online database for the period 1995 through 2010. This range was chosen because 1995 was the first year that the travel and tourism data was available, and 2010 is the most recent year with complete data. The variables include tourism expenditures, tourism receipts, tourism receipts as a percentage of total exports, and tourism expenditures as a percentage of imports. The panel consists of 42 SIDS in five regions throughout the world (see Table 1).

[Insert Table 1 here]

The majority of SIDS countries in the panel are in the 'East Asia & Pacific' (15) and 'Latin America & Caribbean' (19) regions. There are six (6) in the 'Sub-Saharan Africa' region and only one (1) each in the 'Middle East & North Africa' and 'South Asia' regions. The final panel consisted of these 42 SIDS countries and 151 Non-SIDS countries. The analysis focuses on the differences in tourism between SIDS and Non-SIDS, and between income levels, for the entire panel of countries. The comparison of

countries by SIDS status is evaluated using independent samples t-tests and the relationships between SIDS status, income category, and tourism receipts as a percentage of GDP are evaluated using a general linear model (GLM) for Analysis of Variance (ANOVA).

4. Results

The results of the mean comparisons between SIDS and Non-SIDS were significant for five out of six tourism-related variables: tourism expenditures, tourism receipts, receipts as a percent of exports, expenditures as a percentage of imports, and receipts as a percentage of GDP (see Table 2). The tourism trade balance (receipts – expenditures) was slightly higher for Non-SIDS ($322 million) than SIDS ($310.7 million), but the difference was not significant. In fact, the average trade balance for the two was very similar. This is interesting given the small gap between average receipts and average expenditures for Non-SIDS (approximately $106 million) compared to the larger gap for SIDS ($304.4 million, which is consistent with the average trade balance). The reason is that the trade balance was calculated for each country and then averaged, whereas the averages for receipts and expenditures were calculated independently. In other words, the trade balance for some countries was relatively large compared to the overall averages for receipts and expenditures. A positive tourism trade balance indicates that foreign tourists are spending more money in a host country than the amount of money residents of the country are spending while traveling to other countries. In other words, tourism exports exceed tourism imports, and the country is able to obtain more foreign currency.

[Insert Table 2 here]

The most telling results were that receipts as a percentage of exports and receipts as a percentage of GDP were much larger for SIDS (36.19%; 15.68%) than Non-SIDS (10.70%; 4.14%). This would suggest that tourism is a more important component of the economy for SIDS, and that SIDS rely more on tourism than Non-SIDS countries that have other industries (e.g., product manufacturing) that contribute to the country's GDP. The difference between SIDS and Non-SIDS for expenditures as a percentage of imports was also significant, with SIDS (6.95%) having a higher percentage than Non-SIDS (6.31%). This isn't directly related to a country's reliance on tourism, but it shows that increased tourism receipts can lead to a higher standard of living and more discretionary income that can be used to travel overseas (i.e., import tourism).

4.1 Tourism Receipts as a Percentage of GDP by SIDS Status and Income Category

The next stage of the analysis focused on whether there was an interaction effect between SIDS status and income on tourism receipts as a percentage of GDP. All of the countries in the panel, both SIDS and Non-SIDS, were grouped according to the income categories based on 2011 data on Gross National Income (GNI) per capita calculated using the World Bank Atlas method. The following four categories were used in the analysis:

- Low income ($1,025 or less)
- Lower middle income ($1,026-4,035)
- Upper middle income ($4,036-$12,475)
- High income ($12,476 and above)

The main effects for SIDS status and income category were both significant at the .001 level (see Table 3a). The result for SIDS status is similar to the result from the t-test in Table 2.

[Insert Table 3a here]

The main effect for income category was evaluated further using a mean separation test (i.e., Duncan test) to determine the significance between the four categories for the entire panel (SIDS and Non-SIDS combined). Table 3b contains the results of this analysis. The income category with the highest value of tourism receipts as a percentage of GSP was 'upper middle income' (8.75%). This was followed by 'high income' (7.57%), 'lower middle income' (4.79%), and 'low income' (3.40%). The values for all four categories were significantly different from one another. In general, the higher income categories relied more on tourism than the lower income categories.

[Insert Table 3b here]

Finally, the analysis focused on the interaction effect between SIDS status and income category on tourism receipts as a percentage of GDP. The interaction effect was significant (F=90.896, p=.000) as shown in Table 3a. Figure 1 provides a visual illustration of the interaction effect. The trend for Non-SIDS is a slight increase as income increases, after a slight decrease from 'low income' to 'lower middle income.' As for SIDS, there is a steep upward trend as income increases from 'low income' to

'upper middle income', before dropping from 'upper middle income' to 'high income.'
However, the value for the 'high income' category is still greater than that of the two
lower income categories. In other words, the income category has a much greater impact
on tourism receipts as a percentage of GDP for SIDS than for Non-SIDS.

[Insert Figure 1 here]

5. Conclusions

It is clear from the findings of this study that small island developing states rely
heavily on tourism in terms of economic impact (e.g., tourism brings outside money and
capital into the country). Even though the absolute level of tourism receipts (exports) for
SIDS were significantly lower than for Non-SIDS countries, the receipts represented a
significantly higher percentage of total exports. This could be partly due to the limited
ability of islands, especially small developing island states, to provide a large array of
competitive products and services to export. However, it could also be the result of a
conscious effort on the part of SIDS to set policies and allocate resources for tourism at
the expense of other industries, thereby reducing the level of exports. Fortunately, the
absolute level of tourism expenditures (imports) is also lower for SIDS, and the trade
balance is similar for all countries.

It wasn't surprising that the importance of tourism tended to increase as the level
of income increased. The more developed the country, the more appealing it is to most
tourists. Also, as the tourism industry attracts more foreign currency into the economy,
the standard of living improves, as do the conditions for tourists. Finally, the increased

standard of living makes it easier for the country's residents to travel to other countries, thereby increasing the level of tourism expenditures (imports).   The impact of income on SIDS was more pronounced, which suggests that SIDS with higher standards of living attract more tourists because they have better economies and infrastructures, they are more politically stable, and they have nicer beaches and more tourist attractions. However, 'high income' SIDS seem to be developing other industries as the economy improves, thereby decreasing their reliance on tourism.

5.1 Limitations and Future Research

One of the limitations of this study was that the time period only covered 16 years starting in 1995. However, it was the most recent 16 years and it was the only period for which the database provided the tourism-related figures. Another limitation is that the countries were evaluated in the aggregate, so it was difficult to isolate any specific reasons for the differences between SIDS and Non-SIDS. Every attempt was made to include all of the SIDS on the list provided by the United Nations, but some of the countries (or territories) were not part of the World Bank database. In the future, data from multiple sources could be integrated into one large database, and more variables could be included in the analysis (e.g., environmental sustainability, tourism infrastructure, etc.).

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Table 1. List of SIDS by Region

Sub-Saharan Africa	East Asia & Pacific	Latin America & Caribbean	Latin America & Caribbean
Cape Verde	American Samoa	Antigua and Barbuda	St. Lucia
Comoros	Fiji	Aruba	St. Vincent and the Grenadines
Guinea-Bissau	French Polynesia	Bahamas, The	Suriname
Mauritius	Kiribati	Barbados	Trinidad and Tobago
Sao Tome and Principe	Marshall Islands	Belize	
Seychelles	Micronesia, Fed. Sts.	Cuba	
	New Caledonia	Dominica	
	Palau	Dominican Republic	
Middle East & North Africa	Papua New Guinea	Grenada	**South Asia**
Bahrain	Samoa	Guyana	Maldives
	Singapore	Haiti	
	Solomon Islands	Jamaica	
	Timor-Leste	Netherland Antilles	
	Tonga	Puerto Rico	
	Vanuatu	St. Kitts and Nevis	

Table 2. Tourism Performance by SIDS versus Non-SIDS

Tourism Variable	SIDS	Non-SIDS	T-Statistic	Significance
Expenditures	411147476.64	4774804200.55	-15.421	.000
Receipts	715560032.20	4880725720.70	-14.775	.000
Receipts/Exports	36.19	10.70	24.841	.000
Expend/Imports	6.95	6.31	3.300	.001
Receipts/GDP	15.68	4.14	19.746	.000
Trade Balance	310713996	322010418	-0.072	.943

Table 3a. Tourism Receipts as a % of GDP by SIDS vs. Non-SIDS and Income Group

Tests of Between-Subjects Effects

Dependent Variable: Tourism receipts as a % of GDP

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	86505.434[a]	7	12357.919	199.913	.000
Intercept	97636.882	1	97636.882	1579.466	.000
SIDS	28623.305	1	28623.305	463.037	.000
IncGrp	20542.981	3	6847.660	110.774	.000
SIDS * IncGrp	16856.636	3	5618.879	90.896	.000
Error	171540.524	2775	61.816		
Total	374985.743	2783			
Corrected Total	258045.959	2782			

a. R Squared = .335 (Adjusted R Squared = .334)

Table 3b. Tourism Receipts as a % of GDP by Income Category

Tourism receipts as a % of GDP

Duncan[a,b,c]

Income Group	N	Subset			
		1	2	3	4
Low Income	431	3.3990			
Lower Middle Income	773		4.7939		
High Income	800			7.5703	
Upper Middle Income	779				8.7460
Sig.		1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 61.816.

a. Uses Harmonic Mean Sample Size = 650.666.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = 0

Figure 1. Interaction Effect of SID and Income on Tourism Receipts as a % of GDP