Analysing the Effect of Tourism on Economic Growth: In the Case of Selected Small Island Developing States

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ABSTRACT

This study used a relatively novel model of heterogeneous panel autoregressive distributed lag cointegration (ARDL) for reanalyzing Granger causality association amongst tourism growth and economic development in the selected small island developing states (SIDSs). Furthermore, energy usage and foreign direct investment (FDI) are incorporated as alternate development factors, from 1995 to 2014. For a complete and robust analysis, a panel of 10 SIDSs was applied in this study like Bahrain, Cyprus, the Dominican Republic, Haiti, Jamaica, Iceland, Malta, Mauritius, Sri Lanka, and Singapore between 1995 and 2014 from the online database of World Bank.

Subsequently agreeing on the heterogeneous nation-state impact, significant equilibrium long-run association amongst tourism, energy usage, FDI, and GDP, with a reasonable convergence ratio is verified. Empirical findings of the study support tourism-induced growth, tourism-induced energy consumption, tourism-induced investment, and the energy consumption-economic growth association in the case of SIDSs. Our empirical results resound with the relevant studies and offer the main policy proposition in the case of SIDSs.

Keywords: cointegration; dynamic panel model; economic growth; granger causality; small island developing states tourism earnings.

ÖZ

Bu çalışmada, gelişmekte olan küçük ada ülkelerindeki (SIDS) turizm ve ekonomik kalkınma arasındaki Granger nedensellik ilişkisi yeniden analiz edilmiştir. Bunun için nispeten yeni bir heterojen panel otoregressif dağıtılmış gecikmeli eşbütünleşme modeli kullanılmıştır (ARDL). Ayrıca, alternatif kalkınma faktörleri olarak 1995'ten 2014'e kadar olan enerji tüketimi ve doğrudan yabancı yatırım (DYY), oranlarıda çalışmaya dahil edilmiştir.Tam ve sağlam bir analiz yapmak için, gelişmekte olan küçük ada ülkelerinden(SIDS), Bahreyn, Kıbrıs, Dominik Cumhuriyeti, Haiti, Jamaika, İzlanda, Malta, Mauritius, Sri Lanka ve Singapur'un 1995-2014 yıllarına ait verileri kullanılmıştır.

Diğer yandan, heterojen ulus devlet etkisi konusunda anlaşmaya varıldığında, ılımlı bir yakınsama oranı ile, turizm, enerji tüketimi, doğrudan yabancı yatırımı(DYY) ve gayri safi yurtiçi hasıla(GSYİH) arasında uzun vadede pozitif ve önemli bir dengede birleşme olduğu doğrulanmaktadır. Çalışmanın ampirik sonuçları, gelişmekte olan küçük ada ülkelerinde (SIDS) turizm kaynaklı büyümeyi, turizm kaynaklı enerji tüketimini, turizm amaçlı yatırımları ve enerji tüketimi ve ekonomik büyüme arasındaki ilişkiyi desteklemektedir. Ampirik sonuçlarımız mevcut bulgularla benzerlik göstermekte olup, gelişmekte olan küçük ada ülkeleri (SIDS) için temel politik sonuçlar sunmaktadır.

Anahtar Kelimeler: eşbütünleşme; ekonomik büyüme;; granger nedensellik; dinamik panel modeli; gelişmekte olan küçük ada ülkelerinin turizm gelirleri

This thesis is dedicated to my beloved family, who mean so much to me. Their presence, efforts, heart-warming messages, supports, and encouragements made it possible to continue my education.

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LIST OF ABBREVIATIONS

ADRL	Autoregressive Distributed lag Cointegration
DFE	Dynamic Fixed Effect
DFE	Dynamic Fixed-effect
EC	Energy Consumption
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
MG	Mean Group
PMG	Pooled Mean Group
SIDSs	Small Island Developing States
TOUR	Tourism Industry
UNWTO	United Nations World Tourism Organization
VAR	Vector Autoregressive Model

Chapter 1

INTRODUCTION

1.1 Introduction

Recently tourism incomes and development stimulating economic growth are considered by academicians and policymakers. Policymakers believe that the expansion of tourism not only increases foreign exchange incomes, but also offers job opportunities, stimulates the growth of tourism, and enhances economic growth (see Balaguer & Cantavella-Jorda, 2002; Bilen, Yilanci, & Eryüzlü, 2017; Bouzahzah & El Menyari, 2013; Brida, CortesJimenez, & Pulina, 2016; Brida, Lanzilotta, Pereyra, & Pizzolon, 2015; Dritsakis, 2004; Gunduz & Hatemi-J, 2005; Lee & Chang, 2008a; Narayan, Narayan, Prasad, & Prasad, 2010; Tang & Abosedra, 2014; Khoshnevis, Salehi, & Soheilzad, 2017).

Subsequently, tourism development is considered to be an essential element of macroeconomic goals for most of the officials, administrations, and private sector as well. According to the estimations offered by the World Tourism Organization (2000), the tourism industry would encounter an upsurge of international tourists' number to 1602 million until 2020. This would result in an increased amount of tourism incomes to almost two hundred billion US$. Also, based on the estimations extracted from the World Travel and Tourism Council (2005), tourism sector's share in the international gross domestic product (GDP) of around 10.5% in 2004, augmented to 11% in 2014. By considering each facet of the tourism sector, including the expenditure of government, the consumption of tourism, exports, and

investment, tourism earnings increased by about 6% to 6 trillion US$ in 2014. Dritsakis (2004) predicted that tourism industry growth in 10 years by 2014 would be around 10 trillion US$. Subsequently, comprehensive inspection into every single facet of tourism growth and its influences on economic growth turns out to be unavoidable and considerably fundamental for policymakers, administrators, and private sector. Widespread studies consider the effect of tourism on economic growth in the long-run. Previous researches like Komiya (1967), Bhagwati and Srinivasan (1979), Krueger (1980), Helpman and Krugman (1985), Hazari and Ng (1993), Hazari and Kaur (1995), and Sinclair (1998) state that the growth of tourism results in increased levels of income.

In contrast, Hazari and Ng (1993) in their examination of the association between economic growth and tourism progress, express that tourism growth can retain adversarial influences on economic benefit, particularly in autocratic states. Katircioğlu (2010) found that transnational tourism and education positively and inelastically affected the growth of real income in the case of North Cyprus.

Recent studies such as Dritsakis (2004), Oh (2005), Lee and Chien (2008), Kreishan (2010), Georgantopoulos (2013), Lee and Brahmasrene (2013), Mustafa and Santhirasegaram (2014), Brida et al. (2015, 2016), Khoshnevis et al. (2017), and Bilen et al. (2017), to name few, convey positive effect of tourism growth on economic welfare, along with other determining factors of growth. Tourism growth depends on the infrastructure services, like electrical energy, transportations, railways, airfields, and harbors, which in turn affect the consumption of energy. Tourism includes customer hosting as well as offering several vehicles. Lee and Brahmasrene (2013) suggest that establishing infrastructure and touristic centers such as building areas and eating places cause enormous biological and ecological

impacts. The interest of tourists in exploring new destinations by their cars result in extensive environmental deterioration (see Akadiri, Bekun, Taheri, & Akadiri, in press; Becken, Frampton, & Simmons, 2001; Black, 2007; Gössling, 2002; Gössling, Hansson, Hörstmeier, & Saggel, 2002; Hall, 2004; Høyer, 2000; S. T. Katircioglu, 2009; Nepal, 2008).

According to Gössling and Hall (2006), the global warming impacts are noticeable and cause climatic variations, even though Scott (2006) claim that climatic changes show significant effects on touristic countries, which consist of highland and coastline regions as well as lakes (Jones, Scott, & Gossling, 2006). In the meantime, Tovar and Lockwood (2008) contend that the growth of tourism has mainly donated to ecological deterioration, tradition, and socio-cultural breaking up. Contrariwise Martín-Cejas and Sánchez (2010) surveyed road transportation norm by tourists and its effect on the growth of sustainable tourism. According to their conclusions, they supported tourism transport measure in destinations. Additionally, consistent with Ekanayake, Vogel, and Veeramacheneni (2003), Tsang and Yip (2007) agree that the amount of FDI impacts economic development percentage. In the interim, Hsiao and Shen (2003) maintain that economic development is a critical element that encourages foreign direct investors, whereas Zhang (2011) believe that the causative relationship among FDI and economic development is subjected to specific aspects of the country. Lee and Brahmasrene (2013) claim that FDI encourages growth and also has a substantial influence on the consumption of energy, which ultimately results in increased levels of carbon releases. They suggest that the association amongst FDI and development must be well-thought-out while outlining energy plans and emissions decrease policies, principally when stimulating FDI to accelerate economic growth. Moreover, in backing bidirectional causality

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association among FDI and economic growth, Katircioglu (2009c) convey that economic progression improves net FDI arrivals, whereas worldwide tourism encourages FDI entries in case of Turkey in the long run (Katircioglu, 2011).

Energy consumption (EC) and economic development are connected. Higher levels of energy consumption are related to higher ranks of economic development. It is likely that increased levels of economic growth possibly will affect the efficient energy usage, and henceforth end in a decrease in energy consumption. Economic development and consumption of energy could be determined conjointly, although the direction of connection among the variables is impossible to determine. According to Biesiot and Noorman (1999), the consumption of energy and economic growth found to be correlated in advance of the industrial revolution. In the interim this affiliation will result in enhanced levels of environmental pollution by means of carbon emissions, enormous industrial production which depends on the usage of fossil energy in order to maintain economic growth (Anatasia, 2015; Borhan & Ahmed, 2012; Istaiteyeh, 2016; Jumadilova, 2012; Kalayci & Koksal, 2015; Kapusuzoğlu, 2014; Ozcan & Ari, 2017).

To Halicioglu (2009), economic growth demands further energy ingestion or production for keeping the levels of output. Katircioğlu (2014a, 2014b) believes that growth in tourism activities encourages the need for energy. De Vita et al. (2015) in their investigations, noticed a long-run co-integration association among tourist entrances, economic development, emissions of carbon dioxide, and consumption of energy, in the case of Turkey. De Vita et al. (2015) believed that the environmentally friendly strategy had better not to be followed at the cost of tourism-induced development. That is estimated consumption of energy would show a positive effect on tourism and consequently a strong relationship among earnings of tourism and

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economic development. This discussion mainly concentrates on the impact of tourism on economic development in consideration of the relations among the variables. This scholarly work is an extension of the study conducted by Akadiri, Akadiri, and Alola (2017). They surveyed the tourism growth influence on emissions of carbon dioxide, applying environmentally friendly Kuznets Curve (EKC) assumption. The multivariate panel structure in case of 7 SIDSs was studied during 1995–2014. Survey discoveries displayed a negative association between transnational tourism and emissions of carbon dioxide in the long run, though it is concluded that tourism-induced EKC assumption is reliable in the selected islands. The survey concentrated on tourism development effect on the production of carbon without inspecting the economic effect of tourism and showed that there is a predictive power between tourism and economic development of these small island states.

1.2 Aim of the Study

Considering the paucity of practical studies, current investigation offers an all-inclusive practical examination of the relations amongst the variables of the study. For a complete examination, ten small island developing states (SIDSs) are sampled, and comparatively innovative heterogeneous panel autoregressive distributed lag (ARDL) cointegration approach is employed. With the aim of re-checking Granger causality connection amongst tourism and economic development in the long-term equilibrium, through including EC and FDI in selected ten small island developing states (SIDSs).

1.3 Significance of Thesis

Former studies mainly focused on the influence of tourism growth on emissions of carbon like Akadiri, Akadiri, and Alola (2017b), not focusing on the effect of

tourism on economic growth, whether tourism and economic growth have predictive power on each other in the selected small island states. This partial gap is covered in this study.

Furthermore, the current literature covering this topic is mainly focused on Pacific island and extensive countries data. In contrast, this research emphasizes the impact and long-run equilibrium association amongst tourism and economic development in sampled SIDSs.

Two crucial contributions of this survey are: first, contrasting the present literature on the same subject, current survey is among the first researches which applied the dynamic panel approach for testing the impact of tourism on other determining factors of economic development in the selected SIDSs. This investigation applied a relatively new and unique ARDL method for testing dynamic long-term equilibrium method on the base of the panel, among tourism, energy consumption, foreign direct investment, and economic development with the convergence speed in the sample of the study in the long-term. The current time-span of the study is applicable to apply dynamic panel-based estimation method. Second, according to Narayan (2004), Narayan et al. (2010), Lee and Brahmasrene, (2013), and Bilen, Yilanci, and Eryüzlü (2017) it provides a context for examining tourism earnings-economic development relations with other development variables, particularly in the case of SIDSs.

instead of 7 islands tested in the current literature. Also, contrasting the current scholarships focusing on Pacific island and large countries data, this survey mainly emphasized the effect and long-term equilibrium connection between economic development and tourism in a selection of SIDSs. This study probes the dynamic panel-based development framework by using an ARDL template frame.

1.4 Data and Methodology of Thesis

In this research, an annual frequency panel data of ten SIDSs is employed like Bahrain, Cyprus, the Dominican Republic, Haiti, Jamaica, Iceland, Malta, Mauritius, Sri Lanka, and Singapore, between 1995 and 2014 from the online database of World Bank. The restriction of the analysis to the specified period is due to the accessibility of data.The current study applies the data estimation through error-correction model (ECM) of the normal ADRL pattern by applying substitute techniques: the pooled mean group (PMG), the mean group (MG), and the dynamic fixed effect (DFE) estimators. Dynamic panel-based estimation approaches are more suitable in employing heterogeneous panel. The macro panel data in the present survey for stationarity, long-run co-integration, along with Granger causality associations were estimated. Practical outcomes display that respects to tourism, sampled SIDSs are unifying in equilibrium path through the long-term. Additionally, tourism and economic development are positively and significantly correlated with each other. The outcomes of the current survey are stout, reliable, and resonate with the present literature.

1.5 Contibution of Thesis

These results are verified by estimation procedures, model sensitivity examination, varying model specifications, and substitute growth determining factors. Our outcomes are consistent with the findings of Narayan (2004) Narayan et al. (2010), Lee and Brahmasrene (2013), and Bilen et al. (2017) for Fiji, the Pacific islands, the European Union, respectively. Current research donates to the literature is twofold: first, in contradiction of current scholarships on the same subject, this research is among the first studies to apply the econometric means of dynamic panel techniques to examine the impact of tourism along with other determining progress

factors on economic development in the selected SIDSs. New ADRL approach is applied to examine a long-term equilibrium model based on the panel, amongst tourism, foreign direct investment, economic development, and energy utilization alongside the speediness of conjunction in the sampled data of SIDSs.

The selected time- period of the survey is appropriate to apply the method of dynamic panel-based estimation. Subsequent, following the research conducted by Narayan (2004), Narayan et al. (2010), Lee and Brahmasrene (2013), and Bilen et al. (2017) offers a framework for examining and analyzing tourism earnings-economic development relations in respect to other development growth determining factors, principally in of the selected SIDSs. Furthermore, the analysis offers a base for politicians, government officials, private sector, and people to comprehend how meaningfully these associations vary from country to country. Empirical results of the study are analytic and can provide a novel and vast knowledge in the field of tourism and its economic benefits, and development policies, particularly in the selected SIDSs.

Sustainable tourism growth strategies in the SIDSs are approved to play a substantial role in the progress of some SIDSs. Conversely, poorly managed tourism development plan would, in turn, influence badly the environs which tourism industry is reliant.

Tourism, as a potential development factor in sampled SIDSs, offers potentials for economic variation in the selected SIDSs. Tourism has several connections with other economic sectors, while the primary goal of tourism development sector is increasing economic growth, producing more job opportunities, rising foreign exchange, and raising tax profits. Conversely, island states would be less interested in tourism employment opportunities if they are experiencing full employment level

comparing the islands with significant unemployment levels (WTTC, 2015).

1.6 Structure of Thesis

In the following chapters, we discuss the studies variables literature (chapter two), the effect of tourism on the small developing island states presented in chapter three. Chapter four mainly discuses the methodology and ARDL model specifications. The empirical results of the study are presented in chapter five. In the end, chapter 6vencompsses conclusion, policy implications as well as the suggestions for future studies.

Chapter 2

LITERATURE REVIEW

This part takes account of a comprehensive review of the study, related research, and consequences. A careful investigation has been employed to see whatever research has been done to examine economic profits of tourism in relation with energy utilization and foreign direct investment as an alternate growth determining factors, in case of small developing islands.

2.1 Tourism-Induced Growth

Tourism is the globe's most prominent service businesses regarding revenue generation so that its development has resulted in modifications both in society and economy. The tourism sector is economically a new occurrence in international trade (Durbarry, 2002; Seghir, Mostéfa, Abbes, & Zakarya, 2015).

Today, tourism in many countries is considered as primary foundations of foreign exchange incomes (Castro-Nuño, Molina-Toucedo, & Pablo-Romero, 2013). The tourism industry turns out to be a substantial economic, social, and cultural movement for the progress of countries. Tourism is a phenomenon that, if properly planned, can cause more production, improved living standards, community welfare, job creation and it can also affect many factors of production, including labor, wealth and land (Adamou & Clerides, 2009; Lee & Chang, 2008). Tourism has grown in many countries with the incentive to achieve its economic benefits (Tang & Jang, 2009). Along with the World Tourism Organization, the overall tourism arrival from all countries in the 1950s was $ 2.5 billion, up from $ 856 billion in 2007 .

Between January and August 2017, tourism destinations per night welcomed more than 901 million international tourists, which means a 7% increase compared to the same period in 2016. According to World Tourism Organization (UNWTO), for the first time, the total number of international tourists in August and July was more than 300 million, with some areas showing a 2-digit growth rate, especially in the Mediterranean countries. By taking account the "export-led growth" theory, the tourism industry is regarded as a type of export, the only difference being the export of goods and services is that the consumer consumes it in the country (Marin 1999).

Another theory in the economics literature is well-known as the "tourism-induced growth" that is considered as a particular case of export-led development. This concept discusses that the economic development of any country is not just subject to employment, investment, exports and elements affecting its economy; somewhat, it can be influenced by tourist arrivals of the country (Cortes & Pulina, 2006).

One of the effects of the outward-oriented growth Strategy in many countries was the advertising of tourism and non-traditional exports. So far, developmental literature has focused on non-traditional tourism and exports, and the research suggests that tourism has also been promoted as an essential part of outward-oriented growth. Theories suggest that increasing tourism, especially in low-income countries which do not allow rapid industrialization, can lead to economic diversification without relying too much on traditional exports.

Tourism is considered as prominent export sectors of May, which, according to Marin (1992), is different from the export of products and service, which is consumed in the host country. Although the industry cannot fully develop the city's economy, it has a crucial role in the economies of societies, directly and indirectly. The straight impact of the tourism industry is on the initial cost of tourism for

products and service area. These effects create direct employment and earn foreign exchange earnings through the production and sale of products and services to tourists (Butcher et al., 2003). As stated by Marin (1992), tourism indirectly affects economic growth as it shows the dynamic effect of the economy as a whole on Spillovers or other externalities.

Balaguer and Cantavella (2002) were the first researchers who tried to investigate the tourism-led growth concept. They used the Johansen-Juselius co-integration technique to examine the correlation among the growth of the tourism sector and long-term economic development in Spain in the course of 1975-1997. The results indicated that in this period, the economic development of Spain depended strongly on tourism revenues. The results of this research suggested that the growth of the tourism industry had a significant and affirmative effect on the long-term economic growth of Spain in the form of multiplier effects.

Tourism also has a direct impact on the local economy. The local economy faced many external and internal factors. The tourism industry not only has benefits to individuals but also is considered as the most influential industries having an evident influence on the public economy worldwide.

Perhaps tourism and business travel development seem to be a merely incredible source of income for communities because, in the absence of tourists in a destination, there will seldom be side-income earnings. Tourism causes wealth to be injected into the economies of societies in various ways. The most significant benefit of this industry is that it creates many job opportunities. Many of the jobs established in this industry include small-scale businesses. This means that every dollar entering the tourism industry is directly available to business owners and their employees, and straight to the local community.

There are many benefits to societies that make it a tourism destination. Some of these benefits even come from people who travel. Because there are many things to do in the tourism industry, and there are plenty of places to stay in, tourism will attract tourists.

Eugenio, Morales, and Scarpa (2004) investigated the affiliation between economic growth and tourism development in Latin America during 1985-1998; using a dynamic panel-based model. In this revision, the association among these two factors was studied applying a macroeconomic model. The results indicated that tourism development is a prerequisite for economic development in low and middle income Latin American countries, while for high-income countries, it is not necessary.

Sequeira and Campos (2005) investigated the associations between international economic growth and tourism throughout 198o to 1999 in selected countries by using the panel data approach. The findings of the study showed that the growth of the tourism industry alone could not provide high economic growth for the concerned countries. Also, in all studied countries, the tourism sector was not significantly related to economic growth, and in most cases, the relationship of this industry with economic growth was not significant.

Vanegas and Croes (2007), to discover the associations concerning the tourism industry and GDP in Nicaragua during 1980-2000, used Johansen Juselius's co-integration technique and Granger causality assessment. The results of this study specified a stable long-term connection among GDP and tourism along with the causal relationship among tourism and economic development .

Lee and Chien (2008) in a study paid attention to the association of tourism development and real GDP in the period from 1959 to 2003. In this study, two

variables of tourism consumption receipts and the number of tourists entering Taiwan have been used. The technique used in this study was a co-integration technique, and the results suggested that these variables are related significantly in the long-term.

Olayinka (2008), in his study, using Granger causality as a panel, examined the causal association among tourism costs and GDP in some African countries during 1995-2004. The results of this study indicated the presence of one-way causation association from real GDP to tourism costs. In other words, the revenues from the tourism industry cannot significantly affect the economic growth of African countries.

Brida, Carrera, and Risso (2008), to explore the long-term impact of the tourism sector on Mexico's economic development, used Johannesburg-Juselius econometric techniques, Granger causality test, and Hazard analysis to deal with shocks. The result of the Johansson-Jocelius test, tourism expenditures, and GDP rates suggest a co-integration vector between real-currency variables. Granger causality test showed that a one-way causality relationship exists from the real point. Brida and colleagues attributed GDP to tourism costs and real exchange rates to the conclusion that a shock to tourism expenditure has a short-term effect on Mexico's economic growth but ultimately has a long-term positive influence on its economic development.

In other points of view, tourism is considered as an engine for economic development and enhances the growth of other economic actions related to tourism. The World Tourism Organization proposes five major axes for evaluating the economic influence of the tourism sector (UNWT):

Increase in Gross Domestic Products (GDP): Income from tourism contributes to GDP growth.

Currency entry: It includes the calculation of gross foreign exchange earnings. The total foreign exchange costs incurred by foreign tourists are calculated after the deduction of its exit factor from the country used to import the properties and services applied in tourism.

Employment: The local occupation generated by tourism, which is calculated by its type, is divided into four forms:

A) Direct employment: People engaging in organizations related to tourism, for example, hotels, restaurants, tourist shops, and travel agencies.

B) Indirect employment: Occupations in the supply zone, such as agriculture, fisheries, and linked businesses.

C) Inductive employment: These jobs generated by spending the income directly or indirectly earned by employees.

D) Construction occupation: Jobs created in the construction of tourist facilities. This type of employment is usually temporary, but it may take too long for places where there is continuous tourist development.

Multiplying factor: It refers to the influence of an external source on the income of domestic economies.

Contributing to increasing government revenues: This factor includes taxes on hotels and other types of tourist taxes, airport departures, and customs duties related to the tourism industry, income taxes of enterprises and employees related to the tourism industry, and property tax on tourist facilities.

Tourism, therefore, has a direct and indirect impact on economic growth, which briefly discussed below.

Direct effects: Since tourism is considered as a service industry, the revenues of the tourism industry are part of the country's gross domestic product, and sprightly

affect its economic development (Gunduz & Hatemi-J, 2005; Inchausti-Sintes, 2015). The tourism industry can be an excellent way to generate foreign exchange earnings for countries and, as a result, higher economic growth (Zhao & Mao, 2013; Zhou, 2011). For example, in 1998, international tourism approximately accounted for 8% of the world's total revenues and 37% of services exports. Also, according to official forecasts of the World Tourism Organization, global tourism revenue will reach about $ 2 trillion a year, by 2020 (UNWTO Statistics, 2007).

Indirect effects: Tourism also indirectly affects growth, as it shows the dynamics of the entire economy in the form of overwrought effects or other external impacts (Marin, 1992). This means that if tourism is to flourish due to its high interaction with other economic activities, it will move along with other economic activities that it provides to the industry, goods or services or its product. That is, tourism can serve as an engine for economic development and move on to other activities.

In contrast, economic development also contributes to the growth of tourism. Economic development, with the developing tourism substructure and facilities, embracing construction road and rail network, development communication technology, the development of electronic money, the development of residential facilities, restaurants and hotels, the development of public health and the development of entertaining facilities and welfare, caused Development of the tourism sector (Acs, 2002; Majewska, 2015).

2.2 Tourism and Economic Growth in Developing Countries

In World War II, a stream of pessimism over exports has spread to penetration theories. Theories have argued that global trade, especially in the case of major mines, does not set off the driving force of developing countries. Based on these theories, intra-oriented strategies (such as the substitution strategy of imports) can

create more sustainable growth.

There is a traditional point of view among some scholars that tourism industry cannot take advantage of the advances made in various sciences; the industry seeks to find opportunities for high-tech managers in multiple positions, offices, and affiliated businesses. They are looking for a chance to equip their work-related systems with the latest computer equipment, and are, of course, seeking to put in place and implement design and scheduling.

In the case of the wages and rewards of people with different occupations in the industry, it should be noted that the wage rate in this part of the salaries paid to other industrialists is not only less but sometimes even more than other industries. It should also be noted that many people in the industry have many backgrounds and experiences in this area. It should be kept in mind that at any time of unemployment, any low-level job may be critical at a low level. Many industrialized countries now have a high percentage of unemployed people, and most people who are looking for a job are not skilled and well skilled. So here every job is essential, and in these communities, these little jobs also have a high rank .

In societies and countries with higher economics that have a lower unemployment rate, people with a high level of expertise, and even those with little skill can also have their status. They are, in any case, able to create more incomes in society.

What can be important in this regard is an excellent opportunity for attracting and employing different people, due to investment in the tourism sector, although small. For example, you can create a line between the point and the other point that immediately after the establishment of this line of string; some lateral businesses will also be created. The creation and development of such a situation can lead to economic success in particular regions.

Flexibility and dynamism are among the leading factors and occupations associated with the tourism industry, and those working in this area have the opportunity to travel quickly to another point, inside and sometimes abroad, as well as those who try to go through to take part-time jobs for themselves, they can do things in a seasonal way.

Since the late 1960s, the emphasis on extra-terrestrial growth has been replaced by subjective development models. Among the critics of introverted models, neoclassical theorists (Bauer & Yamey, 1968; Haberler, 1950; Viner, 1953) believed that these approaches interfere with the natural process of development based on relative privilege. According to these theorists, developing countries, rather than trying to create more complex industrial sectors through government intervention, should be dedicated at the very early stages of their development in exporting major commodities.

The advancement of outward-oriented growth strategies was synchronous with the increasing involvement of the International Monetary Fund (IMF) and the World Bank in the Third World Policy through mechanisms such as lending. This means that continuous access to these loans is conditional on reducing government economic intervention and increasing market-based production. In many countries, this factor led to a decisive orientation in the development strategies of introversion towards extraversion, including the emphasis on the expansion of neglected sections, such as international tourism. Over time, international tourism has been grouped among the development literature with other emerging growth sectors (for example, export-oriented industries and non-traditional agricultural exports) that are effective for rapid growth based on the relative advantage of developing countries.

Arguments that led to increased support for exogenous growth, including the

extra-terrestrial policy brings at least damage to the micro-economy and brings numerous resources.

The multiple effects associated with international trade and tourism may provide long-term economic growth through the expansion of total production and employment.

Trade and tourism revenues may foster macroeconomic stability by helping to balance trade and foreign accounts, which is vital to achieving top rank in global markets and consequently, to obtain foreign loans and other investments. Such revenues may deliver foreign exchange for trade in goods, especially investment goods needed to enhance production capacity.

By considering all these reasons, these arguments show the orientation of many countries toward outward-oriented growth. What has been neglected in outward-oriented growth strategies is that focusing solely on trade and tourism raises concerns about the broader development goals of improving living standards and promoting a more balanced distribution among economic sectors and geographic regions. In the absence of a deep and proper relationship between the economy of a country and remote areas, there may be limits that lead to non-stimulation of further development .

In sum, it is emphasized that the tourism industry has always sought to create opportunities for the recruitment of unemployed people, including the youth of any society, which means confronting the most substantial problems in developing countries. A series of changes accompany most of the activities and efforts that create new businesses, often to reduce the costs of agricultural production, to escape the productive parts, or the lateral sectors and services. The tourism industry has its world and, regarding the form and content of work, perspectives, and privileges have

superiority to other businesses. In the tourism industry and its affiliated companies, one can see the use of specialist staff to low job levels. Young people are more likely to be attracted to this section. Also, people who cannot get full-time jobs will be invited to this industry. With a complete and comprehensive expansion of tourism, the tourism industry offers more opportunities for job seekers, and people can absorb this sector in different urban or rural centers.

Tourism-related scratches are in no small extent found to be beneficiaries of the country's exports, while the following characteristics and attributes can be considered as a reason for believing the tourism industry as a newly emerging industry in the 21st century. The prediction and calculations are that recruitment and employment in this sector will increase overall jobs to 43% in the next 12 years, as this would mean creating 100 million new jobs. With more emphasis on the status, it is easy to determine the constructive role of governments in improving the circumstances and improving the situation of the tourism industry by making appropriate recommendations to different sectors, and, on the other hand, creating conditions for investment and privatization make significant changes to this industry.

2.3 Tourism-Induced Investment

In many developed countries, the tourism sector has a significant role in the economy, with the result that these countries have a particular interest in this industry, and with increased investment, they will benefit from the economic returns of tourism. Hence, investing in this sector has always been one of the attractive opportunities for profitability and job creation.

Tourism, because of its early return, is a good foundation for investment. Tourism can attract national and foreign investment and be a cause of economic growth. Foreign investment, especially for developing countries is essential, specifically in

countries that do not have the domestic investor, foreign investment can accelerate the development of tourism and promote economic standards and bring ideas, technology, contacts, and new markets.

Unlike other investments, such investments will remain in the countries. Hotels cannot be moved like primary goods or other goods. Based on this, one can find an approach in the form of tourism investment between the center and the periphery, inverse of the flow of capital. In this approach, capital investment in the field of tourism is moving from the center to the perimeter that can only maintain its profitability in the area of tourism in the destinations of the peripheral countries (Rodríguez, 2002). Thus, the attitude of the tourism center focuses on the image. The economic surplus is flowing through a global surplus system, but at this point in investment in tourism, it has led to the emergence of jobs and revenues that local communities are gaining.

In peripheral theory, the interaction of the peripheral economy with the center is influenced by the power of the center in its trade and its investment in production. The result of this situation is the continuous withdrawal from the periphery to the center. However, in tourism, investing in destinations or around is seeking to attract tourists from the center. The trade pattern in this approach is the marketing maneuver in the center and the operation around (Markusen, 1983; Svensson, 1984).

In this context, investment attraction in the field of tourism is based on attracting tourists from the markets of the center. Investment in the surroundings, as well as shaping the tourism product, offers them to the tourists, due to the low purchasing power of residents, they cannot reach this tourism product due to its high price. On the other hand, there is a need for employment for the delivery of tourism products to buyers, the use of center workers is not beneficial due to the two-sided restrictions of

the center (high expectations) and the periphery (the presence of cheap labor). Hence, local employment is formed, and the earnings from it, although in some cases are at a low level, stimulate the dynamics of the local economy (Fu, 2012).

Investment, in any case, makes economic upsurge in geographic spaces. Countries cannot go beyond the investment path to development. In the meantime, only taking "management barriers" can somehow adapt to the flow of capital to the production of social space and environmental development (Fu, 2008). They have the entitlement and prone areas of trade and profit. In the meantime, any tourism-minded country that wants to develop this economic activity has to accept the characteristics of capitalism mixed with it. Tourism is a capitalist activity. Hence, only paying attention to the economic effects of tourism and the viewpoint of capitalist degradation and the failure to use management barriers turns tourism to be destructive. Although tourism management and planning in the context of understanding the nature of investment can improve the life quality of residents and increase their economic productivity, it can also be noted in the context of tourism revenues, and its economic leaks .

As previously mentioned, growth is one of the main goals of an economy that is affected by many factors, including investment and exports. In an open economy, technology and knowledge may be transported through exports and imports, thereby causing economic growth, and this, in turn, affects exports and imports (Yang, Luo, & Law, 2014). With the increase in tourism revenues in the country, critical macroeconomic variables of the state, including foreign direct investment, which is the most effective and realistic type of investment, will be affected; thus, economic growth will increase. Capital inflows lead to lower capital prices, thus generating employment, and with the demographic characteristics of it, unemployment is

decreasing, as also, rising tourism revenues will increase economic growth and reduce capital outflow.

From the classical point of view, capital is the primary source of growth that comes from saving itself. In the neoclassical perspective, investment and, as a result, growth is not only caused by domestic capital, as some countries are facing a problem of shortage of capital. Therefore, they are seeking to attract foreign capital. The influence of the foreign direct investment in improving and increasing exports and the interaction of the country's economy with the outside world are evident (Gammeltoft, Pradhan, & Goldstein, 2010; Luo & Tung, 2007). The importance of foreign direct investment in transferring the economy of the host country is to export raw materials to industrial and industrial goods and in some cases, even transport high-tech goods. Contrariwise, the effect of direct foreign investment in the host country is not limited to the growth of exports and its restructuring, but the transfer of global knowledge and the entry of the host country to the worldwide production network is also one of the most critical effects of foreign direct investment (Kundu & Contractor, 1999).

Also, theoretically, two factors of human capital and RD, as two resources of investment, have a crucial role in productivity growth. The internal source of technology upgrade is the cost of research and development that firms spend on research and through that level of technology upgrade (Wright, 1989). An external source is referred to as the effects of the overflow of research and development costs from advanced countries into the country. Since significant advances in communications and technology have been achieved, the way competition is far more complicated, and states need to provide the conditions and areas for foreign investment into the country in a comprehensive manner to be able to dominate their

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rivals. In the economic field, the policy of increasing the incomes of tourism and activating the private sector is one of the most important means of attracting foreign capital and expanding the horizons of multinational corporations to transfer their investments to the host country, which emphasizes the development of tourism and the market mechanism (Yang, Luo, & Law, 2014).

This policy, coupled with the administration of economic liberalization, to remove and restrict the barriers to foreign investment and deregulation of economic activities, while following the laws and regulations of capital ownership, will increase the inflow of foreign capital to host countries. In a situation where the domestic saving situation does not provide the required capital, foreign direct investment (FDI), can be considered as a useful financial instrument (Dunning, 1993, 2002). Today, in developing countries, in a competitive environment, after attracting foreign investors, there have been extensive political, economic, legal, and cultural establishments. During the last few decades, after the financial crises, especially in the area of obtaining loans, the importance of these types of investments has increased, and there has been a widespread competition between countries for attracting direct and indirect investment.

2.4 Tourism-Induced Energy Consumption

Although Tourism industry is known mostly as a contributor in environmental issues (Gössling & Hall, 2005), nowadays many researchers have started to examine the association stuck between tourism and energy consumption (Gössling & Hall, 2005; Cárdenas & Rosselló, 2008). The recent researches indicate that the tourism sector can be known as one of the most critical energy consumers, specifically regarding transportation and providing supporting infrastructures (Becken, 2002; Tabatchnaia-Tamirisa et al., 1997).

The search for the association between tourism and energy consumption has attracted researchers' attention to energy economics. Zhang et al. (2013), and Park and Hong (2013) are among the recent researchers who focused on the relationships among tourism and energy consumption.

Liu et al. (2011) and Nepal (2008) argued that the most critical contributor to the consumption of energy in the tourism sector is transportation. Transportation, in general, and air transportation specifically, are responsible for the consumption of the major energy from various activities relating to international tourism (Gössling, 2002; Becken et al., 2001). Also, some studies tried to discover a linkage among tourism activities and the consumption of electricity (Bakhat &Rosselló, 2011; Becken, Simmons, & Frampton, 2001; Gössling, 2002; Tabatchnaia-Tamirisa et al., 1997; Trung & Kumar, 2005).

As can be seen among the studies related to tourism and energy consumption, researchers rarely have focused on various features of the association among energy consumption and tourism. Studies in this domain generally have concerned about assessing the amount of energy consumption (Becken, Frampton, & Simmons, 2001) and comparing the amount of energy usage in different sectors of tourism activities (Nepal, 2008).

Also, scholarships have mostly concentrated on the association between the consumption of energy and its association with the emission of greenhouse gas and the contribution of tourism activities as an environment degradation, emphasizing the considerable amount of fuels which is needed for different kinds of transportation and accommodation (Gössling & Hall, 2005; Karagiorgas et al., 2007; Macintosh & Wallace, 2009; 2006; Priyadarsini et al., 2009).

Katircioglu, Feridun, and Kilinc (2014), in a survey, concentrated on the

association amongst tourism activities, energy consumption, economic development, and carbon emission as a reason of air pollution.

Some other scholarships contended that there is a link between energy usage and growth in the incomes (Kraft& Kraft, 1978; Lise & Montfort, 2007; Odhiambo, 2009). Some others investigated the association of real income growth with pollution related to energy consumption (Grossman& Krueger, 1991; Zhang &Chen, 2009).

The results of studies carried out by researchers all around the world (Ekholm et al, 2010; Grantham, 2011; Gadenne et al, 2011; Ougan &Hokao 2009; Ryu et al, 2014) show that one of the most important reasons for the emergence of current problems in energy consumption is the inappropriate energy consumption pattern. Tourism, as a regional development tool, will often have an impact on energy resources. Excessive usage of energy, like water, electrical energy, and gas, due to the need for luxury facilities and hospitable heating systems, and transport facilities are among the adverse effects of tourism on the energy resources of the target community.

Importance of consumption in the modern age, also the central role of the human in the use and influence of various factors on this concept are considerable. Moreover, more correctly, human consumption behavior and the deficiency of experimental studies in this area, multiple theories and models have addressed the issue of environmental behavior in general, and human behavior manner in energy consumption, in particular (Park & Hong, 2013; Zhang et al. 2013).

All studies, as mentioned earlier, have concentrated on the tourism industry and the amount of energy consumption in this sector. In this approach, it seems that tourism industry is not accounted for an economic area which is associated with economic growth and tourism destination development (Bakhat & Rosselló, 2011)

while tourism is considered as an entirely environmental problematic issue. According to Katircioglu et al. (2014), international tourism is a potent factor in energy consumption. In the current research, it was argued that tourism not only increases economic development, but it also results in energy growth. As an illustration, increasing the activities related to the tourism industry will enhance the demand of energy in different functions including energy consumption in hotels and other kinds of accommodation, transportation, tourism attraction management, catering, and so on. Also, consequently, energy growth, specifically in the tourism sector is a proxy of income growth and economic development.

2.4.1 The Energy Consumption-Economic Growth

Until the late 1970s, in the function of the national product, the energy was not considered as a production factor. The synchronization of oil shocks in 1973 and 1979 with the economic downturn in Europe opened a new point of view on the importance of energy as a factor in economic growth, and in analyzing new growth theories as well as two elements of labor and capital. However, economists do not agree on the importance and the presence of this factor in the production process. These different attitudes generally emerge in the form of two general neoclassical and ecological theories that bring diverse political implications (Apergis & Tang 2013).

The first theory points out that energy utilization plays a significant role in stimulating economic development. In current studies, a causal association among energy consumption and economic growth is admitted. Given the hypothesis, energy reduction policies are delaying the process of economic growth (Narayan & Smyth, 2008; Tang, 2011).

The second theory states that the causal relationship exists among economic

development and energy consumption. This theory, which is known as the conservation theory indicates that energy is not the primary source of economic growth and slightly affects economic growth (Shahbaz & Leitao, 2013). In other words, reducing energy consumption reduces environmental pollution. This is a hypothesis to protect the environment (Huang et al., 2008).

The third premise refers to feedback theory, which implies a relationship among energy consumption and economic growth, and indicates the presence of a two-way causality relationship among energy consumption and economic development (Tang & Tan, 2013). In feedback theory, policymakers emphasize the implementation of a twofold method to encourage economic development and prevent energy loss. On the contrary, capital spending on energy substructure should be enhanced to guarantee to provide energy for economic development is adequate. Then again, energy efficiency improvements should be improved through new technologies.

Finally, the fourth hypothesis is the neutrality theory, which points out that energy consumption and economic development are irrelevant. Thus, the change in consuming energy would not influence economic development and vice versa. In this case, maintenance policy is applied for decreasing energy usage (Soutas & Sari, 2009).

However, recently, many researchers have concentrated on the association among energy consumption and economic development. Narayan and Smyth (2007) show that capital, real GDP, and energy consumption in the G7 countries are also accumulated. They conclude that long-term capital and energy consumption are the cause of real GDP. Other structural studies carried out in the energy field describe a non-linear relationship using the threshold regression approach among economic development and the consumption of various kinds of energy, including oil, natural

gas, and electricity, for Taiwan (Jin-Li Hu & Cheng-Hsun Lin, 2008).

Apergis and Payne (2008) examined the association among energy usage and economic development in six countries in Central America (Costa Rica, Guatemala, El Salvador, Honduras, Nicaragua, and Panama) between 1948 and 2004. The results imply a long-term equilibrium among real GDP, energy usage and labor, and Gross Inventory. Also, using the Granger causality relationship between energy usage and economic development, it shows that, in the short and long-term, the causality relationship is from energy use to economic development.

However, empirical literature in the world displays that the influence of tourism and energy on economic development remains an imperfect puzzle that needs to be complemented with other variables. Some empirical investigations show that tourism and energy consumption increase economic growth (Apergis & Tang, 2013; Tang, 2009; Tang & Tan, 2012).

Investigations in the related literature observed that tourism and energy are determining factors of economic growth. Tang et al. (2016) mainly focused on the dynamic and inter-relationships between tourism, energy consumption, and economic growth in India. In order to check the relationships among variables, data from 1971-2012 is applied. For verifying the relationships, cointegration and generalized variance decomposition method used. The findings of the study reveal that tourism, energy consumption, and economic development are cointegrated in the case of India. Moreover, findings uncovered that tourism and economic development strongly impact energy consumption in the long-run.

Sriyana (2019) surveyed the dynamic impact of energy consumption on economic development in the case of Indonesia during 1990-2017 applying ARDL model. The findings of the study support the significant role of energy consumption, electric

power in economic development. Error correlation model results provide support for the long-run effect of energy consumption on economic development. This study highlights energy consumption and labor force as the primary sources of economic development in Indonesia.

Khan et al. (2019) noted that consumption of various energy resources for achieving economic growth would result in environmental degradations. This survey mainly focused on the effect of energy consumption (coal, oil, and gas consumption) and economic development on environmental degradation in the case of Pakistan by applying a novel methodology of dynamic ARDL simulation. The findings of the study indicate that economic growth and energy consumption have positive effect on environmental degradation both in short and long-run in Pakistan.

Bhattacharya et al. (2016) surveyed the impact of renewable energy consumption on economic development among the 38 main renewable energy-consuming countries in the world during 1991-2012, applying panel estimation techniques. The findings of the study show cross-sectional dependence and heterogeneity across the countries. As well as provide support for long-run dynamics among energy consumption and economic growth. The long-run elasticities results confirm that renewable energy consumption significantly and positively affects the economic output for 57% in the sampled countries.

Regarding tourism theory and energy consumption, energy usage acts a fundamental role in influencing economic growth. Generally, when compared to countries, high per capita consumption of energy is a sign of the development of a country, and higher consumption is usually associated with more national production. In other words, the average per capita energy consumption in industrialized countries is much higher than in developing and non-developed

countries, and on the other hand, this high energy consumption will become more valuable in these countries. The experience of advanced countries has also shown that increasing the efficiency of energy production and energy technologies and investments in the tourism sector while maintaining and even reducing consumption, could lead to more significant economic development and social welfare.

Tourism is considered to be the most prominent and influential sector affecting the growth of the service sector in the world. This can donate expressively to the growth of the economy and the growth of the country's job opportunities, which will increase investment in new infrastructure to attract tourists and boost the country's tax revenue. This suggests a lot of foreign exchange gains as Estern (2011) in his survey states that energy contributes to economic growth through increased production activity.

Chapter 3

TOURISM IN THE SELECTED SELECTED SMALL ISLAND DEVELOPING STATES

This chapter discusses the economic benefits of tourism in selected small developing islands and offers a summary of the statistics of the islands. A panel of 10 SIDSs applied in this study including Bahrain, Cyprus, the Dominican Republic, Haiti, Jamaica, Iceland, Malta, Mauritius, Sri Lanka, and Singapore, in the course of the 1995–2014 from the online databank of World Bank. The restriction of the survey to the specified time zone is centered on the accessibility of data.

Tourism growth strategies which are sustainable in the SIDSs are approved for showing a substantial effect on the progress of some SIDSs. Conversely, poorly managed tourism growth plan would in turn influence undesirably the environs which tourism is reliant on it. The tourism industry, as a probable development factor in SIDSs, offers financial diversification opportunities in SIDSs. Tourism is strongly related to other economic sections, whereas the primary goal of tourism growth is increasing economic development, producing more occupation, rising foreign exchange, and raising tax profits. Conversely, island states would be less interested in tourism employment opportunities if they are experiencing full employment level comparing the islands with significant unemployment levels (WTTC, 2015).

Also, tourism employment opportunities are mainly labor-intensive and prepared for unskilled workforces. Subsequently, tourism growth would lead to faster job creation in comparison with other sectors. Tourism creates employment in a straight

line of the service sector of the tourism industry and likewise in relevant industries offering services and goods to the tourism sector. In contrast, data show that the direct employment of the tourism industry is extremely insufficient. However, it is concluded that the impact of tourism on job creation in SIDSs is fundamental; in SIDSs tourism displays a substantial role in increasing the nation-wide income (WTTC, 2015).

Tourism would display the more important role in the progress of SIDSs if appropriate measures of revitalizing some economic sectors considered like agriculture and fishing, in a way tourist demands are met adequately for consuming products of native suppliers. The small islands, with accurate scheduling and steady setting up of enough facilities like employing diversification, reconstruction, and credit for modernization, and wherever required, foster fishing and agriculture, with the development of tourism. As rivalry in the SIDSs results in enhanced revenue by salaries and decreases labor supply of tourism industry, paying attention to up-market tourism results in a slower rate of economic growth and in turn attracts tourists with higher income (WTTC, 2015).

Table 1: Average tourist arrival number, tourism receipts shares in export, GDP and trade deficiency

Countries	Sub-periods	Number of tourist arrivals	Share of tourism receipts in export earnings (%)	Share of tourism receipts in GDP (%)	Share of tourism receipts in trade balance deficit (%)
Mauritius	1995-1999	516200	26.34	0.12	-1.43
	2000-2004	683800	29.70	0.13	-2.23
	2005-2009	851400	34.37	0.17	-3.01
	2010-2015	1022600	29.29	0.16	-4.06
Cyprus	1995-1999	2159000	41.71	0.19	-3.11
	2000-2004	2490600	38.68	0.18	-4.22
	2005-2009	2366400	27.22	0.12	-1.63
	2010-2015	2422500	20.04	0.11	-42.93

Countries	Sub-periods	Number of tourist arrivals	Share of tourism receipts in export earnings (%)	Share of tourism receipts in GDP (%)	Share of tourism receipts in trade balance deficit (%)
Dominican R.	1995-1999	2174200	44.92	0.10	-1.20
	2000-2004	3080600	48.32	0.12	-1.48
	2005-2009	3921600	46.13	0.09	-0.79
	2010-2015	4737567	13.10	0.08	-0.71
Bahrain	1995-1999	2615400	13.82	0.10	-0.18
	2000-2004	4719800	11.01	0.10	0.83
	2005-2009	7785400	7.74	0.08	0.58
	2010-2015	9206000	14.39	0.04	0.42
Haiti	1995-1999	146800	35.63	0.03	-0.12
	2000-2004	130800	22.65	0.03	-0.08
	2005-2009	250200	27.07	0.03	-0.18
	2010-2015	419840	34.55	0.06	0.95
Iceland	1995-1999	217600	17.82	0.04	-2.33
	2000-2004	313200	19.75	0.04	0.69
	2005-2009	455400	17.73	0.04	-0.36
	2010-2015	803650	14.62	0.06	-0.15
Malta	1995-1999	1135400	27.26	0.16	-5.43
	2000-2004	1162600	20.11	0.17	3.65
	2005-2009	1202400	10.38	0.18	-2.21
	2010-2015	1542000	8.64	0.14	-2.45
Sir Lanka	1995-1999	377600	6.80	0.01	11.47
	2000-2004	439400	8.72	0.02	-2.65
	2005-2009	497800	8.43	0.02	-1.63
	2010-2015	1292400	16.60	0.03	-2.59
Jamaica	1995-1999	1194800	38.68	0.11	-0.01
	2000-2004	1326200	44.99	0.12	-0.06
	2005-2009	1691400	44.41	0.15	-0.18
	2010-2015	1989680	49.12	0.16	-0.57
Singapore	1995-1999	4958200	3.87	0.50	-10.37
	2000-2004	5806000	2.47	0.32	-4.52
	2005-2009	7578000	2.32	0.44	-1.77
	2010-2015	11460400	3.19	0.68	-1.92

Source: is based on World Bank Indicators, 2017.

Moreover, locally, tourism development is further sensible in the Caribbean and

Mediterranean SIDSs, in comparison with Asia-Pacific and African districts. For example, Cyprus and Malta through the decades have witnessed tourism development, which is shown in the foreign exchange incomes and large share percentage of tourism in the GDP. The tourism sector considered as the best essential foundation of foreign currency earnings. World Bank data report (2017) displays an appropriate growth in the entrance of international traveler and revenues. Correspondingly the stake of tourism in GDP, export, and occupation shortage have been enhanced remarkably throughout the era of 1995–2015, as depicted in Table 1.

Table 1 depicts sub-periods for showing the average movement in tourism incomes alongside other variables throughout a long time. In these nations, tourism considered as the most important and influential industry. Tourism complete enactment in the studied nations is mostly clarified by suitable geographic site, near the rich European nations, specifically the United Kingdom and Northern Ireland; these countries are the leading source market (WTTC, 2015).

Moreover, the maximum number of SIDSs and the overall financial functioning, and comparatively tourism sector growth in the vicinity is devoted to the Caribbean. Tourism has a high impact on export incomes and stake of GDP in the utmost of the studied island states .

In contrast, the development stage and support to economic development claimed to be not equal and much smaller in Asia-Pacific SIDSs in comparison to the Mediterranean and Caribbean countries. In general, in SIDSs, cultivation and related economic engagements are dominant. In contrast, the tourism sector is underdeveloped as a result of insufficient physical and human sources. Additionally, isolation from the primary tourists' resources, extremely weak air travel, land ownership problems, transportation, high dependence on foreign investment, with

shareholders mainly concentrating on greater and beneficial centers have resulted in mild tourism growth (WTTC, 2015).

Whereas tourism development works for economic development, its high-dependence on mass tourism has critical impacts. High dependency on single-origin of tourist, the impact of hurricanes on the environs is disposed to the destructive influence on the tourism sector and consequently on SIDSs dependant on tourism. Conferring to the United Nations Environment Programme (2006) report, over-dependence on one specific source of tourists, especially in case of Cyprus and Malta on the UK marketplace, is economically unsafe, as the economic crisis in the basic state might have destructive effects on the receiver states.

The unexpected fast development of tourism can result in social trouble in SIDSs (WTTC, 2015). Pressures put forth on the family unit and the public request because of the rising pressure regarding the increase in prices of family items, foods, and land. Additionally, possible long-run effects could bring about a decrease in living standards of the majority of populations and the sense of separation due to insufficient access to limited land resources. Majority of occupants likewise miss their right to use central leisureliness zones and seashores because of the limited civil rights given to creators. In some circumstances, this results in economic failures, wherever fishers and agriculturalists are destructively influenced by losing access to land and sea. Furthermore, too much disclosure to foreigners can increase concerns in the native citizens and the tendency to shift the blame on their tourists, therefore result in socio-cultural refusal of tourism growth (WTTC, 2015) .

Finally, the delicate environment of SIDSs, combined with their conventionally confined actions in economic growth choices, create worries for the ecological influence of tourism hazards, particularly for the reason that tourism is dependent on

environmental capitals. Ecological capitals are considered to stimulate economic and public growth in the selected SIDSs. Fast tourism growth, along with tourism actions, regularly has severe and swift impacts on their natural surroundings. Agreeing with the IOCW (1994) report, the problems related to both tourism and environment facing SIDSs consist of land resources and global natural diversity, seaside zone deterioration, leftover managing, freshwater possessions, temperature variation, and sea-level increase.

3.1 Bahrain

Bahrain displays significant tourism development. Bahrain is intensely reliant on tourism for economic growth. Moreover, Bahrain is the only island in the vicinity. It comprised of 33 desert islands which are advantageously placed near Saudi Arabia and Qatar. The tourism industry contributed to gross domestic product GDP approximately 6% and 7.6% in 2005 and 2007 correspondingly. In recent times, the tourism sector of Bahrain is considered the fastest developing tourism sector in the Middle East zone. This continuous development has been caused by a significant entry of foreign exchange incomes and numerous employment opportunities. The government carries on strengthening its global marketing movement to increase consciousness of the country as an investment core. The tourism industry witnessed an annual growth rate of 6.3% in real terms during 2008 t0 2017 (Saleh, Assaf, Ihalanayake, & Lung, 2015).

Compared to its extent, tourism economic operation of Bahrain is utterly remarkable and holds the lion's stake of Bahrain's non-oil economy, followed by the finance and insurance sector. Developing tourism industry, in general, has a substantial economic multiplier impact. That is not doubted nearly fivefold development has created a vast direct and indirect economic contribution to

Bahrain's gross domestic product and its native employment marketplace (Skerritt & Huybers, 2005). Furthermore, throughout the last decade, tourism has been the leading promoter of FDI flow to the country. In 2000, overall tourist expenditures of Bahrain accounted for $1.2 billion, subsidizing over 11% of the gross domestic product and offering 43,000 direct employment opportunities (Newarabia.net, 2006).

3.2 Cyprus

Turan et al. studied the long-run equilibrium association between international tourism, energy usage, and carbon dioxide emissions (CO2), and the direction of causality between the mentioned factors in the case of Cyprus, with 2 million international tourists' arrivals per year. Findings of "tourism-induced simulations" disclosed that international tourism has a long-run equilibrium association with energy usage and carbon dioxide emissions; tourist entrances have significant positive and inelastic effects on energy consumption levels and the emission of carbon dioxide, which implies the adverse effect of tourism on the environment. In conclusion, the main finding of their study from conditional Granger causality assessments is that international tourism act as a catalyzer for energy consumption and increased levels of carbon dioxide emissions in Cyprus (Turan, Feridun, & Kilinc, 2014)

3.3 Dominican

Despite the late entrance of the Dominican Republic to the Caribbean tourism industry, it hurriedly turned to be the best destination in the Caribbean. Global tourist arrivals of Dominican Republic increase 9% annually during 1993-2002, and enhanced from 3,282,000 in 2003 to 4,125,000 in 2010, after keeping stability through 2008–2009 economic crisis (World Data Bank, 2013). Tourism pushed the Dominican Republic to be an upper-middle-income republic and turned it to be the

biggest economies in the Caribbean and Central America (World Data Bank, 2013). In 2011, tourism comprised 4.7% of the total gross domestic product (GDP) and accounted for 14% of total employment both directly and indirectly (Association of Hotels and Tourism in the Dominican Republic and the Central Bank of the Dominican Republic, 2013; WTTC, 2012).

By itself, the large-scale tourism growth of DR is represented by foreign investment (Sasidharan & Hall, 2012), for instance, over 50 international companies invested nearly USD$800 million in the Eastern Punta Cana region.

Coastline tourism plans are encouraged in the Dominican Republic as per national-level economic growth incentives that will generate job opportunities and livelihood for native populations. A study is conducted in this field, 360 domestic surveys were gathered to test household earnings and material properties through 12 coastal communities in three areas of the DR. It was found that rural population are getting a ''trickledown effect'' of the tourism sector; however, to what extent they are beneficiary is dubious (Duffy, Stone, Chancellor, & Kline, 2016).

3.4 Haiti

Haiti is one of the deprived countries in the world. In 2012, it's Gross National Income was US$760 per capita. Over half of Haiti's population salary is less than US$1 per day, and 80% of salaries is less than US$2 per day. Haiti is unequal; according to 2012 household review data, Haiti's Gini coefficient is 0.61, which was constant since 2001 (World Bank, 2014).

Worldwide donors have multiplied efforts to provoke economic growth in Haiti. In recent times, the revival of tourism in Haiti gained lots of attention. Haiti as "pearl of the Antilles" once was a recognized tourist destination and was recorded as most visited islands in the Caribbean in 1950- 1980s. Thirty years of autocracy regulation

as well as two decades of political crises resulted in erasing Haiti from the tourist map even for adventure-taking international tourists (Trevelyan, 2013). Even with these encounters, the demand for tourism has been rising in recent times. Global tourist volumes enhanced by 4.9% per year on average during 2007-2011. In 2013, the tourism industry provided US$355.4 million, which comprise 4.2% of GDP and 139,000 occupations, which constitute 3.6% of total employment (WTTC, 2014).

In a survey, the linkage between US$36 million investment in tourism and its economic effect on the south of Haiti was analyzed through the application of micro-simulation (RCGE-MS) model (Banerjee & Cicowiez, 2015). The linked RCGE-MS method demonstrates to be an excellent instrument for evaluating the way tourism savings impact national economic movement and enlightening the procedures of how tourism donate to better employment opportunities and reduction of poverty. The outcomes of the study indicated a positive effect on industrial activity, specifically for the restaurant and hotel sector 182.1% by 2040 and a 2% growth in GDP by 2040. South Haiti's export fell 4.7% under baseline and imports stood 6.1% greater as a reason of foreign exchange arrival, the increase of the local real exchange rate, improved request for most products and services, and diminished regional productive capacity. The unemployment rate decreased from 26% to 23%. The investment helped in reducing poverty by 1.6 percentages. Driving this consequence was growth in employment, salaries, and non-labor income (Banerjee & Cicowiez, 2015).

3.5 Jamaica

Jamaica is placed in the top 10 of the globe's best appealing touristic countries. The tourism market in Jamaica is dominated mainly by the USA which accounts for 64.0% of tourist arrival; the UK comes second with 10.0%, and next is Canada with 8.0% between 1994 and 2002.

Studies and State (2012) tested the causality association amongst tourism receipts and gross domestic product (GDP) in Jamaica. The review disclosed the existence of a long-run co-movement amongst tourism earnings and GDP. This relationship is similarly indicated to be positive. An upsurge in tourism earnings leads to having more effect on GDP.

Tourism is considered an instrument in producing foreign exchange transactions, job creation, and domestic earnings for Jamaicans, as it is considered in several developing countries. The growth of the tourism sector seems to be important as developing of other economic sectors of Jamaica. Data gathered from the Bank of Jamaica designates that the tourism sector has been the primary creator of foreign exchange transactions and the main foundation of foreign cash entries except for private investment. Additionally, the tourism sector is considered to be the seventh major provider of gross domestic product (GDP) of Jamaica, funding an average of 11.0% during 1997- 2002. The injected money in the tourism industry is mainly spent in Sectorial occupation, cultivation, transportation, storing and communication, building, and distribution. All the same, these mentioned positive influences, some outside happenings adversely influenced Jamaica's tourism growth in last years (for example September 11 and the storm) and resulted in some adverse consequences, like increasing crime rate (Studies & State, 2012).

3.6 Iceland

The tourism sector is considered to be one of the fast-developing sectors in Iceland's economy. The arrivals of tourism have increased recently, for example, doubled from 201,000 in 1997 to 459,000 in 2007. This growth in tourist arrivals has encouraged the fast expansion of the tourism industry, raising inquiries with regards opportunities and challenges offered by tourism (Jóhannesson, Huijbens, & Sharpley,

n.d).

The Tourism Satellite Account (TSA) method is applied to evaluate the tourism industry's involvement in the economy. Frenţ (2016) illustrated some potentials of employing improved TSA estimates in the case of Iceland to inform tourism-related policies. The study showed that applying data from the TSA is the right way of achieving coherent tourism policies (Frenţ, 2016).

3.7 Malta

Malta is a developed destination by more than five decades in tourism Growth. Tourism has expanded considerably over time representing 28.1% of the GDP in 2014 and providing 29.1% of total jobs opportunities. The number of tourist arrivals and incomes has enhanced progressively over time. Tourist Entrances improved from 783,900 in 1988 to 1,689,800 in 2014, while earnings enhanced from US$435 million to US$1.52 billion during the same period (World Bank Group, 2016). Malta is as well a luxurious island destination. Its real financial productivity increased from US$3.25 billion in 1988 to US$7.8 billion in 2014 (World Bank Group, 2016). The target shows a real GDP per capita of US$18,432 in 2014, standing 37 between 186 countries (UNDP, 2015)

Malta is ever more concentrated on the offering of superior tourism services and products to satisfy tourists. Malta's government is setting rules to ensure public and economic welfares to the islanders and improve the island's value (Ministry of Tourism, 2014).

Croes et al., 2018 surveyed the relationship between life quality, tourism specialism, and economic development in case of small islands. The study is based on a QOL model and translog production function and applied the limited information maximum likelihood estimator to examine the relationships as

mentioned earlier in Malta. The findings of the study specified that Tourism specialization increases the citizens QOL, but only on the short-term and not in the long term (Croes, Ridderstaat, & Niekerk, 2018).

3.8 Mauritius

Mauritius is considered one of the wealthiest and prosperous African countries, its GDP per capita increasing from US$260 in 1968 –independence year – to more than US$7000 in 2013. Indeed, the average rate of economic growth is almost 5% per year in the last twenty years. The victory factor of the Mauritian economy can mainly be qualified for its strategy of trade openness. The traditional elements of development have been sugar, fabric, and tourism.

The tourism sector of Mauritian that is located at the high end of the international market is considered as a main gross domestic product (GDP) contributor to the island. The tourism accounted for almost 7.1% of GDP at the end of 2013, and such figure is foreseen to increase in the upcoming years, even more on account of the objectives set by the government to receive two million travelers in the future (Fauzel, 2016).

3.9 Sri Lanka

Sri Lanka is well-known for its nature and several natural tourist attractions. Natural coastlines, mounts, waterfalls, rivers, grasslands, and abundant sunlight are motives why tourists are attracted to Sri Lanka (Fernando and Jayawardena, 2013).

Conferring to the World Tourism Organization (WTO), nowadays, more than 40% of international tourism entrances come to pass in the emerging economies. The tourism industry of Sri Lanka has developed gradually during the years. The tourism industry is considered to be the main contributor of foreign exchange in Sri Lanka, and approximately 1,50,000 individuals are dependent on the tourism sector directly

or indirectly for their livelihood.

Srinivasan et al. (2013) surveyed the topic of the impact of tourism on economic development in Sri Lanka by applying the Autoregressive Distributed Lag (ARDL), from 1969 to 2009. Accurately, their study disclosed a positive relationship between tourism and economic growth both in the short-run and long-run. On the other hand, the results of the survey indicated that the positive effect of tourism was very low in the short-run in contrast to the long- run. This can be justified by violations of human rights, public conflict, and other political violent actions affecting the tourism entrances in Sri Lanka in the short-run (Srinivasan, Kumar, & Ganesh, 2013).

3.10 Singapore

Singapore is a small island country, situated at the south angle of the Malaysian Peninsula. Singapore, originated from the British colony, with a developing economy, 4.59 million population, and 35,153USD earnings per capita in 2007 (World Bank, 2009). Tourism is the most critical sector in Singapore and is considered to be one of the biggest in the Asia Pacific area (Wilson, 1994). Tourist entrances to Singapore increased from 2.5 million to 9.7 million people during the 1979-2007 (Statistics Singapore, 2009). Tourism receipts contributed to GDP by 5.18% in 2007 (World Bank, 2009).

Tourism receipts with 12.4 billion USD and tourist arrivals with 9.8 million in 2006 make 2006 a breaking year for the tourism industry for Singapore (World Bank, 2009).

Turan and Glu (2011) conducted a survey to test the tourism-led growth theory in the case of Singapore applying the bounds test to cointegration, error correction methods, and Granger causality by employing annual report data from 1960- 2007. The Results of the study approved the long-term equilibrium association amongst

international tourism and economic development. The most important discovery of this scholar work is that the tourism-led growth theory is accepted in the case of the Singaporean economy in the long-term (Turan & Glu, 2011).

Chapter 4

EMPIRICAL MODELS, METHOD AND DATA

CONSTRUCTION

Methodology specification and data application of this investigation are detailed in this chapter. Also, the sampling technique, scales of the study variables, and data analysis procedure of this research are specified here.

4.1 Data and Procedure

This survey applied a panel data of ten selected SIDSs. The observed variables of the model are conferred as follows:

Gross domestic product (GDP): It is a dependent variable applied as an alternative to economic development. The GDP US$ statistics are converted from national exchanges through currency exchange ratios. In the current survey, a favorable ratio change in GDP specifies the level of economic development (see Lee & Brahmasrene, 2013; Ng, Lye, & Lim, 2016).

Tourism (TOUR): In this case, tourism receipts are substituted for tourism, and is credited in current US$ per capita. In this study, tourism mainly comprised of expenses by transnational tourist entrances including expenditures for products and services acquired in targeted countries and destinations and any other expenditure given to local transporters for world-wide transportation (see Lee & Brahmasrene, 2013; Ng et al., 2016).

Energy consumption (EC): The energy waste mainly gaged in oil kilograms correspondent per capita. EC shows the quantity of energy or any other forms of

power usage. This is equivalent to local energy usage combined with importations and stock variations, petroleum provided for ships, vehicles, and airliner involved in transnational transport (Lee & Chang, 2008b; Ozturk & Acaravci, 2010).

FDI: For analyzing sensitivity, a variable such as FDI is applied which testified to be the main determining factors of economic and tourism growth in economic subjects of tourism development writings (see Lee & Brahmasrene, 2013; Ng et al., 2016). The indicators and Pearson correlation coefficient approximation of the observed variables are described in Tables 2 and 3.

According to Table 2, the mean of GDP for 194 observations of our sample case is 23.701, and data fluctuates between 22.329 and 26.372. Median presents the number that half of the data is higher than it and half is lower than it, and it is 23.376 for GDP. Jarque-Bera test shows the normality and zero P-Value confirms that GDP has a normal distribution. The second and third column shows the information about EC and TOUR that they also have normal distribution for 194 observations. Mean of EC is 7.696, and the median is 7.776, where data has fluctuations between 3.161 and 10.911. Mean of the TOUR is 20.957, and it fluctuates between 18.197 and 23.678. Our findings for FDI show that the distribution of this variable is not normal, but it does not affect results statistically and mean of FDI is 20.197 where it has volatility between 15.201 and 25.027.

The outcomes of the correlation test (Table 3) disclose a significant and positive association among GDP, TOUR, EC, and FDI at the level of 1% ($p < .01$). A positive relationship is reported among GDP and tourism, energy consumption, and FDI. Furthermore, a positive and significant correlation exists between EC, TOUR, and FDI at $p < .01$, whereas both TOUR and FDI are correlated significantly and positively at the level of $p < .01$. It deserves mentioning that the Pair correlations

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amongst the determinants would vary, utmost specifically while performing panel-based multivariate regression simulations. Also, the numerous examinations in the panel frame are required for this estimate to be practically reliable and evade false results.

Table 2: Summary statistics for the variables

	LNGDP	LNEC	LNTOUR	LNFDI
Mean	23.701	7.696	20.957	20.197
Median	23.376	7.776	21.056	20.117
Maximum	26.372	10.911	23.678	25.027
Minimum	22.329	3.161	18.197	15.201
Std. Dev.	0.995	1.936	1.092	2.065
Skewness	0.913	-0.680	-0.178	0.116
Kurtosis	3.101	3.029	3.370	3.142
Jarque-Bera	27.042***	14.991***	12.144***	15.599
Probability	0.000	0.000	0.000	0.000
Sum	4598.009	1493.081	4065.799	3918.272
Sum Sq. Dev.	191.334	723.940	230.409	823.510
Observations	194	194	194	194

Note: Variables presented in the natural logarithm formula

Table 3: Pearson correlation results

	LNGDP	LNEC	LNTOUR	LNFDI
LNGDP	1.000			
t-stat	-----			
p-value	-----			
LNEC	0.178**	1.000		
t-stat	2.514	-----		
p-value	0.012	-----		
LNTOUR	0.708***	0.250***	1.000	
t-stat	13.905	3.577	-----	
p-value	0.000	0.000	-----	
LNFDI	0.641***	0.465***	0.744***	1.000
t-stat	11.578	7.286	15.458	-----
p-value	0.000	0.000	0.000	-----

*Note: Variables are significant at *** (p < 0.01) significant level.*

4.2 Methodology

4.2.1 Dynamic Panel Cointegration Approach (ARDL)

Dynamic panel cointegration approach (ARDL) is applied in accordance with Narayan et al. (2010), Akadiri et al. (2017), and further related researches in tourism-growth (Sinclair, 1998; Balaguer & CantavellaJorda, 2002; Dritsakis, 2004; Khalil, Kakar, & Malik, 2007; Lee & Chang, 2008b; Ayres, 2000; and Lee & Brahmasrene, 2013, to name a few). A panel-based multivariate pattern is in the current survey for assessing the connection amongst tourism and economic development, integrating energy consumption and foreign direct investment as determining factors of development in the long-term. The indicated analyzing technique is specified as:

$$GDP_{i,t} = f\left(EC_{i,t}, TOUR_{i,t}, FDI_{i,t}\right) \qquad\qquad 1$$

The linear form of the natural log of the first equation is specified in the form of

$$\ln GDP_{i,t} = \beta_0 + \beta_1 \ln EC_{i,t} + \beta_2 \ln TOUR_{i,t} + \beta_3 \ln FDI_{i,t} + \varepsilon_{i,t} \qquad\qquad 2$$

Pesaran et al. (1999) projected the subsequent development model, which is applied in the survey by standard ARDL method. This model consists of lagged contingent determinants and lagged independent determinants in the framework:

$$\ln GDP_{i,t} = \alpha_i + \sum_{j=1}^{p} \gamma_{i,j} \ln GDP_{i,t-j} + \sum_{j=0}^{q} \delta_{i,j} T_{i,t-j} + \varepsilon_{i,t} \qquad\qquad 3$$

where, $T_{i,t} = \left(\ln EC_{i,t}, \ln TOUR_{i,t}, \ln FDI_{i,t}\right)$.

In the third equation for each $i = 1, 2, \ldots, N$ and $t = 1, 2, \ldots, T$, the vector $T_{i,t}$ consists of descriptive variables, α_i signifies stable influences at the level of the country, whereas $\delta_{i,j}$ is the coefficient of the lagged $\ln GDP_{i,t}$ and $\delta_{i,j}$ signifies the coefficients of the lagged descriptive variables. ARDL approaches are widely employed amongst academics and have key economic benefits in comparison with more normal cointegration approaches. The model explains endogeneity, short-run

approximations, in addition to the long-run approximations distinctly in a solitary pattern. The present method is appropriate regardless of the correlation direction of the variables, i.e., I(0), I(1) or partly combined.

Numerous variables related to economy highlighted by the stochastic word that might cause invalid or incorrect decisions. Variables which are in time sequence must be fixed, if determinants auto-covariance do not follow time sequence, i.e., do not change by time. A non-stationary macro panel of variables both in the macro panel and time-series test shows unit root statistically. Current scholars recommended that the panel-based unit root analysis produces greater influence in comparison with the singular time series unit root analysis (see Baltagi, 2008). In this present revision, panel unit root tests as offered by Maddala and Wu (1999), Fisher-ADF and Fisher-PP type, Levin, Lin, and Chu (2002) and, Pesaran, and Shin, are depicted in Table 4. The Levin et al. (2002) panel unit root analysis reflects the ADF indicated in Eq. (4):

$$\Delta y_{i,t} = \gamma_i y_{i,t-1} + \sum_{j=1}^{\gamma} \varphi_{i,j} \Delta y_{i,t-j} + \varepsilon_{i,t} \qquad\qquad 4$$

The examination accepts the similarity in γ_i parameters through sectors, (that is, $\gamma_i = \gamma$ for all i), and yet the interval sequence γ_i can be different. This procedure estimates the null assumption $\gamma_i = 0$ for each i alongside its substitute $\gamma_i < 0$ for each i. Therefore, rejecting the null hypothesis indicates a possible panel integration method.

The panel unit roots outcomes depicted in Table 4 represent non-stationarity of variables, and then at first alteration, i.e., incorporated in the first sequence. Also, the stationarity of the variables requires a new cointegration analysis on a consistent base of the regressions. Research team performs the analysis to enhance the ARDL cointegration analysis outcomes. Table 5 describes the sensitivity test of outcomes,

Fisher-type cointegration analysis panel, as offered by Johansen (1991), which itemized under the null assumption of non-cointegration. This table approves the presence of a long-term stability association amongst the TOUR, EC, FDI, and GDP at ($p < 0.01$).

On the other hand, it is practical to evaluate the preferred ARDL technique, via rewording Equation (3) in the ECM frame as detailed here:

$$\Delta \ln GDP_{i,t} = \varphi_i \ln GDP_{i,t-1} - \theta_i T_{i,t} + \sum_{j=1}^{p-1} \gamma_{i,j}^* \Delta \ln GDP_{i,t-j} + \sum_{j=0}^{q-1} \delta_{i,j}^* \Delta T_{i,t-j} + \varepsilon_{i,t} \qquad 5$$

where,

$$\varphi_i = -\left(1 - \sum_{j=1}^{p} \gamma_{i,j}\right), \theta_i = -\frac{\sum_{j=0}^{q} \delta_{i,j}}{\left(1 - \sum_{j=1}^{p} \gamma_{i,j}\right)} = -\frac{\sum_{j=0}^{q} \delta_{i,j}}{\varphi_i}, \gamma_{i,j}^* = -\sum_{d=j+1}^{p} \gamma_{i,d} \text{ and}$$

$$\delta_{i,j}^* = -\sum_{d=j+1}^{q} \delta_{i,d}$$

The first part of Equation (4) $\varphi_i(\ln GDP_{i,t-1} - \theta_i T_{i,t})$ signifies the coefficient modification of development regarding divergence from the long-term balance track with the descriptive determinants. The next part of the fifth equation represents short-term coefficients of the development equilibriums. The vector factor θ_i signifies the descriptive dynamics coefficient in estimating the long-term development, whereas φ_i takes the error modifying the modification speed. If $(\varphi_i < 0)$, then the development pattern provides proof for a long-term interconnection amongst $\ln GDP_{i,t}$ and the descriptive determinants. Furthermore, the higher the total degrees of the adjustment ϕ_i term, the more rapidly the convergence speed of the model, from the variation in the short-term to the long-term balance direction, and the reverse. Additionally, if $(\varphi_i \geq 0)$, it denotes absenteeism of equivalent relationship among the latent factors and descriptive determinants in the long-term. Consequently, the

critical values of this technique are the long-period coefficients $\left(\theta_i\right)$ and the adjustment speed $\left(\varphi_i\right)$ factor estimations.

Table 4: Panel unit root tests

Methods	Variables							
	GDP		EC		TOUR		FDI	
	Level	Δ	Level	Δ	Level	Δ	Level	Δ
Levin, Lin & Chu	-0.070	-48.761***	1.505	-5.498***	-0.270	-7.505***	-1.369	-9.018***
Im, Pesaran & Shin	1.984	-21.436***	-0.344	-5.379***	2.780	-7.480***	-0.380	-10.668***
Fisher-ADF	14.541	338.806***	9.960	-71.019***	12.206	88.300***	21.456	114.717***
Fisher-PP	24.191	343.714***	12.085	101.025***	13.374	343.515***	24.171	128.379***

Stationary at *** 0.01, ** 0.05, *0.10. Refer to section 2 for definition of variables.

Table 5: Fisher-type Johansen Panel Cointegration analysis

Regression Model	GDP = f(EC, TOUR, FDI)	
Number of Cointegrating Equations	Trace test	Maximum-eigenvalue test
None	116.5***	88.38***
At most 1	49.10***	37.28**
At most 2	27.51	26.81
At most 3	20.25	20.25

Note: According to Mackinnon et al. (1999), the p-value for rejecting the null hypothesis of no cointegration is at 0.01 significant levels.

In implementing ARDL methods, $p = q = 1$ is mainly specified. It is frequently applied in present scholarships that apply of ARDL models to perform empirical analysis (Bassanini & Scarpetta, 2002; Frank, 2009; Martı́nez-Zarzoso & Bengochea-Morancho, 2004; Xing, 2012). Moreover, we recommend an ARDL technique with $p = q = 1$ the requirement. Therefore, the succeeding equivalence through entering ARDL (1, 1) in the third Equation is abstracted here:

$$\ln GDP_{i,t} = \alpha_i + \gamma_i \ln GDP_{i,t-1} + \delta_{i,0} T_{i,t} + \delta_{i,1} T_{i,t-1} + \varepsilon_{i,t} \qquad 6$$

As a result, Equation (6) is written again in the specified ECM:

$$\Delta \ln GDP_{i,t} = \varphi_i \left(\ln GDP_{i,t-1} - \theta_{0.1} - \theta_i T_{i,t} \right) - \delta_{i,1} \Delta T_{i.t} + \varepsilon_{i,t} \qquad 7$$

where, $\varphi_i = -(1-\gamma_i)$, $\theta_i = -\dfrac{\delta_{i,0}+\delta_{i,1}}{\varphi_i}$ and $\theta_{0,i} = -\dfrac{\alpha_i}{\theta_i}$

We use PMG technique to evaluate Equation (7), MG methodology, and the DFE technique. The dynamic fixed-effect model considers homogeneity across sectors in the short and long-term, excluding cut off constant term; however, as stated by Pesaran and Smith (1995), the MG estimator does not enforce the limitation as mentioned earlier. In contrast, as offered by Pesaran et al. (1999), the PMG estimator is considered representative amongst MG and DFE estimators. The PMG estimator indicates that long-term factors (θ_i) are consistent and simultaneously permits other coefficients slopes to change through the sections. In the meantime, the MG estimator is considered to be reliable, at a large quantity of N and T. The PMG factor is not consistent when the heterogeneity hypothesis of the long period coefficient slope is recognized. Besides, the PMG estimator, in line with Blackburne and Frank (2007), turns out to be more robust and reliable, concerning the MG estimator, when the consistency assumption is possible. On the other hand, the MG factor is more sensitive to the sample size and outliers, principally once (T) is minor, and (N) is noticeably big. Even though the PMG estimator, in line with Pesaran et al. (1999), is reliable and more consistent with lagging sequences and model outliers, we can select the most appropriate and optimum technique throughout applying the Hausman measurement analysis.

4.2.2 Panel Granger Causality Test Method

Panel Granger causality test is applied in this study as offered by Dumitrescu and Hurlin (2012) for heterogeneous non-causality. This test is more suitable in cases where (*T)* is more significant than (*N*), in reverse. This analysis is based on vector autoregressive model (VAR) and in the case of existing cross-sectional dependency is reliable. Two detailed distributions exist in this test: asymptotic and semi-

asymptotic distribution. The asymptotic distribution is applied when (*T*) is larger than (*N*), whereas semi-asymptotic distribution is employed when (*N*) is larger than (*T*). The specification of the linear model is presented in Eq. (8) as:

$$z_{i,t} = \alpha_i + \sum_{j=1}^{J} \lambda_i^j z_{i,t-j} + \sum_{j=1}^{J} \beta_i^j T_{i,t-j} + \varepsilon_{i,t} \qquad\qquad 8$$

Where z refers to economic development and T refers to the direction that capture explanatory variables such as tourism, foreign direct investment, and energy consumption. The Granger causality analysis panel is considered to have a normal distribution and represents heterogeneity. In the heterogeneous panel method, (HNC) homogenous non-stationary hypothesis is necessary for testing causal association. For checking it, the null and substitute hypotheses for HNC are depicted in the following:

$$H_0 : \gamma_i = 0 \qquad \forall_i = 1,.....K$$

$$H_1 : \gamma_i = 0 \qquad \forall_i = 1,.....K_1$$

$$\gamma_i \neq 0 \qquad \forall_i = K_1 + 1, K_1 + 2,....K$$

If K_1 is not a known factor which fits $0 \leq K_1 / K < 1$ condition. Regardless of its situation, K_1 / K would be smaller than 1. Where in the panel $K_1 = K$, represents the existence of non-Granger causality association. If $K_1 = 0$, the cross-section of the model Granger causality association is approved.

Chapter 5

EMPIRICAL RESULTS: ARDL

This chapter presents an analysis of the results as well as descriptions for a better understanding of the outcomes of the study, how under observation variables are related. More specifically, the way tourism is related to GDP, FDI, and EC in the model is discussed.

5.1 Empirical Results

The integration characteristics of the macro panel series were confirmed, accompanied by the presence of a long period equilibrium relation at ($p < 0.01$) significant level for the observed elements in Table 4 and 5, the pragmatic estimation phase of the survey has been continued. Table 6 represents the estimators of PMG, MG, and DFE, which are achieved in equation (7). Table 6 indicates long-period coefficient outcomes, the adjustment coefficient speed, and factors of short-run for each method.

The second raw of Table 6 depicts the long-run coefficient of TOUR is positively significant at ($p < 0.05$) and ($p < 0.10$) below the PMG and DFE estimators, meanwhile it is not significant below MG estimator. For offering the long-term equilibrium association among TOUR and GDP, pair comparisons amongst the MG & PMG and as well among the MG & DFE estimators are employed by applying the Hausman specification analysis. Such a procedure is conducted for estimating further homogeneity limitations approximations enforced by the PMG and DFE estimators' relation to MG estimator. As stated before, the PMG and DFE estimators are more

reliable and effective compared with the MG estimator, by the null hypothesis of homogeneity limitations. The specification of the Hausman test statistics is reported in Table 6. The (1.06) value with the p-value of (0.587) is reported in Table 6 for the MG and PMG estimators respectively and (0.00) value with the p-value of (1.000) for MG and DFE estimators as well. As a result, there is no proof for rejecting the null hypothesis in both occasions. Therefore, concluding that, the PMG and DFE estimators are more appropriate and effective with the MG estimators. Thus, the PMG and DFE are elected for the study as the suggested framework.

A significant and positive long-run equilibrium influence of tourism on economic development is depicted in Table 6 (see Khoshnevis, Homa, and Soheilzad, 2017) in the case study of this survey. Additionally, outcomes acquired from Hausman analysis specify that, regardless of the economic development, the progress of tourism and consumption of energy change in the selected SIDSs, so we cannot reject the slope homogeneity hypothesis. All studied islands look to have the same equilibrium associations in the long-run between TOU, EC, and GDP, with an average convergence degree headed for the long-run equilibrium pathway.

Additionally, the adjustment speed is significant and negative at ($p < 0.01$) through all evaluation procedures. A long-term equilibrium and connection between tourism and economic growth are verified. The speed of adjustment coefficients in short-run in the estimations indicate the least adjustment coefficient of DFE estimator with the value of -0.143, tracked with PMG estimator with the value of -0.146, whereas the highest adjustment coefficient value belongs to MG estimator with the value of -0.243. The outcomes demonstrate averagely, long-term path deviation of development is modified by 0.14% per year.

Table 6: PMG, MG and DFE estimates of the ARDL (1, 1) economic growth equation

Regressors	PMG	MG	DFE
Long-run coefficients			
LnEC	0.703*** (0.000)	2.484* (0.062)	0.304*** (0.000)
LnTOUR	0.280*** (0.000)	0.101 (0.890)	0.316*** (0.000)
Adjustment coefficient	-0.146*** (0.000)	-0.243** (0.014)	-0.143*** (0.000)
Short-run coefficients			
Constant	1.809 (0.151)	2.369* (0.080)	6.658*** (0.000)
ΔLnEC	0.097 (0.378)	0.096 (0.385)	-0.056 (0.384)
ΔLnTOUR	0.057*** (0.004)	0.007* (0.730)	0.156*** (0.001)
No. of SISs	10	10	10
No. of observations	189	189	189
Hausman test	MG VS PMG		MG VS DFE
Chi2(3)	1.06		0.00
Prob. > chi2	0.587		1.000

According to the PMG and DFE estimators, it is specified that 1% increase in tourism in short-run will increase economic development by 0.057% and 0.156%. Such an increase in tourism in long-run will cause 0.280% and 0.316% increase in economic development. These results are significant effects compared with the results reported by Narayan et al. (2010) who achieved 0.24% and 0.72% respectively in the short and long period for tourism-induced growth, in the Pacific Island countries. This displays that the effect of tourism on economic growth differs crosswise the countries and island states both in short and long periods.

Also, a positive adjustment coefficient phrase confirms the presence of a constant long-term equilibrium association among TOUR, GDP, and EC. Remarkably, predicted adjustment coefficient speed of the studied estimators in absolute value is close to the findings of Narayan's (2004) review with the value of -0.273, -0.288, and 0.165. Such results suggest that the convergence degree in long-term equilibrium in the association between tourism and development in the SIDSs is strong and resonate with the current results, by application of time series method.

Also, expected coefficient outcomes of EC both in the short – and long-run are offered in Table 6 — EC is positively and significantly correlated at (p < 0.01) significant level below the PMG and DFE simulations. This is evidence that energy consumption affects the economic development of SIDSs. The practical conclusions

of the research resound with the study of Lee and Chang (2008c) in the case of Asian economies. Energy consumption sounds to show a positive influence on economic development around 0.703% and 0.304% in the long-term, even though such a relationship is insignificant statistically in the short-term below the PMG and DFE estimators.

5.2 Sensitivity Check: Estimation Based on Foreign Direct Investment as the Determinant of Development

For checking the strength of the model, to validate the effect of tourism on economic development in the case of SIDSs, foreign direct investment is entered to the model as a determining factor of economic development for addressing the deleted bias variable in equation 7. FDI has been described to have a significant impact on economic growth in touristic states, especially in the interior of the EU (see Lee & Brahmasrene, 2013). Therefore, Eq. (6) was re-checked by entering normal logarithm of FDI to the model. The projected outcomes of the PMG and DFE estimators are offered in Table 7.

Table 7 reports the outcomes of the study that below the PMG estimators in column (1) − (2) and the DFE estimators in column (3) − (4), the predicted TOUR coefficients are positively and significantly correlated at (p < 0.01) in the long-term. The EC coefficient below the PMG and DFE estimates both in short-term and long-term is significantly positive at (p <0.01), (p < 0.05) and (p < 0.10). In the meantime, the adjustment coefficients speed is statistically reliable and correlate with the reports depicted in Table 6. Considering the results of the estimation, research team justifies the existence of a significant and positive correlation between EC and GDP in the short-term is because of adding FDI to the growth equation in the second and fourth column of Table 7. Consistent with Lee and Brahmasrene (2013) and Paramati,

Shahbaz, and Alam (2017), our results specified a long period equilibrium association amongst tourism, energy usage, foreign direct investment, and economic growth in the case of the selected small developing island (SIDSs).

Table 7: Sensitivity test with FDI for PMG and DE estimations of the ARDL (1, 1) economic development equation

Regressors	PMG		DFE	
	(1)	(2)	(3)	(4)
Long-run coefficients				
LnEC	0.703***	0.566***	0.304***	0.281***
	(0.000)	(0.000)	(0.000)	(0.000)
LnTOUR	0.280***	0.233***	0.316***	0.281***
	(0.000)	(0.000)	(0.000)	(0.000)
LnFDI		0.041***		0.028**
		(0.000)		(0.028)
Adjustment coefficient	-0.146***	-0.145***	-0.143***	-0.142***
	(0.000)	(0.001)	(0.000)	(0.000)
Short-run coefficients				
Constant	1.809 (0.151)	1.989 (0.152)	6.658** (0.000)	6.847***
				(0.000)
ΔLnEC	0.097 (0.378)	0.165**	-0.056 (0.384)	0.039*
		(0.023)		(0.052)
ΔLnTOUR	0.057***	0.056**	0.156***	0.149***
	(0.004)	(0.049)	(0.001)	(0.004)
ΔLnFDI		0.001 (0.633)		-0.001
				(0.830)
No. of SISs	10	10	10	10
No. of observations	189	189	189	189

Note: The number of observed variables increased from 180 to 190 when the first-order lag of the dependent determinants was entered in the right-hand side of the economic development equation. P-values are in parentheses. Variables are significant at *** (p < 0.01), ** (p < 0.05) and * (p < 0.10) levels correspondingly.

5.3 Panel Granger Causality Outcomes

The outcomes of Granger causality analysis is displayed in Table 8 by applying the Dumitrescu and Hurlin (2012) procedure. The importance of the Wald statistic p-values display that TOUR and GDP Granger affect each other at (p < 0.01) i.e., two-way connection is present from tourism to economic development, validating the

theory of tourism-led growth (see Bilen, Yilanci, & Eryüzlü, 2017; Brida, Cortes-Jimenez & Pulina, 2016; Gunduz & Hatemi, 2005; Katircioglu. 2009a, b; Jackman, 2012; Kreishan, 2015). This specifies that tourism benefits and growth is correlated to revenue upsurges, i.e., a long-term interconnection association amongst tourism and gross domestic product.

In accumulation, evidence is found supporting a two way directional causality originating from TOUR to FDI, from GPD to EC at $(p < 0.01)$ and $(p < 0.05)$ in long-term (see Lee & Chang 2008c; Odhiambo, 2009; Zaman, Moemen & Islam, 2016), whereas a one-directional Granger causality association exists amongst economic development and foreign direct investment and between energy usage and foreign direct investment. This specifies that energy usage and economic development have a projecting power over foreign direct investment arrivals. An upsurge in the usage of energy and proper economic functioning would result in higher international investment arrivals for increasing tourism development in case of SIDSs.

Table 8: Dumitrescu and Hurlin (2012) Panel dynamic causality test

Null hypothesis	W-stat	Zbar-stat	P-value	Causality
TOUR → GDP	3.586***	5.784	0.000	Yes
GDP → TOUR	3.029***	4.538	0.000	Yes
TOUR → EC	4.156***	7.058	0.000	Yes
EC → TOUR	1.991**	2.217	0.026	Yes
TOUR → FDI	0.798	-0.451	0.651	No
FDI → TOUR	2.925***	4.306	0.000	Yes
GDP → FDI	3.331***	4.238	0.003	Yes
FDI → GDP	3.361***	4.327	0.000	Yes
GDP → EC	44.150***	96.488	0.000	Yes
EC → GDP	3.028***	4.535	0.000	Yes
FDI → EC	2.312***	2.933	0.003	Yes
EC → FDI	0.535	-1.039	0.298	No

Note: The notation ≠> implies that the variables do not Granger cause one another. Granger causality relationship are found $(p <0.01)$ and $(p <0.05)$ significant level.

Chapter 6

CONCLUSION, POLICY IMPLICATION AND SUGGESTION

Yearly frequency statistics acquired from the online World Bank database in the course of 1995-2014 on tourism incomes, GDP, FDI, and EC confirmed the significant effect of tourism on economic development in SIDSs. A panel of ten SIDSs was applied in this study, between 1995 and 2014 gathered from the online databank of World Bank. The restriction of this research to the specified time was due to the accessibility of data.

The SIDSs, specifically the advanced ones, are significantly expanding the tourism industry as an important sector for development, intending to achieve specified macroeconomic goals. In the current survey, we studied the way tourism affects economic growth in the sampled SIDSs. This investigation was done by integrating energy usage, and foreign direct investment for controlling deleted factors biased, as per tourism incomes and development is considered as the central aspect of development strategies in SIDSs.

We used comparatively innovative heterogeneous panel autoregressive distributed lag cointegration techniques of PMG, MG, and DFE estimators and confirmed short-term and long-term equilibrium association between tourism, energy usage, foreign direct investment, and economic development in the case of sampled SIDSs. The results extracted from Panel Granger interconnection offer evidence for tourism-induced energy consumption, tourism-induced investment, and energy consumption-

development relations keep and have a significant effect on SIDSs economic development. Approximately, below the PMG and DFE estimators, a 1% increase in tourism incomes will cause a 0.057% and 0.156% and 0.280% and 0.316% increase in GDP in the short-term. On the other hand, when introduced FDI in the development model, energy consumption turned out to be significant statistically and accounted for GDP in the short-term by 0.165% and 0.039%. Besides, divergence from annual development direction per year is modified by 0.14%.

6.1 Conclusion

This study applied comparatively innovative heterogeneous panel autoregressive distributed lag cointegration procedure for rechecking the Granger causality connection and long-term equilibrium among tourism and economic development in case of SIDSs. Furthermore, energy consumption and foreign direct investment as substitute development contributing factors were incorporated in the current study between 1995 and 2014. Former studies mainly focused on the influence of tourism growth on emissions of carbon like Akadiri, Akadiri, and Alola (2017b), not focusing on the effect of tourism on economic growth, whether tourism and economic growth have predictive power on each other in the selected small island states. This partial gap is covered in this study.

Furthermore, the current literature covering this topic is mainly focused on Pacific island and extensive countries data. In contrast, this research emphasizes the impact and long-run equilibrium association amongst tourism and economic development in sampled SIDSs.

Two crucial contributions of this survey are: first, contrasting the present literature on the same subject, current survey is among the first researches which applied the dynamic panel approach for testing the impact of tourism on other determining

factors of economic development in the selected SIDSs. This investigation applied a relatively new and unique ARDL method for testing dynamic long-term equilibrium method on the base of the panel, among tourism, energy consumption, foreign direct investment, and economic development with the convergence speed in the sample of the study in the long-term. The current time-span of the study is applicable to apply dynamic panel-based estimation method. Second, according to Narayan (2004), Narayan et al. (2010), Lee and Brahmasrene, (2013), and Bilen, Yilanci, and Eryüzlü (2017) it provides a context for examining tourism earnings-economic development relations with other development variables, particularly in the case of SIDSs.

After allowing for the heterogeneous country effect, a positive and statistically significant long-run equilibrium relationship between tourism, energy consumption, FDI, and gross domestic product, with a moderate convergence rate towards the long-run path is confirmed. The panel Granger causality test is proposed by Dumitrescu and Hurlin [(2012) shows bidirectional causality running from tourism to economic growth, from tourism to energy consumption and from energy consumption to economic growth, and unidirectional causality between FDI and tourism, between economic growth and FDI, and between FDI and energy consumption.

Our empirical findings provide support for tourism-induced growth, which implies tourism is the globe's most prominent service businesses regarding revenue generation so that its development has resulted in modifications both in society and economy. The tourism sector is economically a new occurrence in international trade (Durbarry, 2002; Seghir, Mostéfa, Abbes, & Zakarya, 2015). The tourism industry turns out to be a substantial economic, social, and cultural movement for the progress of countries. Tourism is a phenomenon that, if properly planned, can cause more

production, improved living standards, community welfare, job creation and can also affect many factors of production, including labor, wealth and land (Adamou & Clerides, 2009; Lee & Chang, 2008).

The findings of the study also provide support for tourism-induced energy consumption. As mentioned in chapter 2, tourism-induced energy consumption mainly considers the tourism industry as a contributor in environmental issues (Gössling & Hall, 2005). The recent researches indicate that the tourism sector can be known as one of the most critical energy consumers, specifically regarding transportation and providing supporting infrastructures (Tabatchnaia-Tamirisa et al., 1997; Becken, 2002).

Besides, the empirical results of the study support tourism-induced investment theory in the case of SIDSs.Tourism, because of its early return, is a good foundation for investment. Tourism can attract national and foreign investment and be a cause of economic growth. Foreign investment, especially for developing countries is essential, specifically in countries that do not have the domestic investor, foreign investment can accelerate the development of tourism and promote economic standards and bring ideas, technology, contacts, and new markets.

Concludingly, according to the findings of the study, energy consumption-economic growth relationship in the case of SIDSs is approved. Our empirical results resonate with the existing findings with significant policy implications for the SIDSs.

6.2 Policy Implication

In the light of the findings of this research, significant practical contributions could be offered to the policymakers, government officials, private investors/institutions, and individuals, for understanding the way the confirmed relationships differ through the regions and states. The empirical results of our study

are analytical and can provide new and significant insights into the tourism earnings and decision-making process of economic growth, particularly in the under supervision SIDSs.

The tourism sector in the studied SIDSs has been facing the shortage of domestic investment, notably savings, that is why international capital inflow is considered as a vital share of the investment pool. Credits and portfolio flow, are the preferred components of foreign capital flows is supposed to be a foreign direct investment (Dube, 2009). Foreign direct investment is not only for increasing investments in the tourist destination, but it also is a tool for transmitting expertise, managerial and organization practices, and technology for developing and accessing the markets. The arrivals of foreign direct investment are predicted to have a positive effect on economic growth in the tourist destination states and countries. Optimistic advantages of foreign direct investment are conditional on the absorptive capacity of a tourist destination, which mainly accounts for energy consumption and human capital stock (Dube, 2009).

Finally, although the results of this study approved the significance of tourism in the sample of the study, it deserves mentioning here, for objectifying the full potential of the tourism industry in the SIDSs, administrators or politicians have to assign some restrictions. Tourism is exposed to environmental and ecological disasters and legal uncertainty. On the other hand, these problems are apparent in SIDSs and the SIDs prone to these problems were adversely affecting the tourism sector. As an example, natural disasters like torrents, hurricanes, famines, have impacted Fiji and Haiti.

Moreover, political instability has affected selected SIDSs and in turn, will affect tourism growth. SIDSs also suffer from small national markets. They were also

unsuccessful in getting benefits of globalization and trade liberalization and depending on faraway and outside markets, private markets, and individuals. The cost of establishing the infrastructure, energy, communication, and transportation are increasingly combined with over-population, which caused pressures on the currently restricted markets.

6.3 Suggestion

It is worthy of mentioning here that no scientific research is impeccable, including the current study. This study finds the relationships among tourism, foreign direct investment, energy consumption and economic development in the case of ten SIDSs at the macro level but neglecting other sections, islands, or countries. Science this survey mainly focused on ten small developing island states, we did not have access to all the relevant data affecting economic growth. The reason focusing on the effect of tourism, foreign direct investment, and energy consumption is because of availability of data at that specific period. The findings of the research might vary when data are analyzed with different software or different economic models.

Since SIDSs are highly dependent on the tourism industry because of their low flexibility and geographic place, they are intensely affected by recurring natural disasters. These concerns have been the main policy challenges for the SIDSs to develop tourism industry as an stimulation of economic growth. The results of the current investigation show that tourism in SIDSs results in real incomes development via foreign direct investment channels and also the expansion of energy capacity. By consideration of the empirical results of this survey, the supplementary investigation is recommended to cover the channels by which gas and oil and charges encourage the tourism growth SIDSs or even in large economies.

REFERENCES

A Closer Look at Panels, *Tourism Management*, no. 29, pp. 180-192.

Acs, Z. J. (2002). Innovation and the growth of cities. *Cheltenham: Edward Elgar*.

Adamou, A., & Clerides, S. (2009). Prospects and Limits of Tourism-led Growth: The International Evidence. *The Rimini Centre for Economic Analysis WP*, 41- 09.

Akadiri, S. S., Akadiri, A. C., & Alola, U. V. (2017b). Are there growth impact of tourism? Evidence from selected small island states. *In press. Current Issue in Tourism*. doi.org/10.1080/13683500.2017.1381947.

Akadiri, S. S. & Akadiri, A C. (2018, in press). Interaction between CO2 emissions, energy consumption and economic growth in the Middle East: Panel causality evidence. *International Journal of Energy Technology and Policy*.

Akadiri, S. S., Bekun, V. F., Taheri, E., & Akadiri, A C. (2017a, in press). Carbon emissions, energy consumption and economic growth: A causality evidence. *International Journal of Energy Technology and Policy*.

Amaghionyeodiwe, L. A. (2012). Research note: A causality analysis of tourism as a long-run economic growth factor in jamaica. *Tourism Economics*, 18(5), 1125-1133. doi:10.5367/te.2012.0155

Anatasia, V. (2015). The causal relationship between GDP, exports, energy consumption, and CO2 in Thailand and Malaysia. *International Journal of Economic Perspectives*, 9(4), 37.

Ayres, R. (2000). Tourism as a passport to development in small states: reflections on Cyprus. *International Journal of Social Economics*. 27(2), 114-133.

Bahmani Oskooee, M. (2005), "History of the Rial and Foreign Exchange Policy in Iran", *Iranian Economic review, 10*, no. 14, pp.1-18.

Balaguer, J. and J. Cantavella (2002), "Tourism as a Long–Run Economic Growth Factor: the Spanish Case", *Applied Economics*, no. 34, pp. 877-884.

Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: the Spanish case. *Applied Economics,34*(7), 877-884.

Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: the spanish case. *Applied Economics, 34*(7), 877–884.

Baltagi, B. H. (2005) Econometric Analysis of Panel Data (third ed.) *John Wiley & Sons.*

Banerjee, O., Cicowiez, M., & Gachot, S. (2015). A quantitative framework for assessing public investment in tourism – an application to haiti. *Tourism Management,* 51, 157-173. doi:10.1016/j.tourman.2015.05.015

Bassanini, A., & Scarpetta, S. (2002). Does human capital matter for growth in OECD countries? A pooled mean-group approach. *Economics Letters*. 74(3), 399-405.

Becken S, (2001), Simmons DG. Understanding energy consumption patterns of tourist attractions and activities in New Zealand. *Tourism Management* 2002; 23:343–54.

Becken S, Frampton C, Simmons DG. Energy consumption patterns in the accommodation sector—the New Zealand case. *Ecological Economics* 2001;39 (3):371–86.

Becken S, Simmons DG, Frampton C. Energy use associated with different travel choices. *Tourism Management* 2003; 24:267–77.

Becken, S., & Patterson, M. (2006). Measuring national carbon dioxide emissions from tourism as a key step towards achieving sustainable tourism. *Journal of Sustainable Tourism.* 14(4), 323-338.

Becken, S., Frampton, C., & Simmons, D. (2001). Energy consumption patterns in the accommodation sector—the New Zealand case. *Ecological Economics.* 39(3), 371-386.

Bhagwati, J. and T. Srinvasan (1979), "Trade Policy and Development in International Economic: Theory and Policy", *Johns Hopkins University press, Baltimore.*

Bhagwati, J., & Srinivasan, T. N. (1979). Trade policy and development. *International Economic Policy: Theory and Evidence*. 1-35.

Bhattacharya, S., Bhattacharya, M., Paramati, S. R., & Ozturk, I. (2016). The effect of renewable energy consumption on economic growth: Evidence from top 38 countries. *Applied Energy, 162*, 733-741. doi:10.1016/j.apenergy.2015.10.104

Biesiot, W., & Noorman, K. J. (1999). Energy requirements of household consumption: a case study of The Netherlands. *Ecological Economics*, 28(3), 367-383.

Bilen, M., Yilanci, V., & Eryüzlü, H. (2017). Tourism development and economic growth: a panel Granger causality analysis in the frequency domain. *Current Issues in Tourism*. 20(1), 27-32.

Black, W. R. (2007). Sustainable mobility and its implications for tourism. *Tourism and Transport*. 57.

Blackburne, E. F., & Frank, M. W. (2007). Estimation of non-stationary heterogeneous panels. *Stata Journal*. 7(2), 197.

Borhan, H. B., & Ahmed, E. M. (2012). Simultaneous Model of Pollution and Income in Malaysia. *International Journal of Economic Perspectives*, 6(1), 50.

Bouzahzah, M., & El Menyari, Y. (2013). International tourism and economic

growth: the case of Morocco and Tunisia. *The Journal of North African Studies*. 18(4), 592-607.

Brida, J, C. Carrera and W. Risso (2008), "Tourism's Impact on Long-Run Mexican Economic Growth", *Economics Bulletin*, no. 21, pp.1-8.

Brida, J. G., Cortes-Jimenez, I., & Pulina, M. (2016). Has the tourism-led growth hypothesis been validated? A literature review. *Current Issues in Tourism*. 19(5), 394-430.

Brida, J. G., Lanzilotta, B., Pereyra, J. S., & Pizzolon, F. (2015). A nonlinear approach to the tourism-led growth hypothesis: The case of the MERCOSUR. *Current Issues in Tourism*. 18(7), 647-666.

Castro-Nuño, M., Molina-Toucedo, J. A., & Pablo-Romero, M. P. (2013). Tourism and GDP: A meta-analysis of panel data studies. *Journal of Travel research*, 52 (6), 745–758.

Ceron JP, Dubois G., (2003), Changes in leisure/tourism mobility patterns facing the stake of global warming: the case of France. Presentation given at global change and human mobility, *International Geographical Union Commission Palma de Mallorca*, Spain; 2003.

Cortes, I. and M. Pulina (2006), " A further step into ELGH and TLGH for Spain and Italy", http://www.feem.it/Feem/Pub/Publications/WPapers/default.htm.

De Vita, G., Katircioglu, S., Altinay, L., Fethi, S., & Mercan, M. (2015). Revisiting the environmental Kuznets curve hypothesis in a tourism development context. *Environmental Science and Pollution Research*, 22(21), 16652-16663.

Development: The Case of Taiwan", *Tourism Management*, no. 27, pp. 925-

Dritsakis, N. (2004), "Tourism as a Long-run Economic Growth Factor an Empirical Investigation for Greece", *Tourism Economics*, no. 3, pp. 305-316.

Dritsakis, N. (2004). Tourism as a long-run economic growth factor: an empirical investigation for Greece using causality analysis. *Tourism Economics*. 10(3), 305-316.

Dube, S. (2009). Foreign direct investment and electricity consumption on economic growth: evidence from South Africa. *Economia Internazionale/International Economics*, 62(2), 175-200.

Duffy, L. N., Stone, G., Charles Chancellor, H., & Kline, C. S. (2016). Tourism development in the dominican republic: An examination of the economic impact to coastal households.*Tourism and Hospitality Research*, 16(1), 35-49. doi:10.1177/1467358415613118

Dumitrescu, E. I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic Modelling*. 29(4), 1450-1460.

Dunning, J. H. (1993). Multinational enterprises and the global economy. *Wokingham: Addison-Wesley*.

Dunning, J. H. (2002). Trade, location of economic activity and the multinational enterprise: A search for an eclectic approach. In J. H. Dunning (Ed.), Theories and paradigms of international business activity - The selected essays of John H. Dunning (pp. 52-76). *Cheltenham: Edward Elgar Publishing Limited*.

Durbarry, R. (2002). The economic contribution of tourism in Mauritius. Annals of *Tourism Research*, 29(3), 862–865.

Economic Growth: Evidence from Taiwan", *Mathematics and Computers*

Ekanayake, E. M., Vogel, R., & Veeramacheneni, B. (2003). Openness and economic growth: Empirical evidence on the relationship between output, inward FDI, and trade. *Journal of Business Strategies*, 20(1), 59.

Enders, W. (2004), "Applied Econometric Time Series", *University of Alabama*.

Engel, R. F. and C. W. J. Granger (1987), "Cointegration and Error Correction: Representation, Estimation and Testing", *Econometrica*, no. 55, pp. 76-251.

Eugenio, J., M. Morales, and R. Scarpa (2004), "Tourism and Economic Growth in Latin American Countries: A Panel Data Approach", *Natural Resources Management*, no. 26, pp. 1-28.

Eugenio, J., M. Morales, and R. Scarpa (2004), "Tourism and EconomicGrowth in Latin American Countries: A Panel Data Approach", *Natural Resources Management*, no. 26, pp. 1-28.

Eugenio-Martin, J. L., Martín Morales, N., & Scarpa, R. (2004). Tourism and economic growth in Latin American countries: A panel data approach.

Fauzel, S., Seetanah, B., & Sannassee, R. V. (2017). Analysing the impact of tourism foreign direct investment on economic growth: Evidence from a small island developing state.*Tourism Economics*, 23(5), 1042-1055. doi:10.1177/1354816616664249

Frank, M. W. (2009). Inequality and growth in the United States: Evidence from a new state-level panel of income inequality measures. *Economic Inquiry*. 47(1), 55-68.

Frenț, C. (2018). Informing tourism policy with statistical data: The case of the icelandic tourism satellite account. *Current Issues in Tourism*, 21(9), 1033-1051. doi:10.1080/13683500.2015.1126237

Fu, X. (2008). Foreign direct investment: absorptive capacity and regional innovation capabilities: evidence from China. *Oxford Development Studies*, 36, 89–110.

Fu, X. (2012). Foreign direct investment and managerial knowledge spillovers through the diffusion of management practices. *Journal of Management Studies*, 49, 970–999.

Gammeltoft, P., Pradhan, J. P., & Goldstein, A. (2010). Emerging multinationals: home and host country determinants and outcomes. *International Joural of Emerging Markets*, 5, 254–265.

Georgantopoulos, A. G. (2013). Tourism expansion and economic development: Var/Vecm analysis and forecasts for the case of India. *Asian Economic and Financial Review*. 3(4), 464.

Gil-Alana, L. A., & Huijbens, E. H. (2018). Tourism in iceland: Persistence and seasonality.*Annals of Tourism Research*, 68, 20-29. doi:10.1016/j.annals.2017.11.002

Gössling S., (2000), Sustainable tourism development in developing countries: some aspects of energy use. *Journal of Sustainable Tourism* 2000;8(5):410–25.

Gössling S., (2002) Global environmental consequences of tourism. *Global Environmental Change* 2002;12 (4):283–302.

Gössling, S. (2002). Global environmental consequences of tourism. *Global Environmental Change.* 12(4), 283-302.

Gossling, S., & Hall, C. M. (2006). 1 An introduction to tourism and. Tourism and global environmental change: Ecological, economic, social and political interrelationships, 1.

Gössling, S., Hansson, C. B., Hörstmeier, O., & Saggel, S. (2002). Ecological

footprint analysis as a tool to assess tourism sustainability. *Ecological Economics*. 43(2), 199-211.

Grossman GM, Krueger AB., (1991), Environmental impacts of a North American free trade agreement, NBER working papers 3914, *National Bureau of Economic Research, Inc.*; 1991.

Gunduz, L., & Hatemi-J, A. (2005). Is the tourism-led growth hypothesis valid for Turkey? *Applied Economics Letters*. 12(8), 499-504.

Gunduz, L., & Hatemi-J, A. (2005). Is the tourism-led growth hypothesis valid for Turkey? *Applied Economics Letters*, 12(8), 499–504.

Halicioglu, F. (2009). An econometric study of CO2 emissions, energy consumption, income and foreign trade in Turkey. *Energy Policy*, 37(3), 1156-1164.

Hall, D. (2004). Transport and tourism: Equity and sustainability issues. *Tourism and Transport*. 45-55.

Hazari, B. R. (1993). An analysis of tourists' consumption of non-traded goods and services on the welfare of the domestic consumers. *International Review of Economics & Finance*. 2(1), 43-58.

Hazari, B. R., & Kaur, C. (1995). Tourism and welfare in the presence of pure monopoly in the non-traded goods sector. *International Review of Economics & Finance*. 4(2), 171-177.

Helpman, E., & Krugman, P. R. (1985). Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy. *MIT press*.

Høyer, K. G. (2000). Sustainable tourism or sustainable mobility? The Norwegian case. *Journal of Sustainable Tourism*. 8(2), 147-160.

Hsiao, C. (1981), "Autoregressive Modeling & Money –Income Causality Detection", *Journal of Monetary Economics*, no. 26, pp. 85-106.

Hsiao, C., & Shen, Y. (2003). Foreign direct investment and economic growth: the importance of institutions and urbanization. *Economic development and Cultural Change*. 51(4), 883-896.

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1), 53-74.

Inchausti-Sintes, F. (2015). Tourism: Economic growth, employment and Dutch disease. *Annals of Tourism Research*, 54, 172–189.

International Energy Agency (IEA), 2002. World energy outlook: *Energy and Poverty*.

IOCW (1994) Intergovernmental Oceanographic Co*mmission Workshop Report*. Paris. 96, 2.

Istaiteyeh, R. M. (2016). Electricity Consumption and Real GDP: Are They Causal for Jordan?. *International Journal of Economic Perspectives*, 10(4), 526-540.

Jackman, M. (2012). Revisiting the tourism-led growth hypothesis for Barbados: a disaggregated market approach. *Regional and Sectoral Economic Studies*. 12(2), 15-26.

Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models. Econometrica: *Journal of the Econometric Society*. 1551-1580.

Jones, B. E., Scott, D., & Gossling, S. (2006). 4 Lakes and streams. *Tourism and Global Environmental Change: Ecological, Economic, Social and Political Interrelationships*, 76.

Jumadilova, S. (2012). The Role of Oil and Gas Sector For The Economy of Kazakhstan. *International Journal of Economic Perspectives*, 6(3), 295.

Juselius, K. (2006), "The Cointegrated VAR Model Methodology and Applications", *New York, Oxford University Press*.

Kalayci, S., & Koksal, C. (2015). The Relationship between China's Airway Freight In Terms Of Carbon-Dioxide Emission and Export Volume. International *Journal of Economic Perspectives*, 9(4), 60.

KAPUSUZOĞLU, A. (2014). Causality Relationships between Carbon Dioxide

Emissions and Economic Growth: Results from a Multi-Country Study. *International Journal of Economic Perspectives*, 8(2).

Katircioglu, S. (2009a). Tourism, trade and growth: the case of Cyprus. *Applied Economics.* 41(21), 2741-2750.

Katircioglu, S. (2009b). Testing the tourism-led growth hypothesis: The case of Malta. *Acta Oeconomica*. 59(3), 331-343.

Katircioglu, S. (2009d). Foreign direct investment and economic growth in turkey: an empirical investigation by the bounds test for co-integration and causality tests. *Ekonomska istraživanja,* 22(3), 1-9.

Katircioğlu, S. (2010). Research note: Testing the tourism-led growth hypothesis for singapore – an empirical investigation from bounds test to cointegration and granger causality tests. *Tourism Economics*, 16(4), 1095-1101. doi:10.5367/te.2010.0012

Katircioglu, S. (2011). The bounds test to the level relationship and causality between foreign direct investment and international tourism: the case of Turkey. *E+ M Ekonomie a Management*, (1), 6.

KATIRCIOGLU, S. T. (2009). testing the tourism-led growth hypothesis: The case of malta.*Acta Oeconomica*, 59(3), 331-343. doi:10.1556/AOecon.59.2009.3.4

Katircioglu, S. T. (2009c). Revisiting the tourism-led-growth hypothesis for Turkey

using the bounds test and Johansen approach for cointegration. *Tourism Management*, 30(1), 17-20.

Katircioğlu, S. T. (2010). International tourism, higher education and economic growth: The case of North Cyprus. *The World Economy*, 33(12), 1955-1972.

KATIRCIOĞLU, S. T. (2011). tourism and growth in singapore: New extension from bounds test to level relationships and conditional granger causality tests. *The Singapore Economic Review*, 56(3), 441-453. doi:10.1142/S0217590811004365

Katircioğlu, S. T. (2014a). Testing the tourism-induced EKC hypothesis: the case of Singapore. *Economic Modelling*, 41, 383-391.

Katircioglu, S. T. (2014b). International tourism, energy consumption, and environmental pollution: The case of Turkey. *Renewable and Sustainable Energy Reviews*, 36, 180-187.

Katircioglu, S. T., Feridun, M., & Kilinc, C. (2014). Estimating tourism-induced energy consumption and CO 2 emissions: the case of Cyprus. *Renewable and Sustainable Energy Reviews*. 29, 634-640.

Khalil, S., Kakar, M. K., & Malik, A. (2007). Role of Tourism in Economic Growth: Empirical Evidence from Pakistan Economy [with Comments]. *The Pakistan Development Review*. 985-995.

Khan, M. K., Teng, J., & Khan, M. I. (2019). Effect of energy consumption and economic growth on carbon dioxide emissions in pakistan with dynamic ARDL simulations approach. *Environmental Science and Pollution Research, 26*(23), 23480-23490. doi:10.1007/s11356-019-05640-x

Khoshnevis Yazdi, S., Homa Salehi, K., & Soheilzad, M. (2017). The relationship between tourism, foreign direct investment and economic growth: evidence from Iran. *Current Issues in Tourism*. 20(1), 15-26.

Khoshnevis Yazdi, S., Nateghian, N., & Sheikh Rezaie, N. (2017). The causality relationships between tourism development and foreign direct investment: an empirical study in EU countries. *Journal of Policy Research in Tourism, Leisure and Events*. 1-17.

Kim, H., H. Chen, and S. Jan (2006), "Tourism Expansion and Economic

Komiya, R. (1967). Non-traded goods and the pure theory of international trade. *International Economic Review*. 8(2), 132-152.

Kraft J, Kraft A. On the relationship between energy and GNP. *Journal of Energy and Development* 1978; 3:401–3.

Kreishan, F. M. (2010). Tourism and economic growth: The case of Jordan. *European Journal of Social Sciences*. 15(2), 63-68.

Kreishan, F. M. (2015). Empirical study on tourism and economic growth of

Bahrain: An ardl bounds testing approach. *International Journal of Economics and Finance*. 7(11), 1.

Krueger, Anne O. (1980) "Trade policy as an input to development." *American Economic Review*. 70, 188-292.

Kundu, S. K., & Contractor, F. J. (1999). Country location choices of service multinationals: An empirical study of the international hotel sector. *Journal of International Management,* 5, 299-317.

Lee, C. and C. Chang (2008),Tourism Development and Economic Growth

Lee, C. and M. Chien (2008),Structural Breaks, Tourism Development

Lee, C. C., & Chang, C. P. (2008). Tourism development and economic growth: A closer look at panels. *Tourism Management*, 29(1), 180–192.

Lee, C. C., & Chang, C. P. (2008a). Tourism development and economic growth: A closer look at panels. *Tourism Management*. 29(1), 180-192.

Lee, C. C., & Chang, C. P. (2008c). Energy consumption and economic growth in Asian economies: a more comprehensive analysis using panel data. *Resource and energy Economics,* 30(1), 50-65.

Lee, C. C., & Chien, M. S. (2008b). Structural breaks, tourism development, and economic growth: Evidence from Taiwan. *Mathematics and Computers in*

Simulation. 77(4), 358-368.

Lee, J. W., & Brahmasrene, T. (2013). Investigating the influence of tourism on economic growth and carbon emissions: Evidence from panel analysis of the European Union. *Tourism Management*. 38, 69-76.

Levin, A., Lin, C. F., Chu, C. S. J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of Econometrics*. 108(1), 1-24.

Lise W, Montfort KV. Energy consumption and GDP in Turkey: is there a co-integration relationship? *Energy Economics* 2007; 27:1166–78.

List, J. A., & Co, C. Y. (2000). The effects of environmental regulations on foreign direct investment. *Journal of Environmental Economics and Management.* 40(1), 1-20.

Luo, Y., & Tung, R. L. (2007). International expansion of emerging market enterprises: a springboard perspective. *Journal of International Business Studies*, 38, 481–498.

Maddala, G. S., Wu, S. (1999). A comparative study of unit root tests with panel data and a new

Majewska, J. (2015). Inter-regional agglomeration effects in tourism in Poland. *Tourism Geographies*, 17(3), 408–436.

Mansfeld, Y., & Winckler, O. (2008). The role of the tourism industry in transforming a rentier to a long-term viable economy: The case of bahrain. *Current Issues in Tourism*, 11(3), 237. doi:10.2167/cit337.0

Marin, D. (1992), "Is The Export-Led Hypothesis Valid For Industrialized, Countries?" *Review of Economics and Statistics*, no. 74, pp. 678–688.

Marin, D. (1992), "Is The Export-Led Hypothesis Valid For Industrialized Countries?" *Review of Economics and Statistics*, no. 74, pp. 678–688.

Markusen, J. R. (1983). Factor movements and commodity trade as complements. *Journal of International Economics*, 14, 341-356.

Martín-Cejas, R. R., & Sánchez, P. P. R. (2010). Ecological footprint analysis of road transport related to tourism activity: The case for Lanzarote Island. *Tourism Management*. 31(1), 98-103.

Martínez-Zarzoso, I., & Bengochea-Morancho, A. (2004). Pooled mean group estimation of an environmental Kuznets curve for CO2. *Economics Letters*. 82(1), 121-126.

Masih, A.M.M. & Masih, R. (1997), "On the Temporal Causal Relationship between Energy Consumption, Real Income Prices: Some New Evidence from Asian Energy Dependent NICs based on Multivariate Cointegration Approach", *Journal of Policy Modeling*, vol. 4, no. 19, pp. 417-440.

Mustafa, A. M. M., & Santhirasegaram, S. (2014). Empirical investigation of the relationship between tourism receipts and sustainable economic growth in Sri Lanka. *Journal of Emerging Trends in Economics and Management Sciences*. 5(7), 131.

Naradda Gamage, S. K., Hewa Kuruppuge, R., & Haq, I. u. (2017). Energy consumption, tourism development, and environmental degradation in sri lanka. Energy Sources, Part B: *Economics, Planning, and Policy*, 12(10), 910-916. doi:10.1080/15567249.2017.1324533

Narayan, P. K. (2004). Fiji's tourism demand: the ARDL approach to cointegration. *Tourism Economics*. 10(2), 193-206.

Narayan, P. K., Narayan, S., Prasad, A., & Prasad, B. C. (2010). Tourism and economic growth: a panel data analysis for Pacific Island countries. *Tourism Economics.* 16(1), 169-183.

Nepal SK. Tourism-induced rural energy consumption in the Annapurna region of Nepal. *Tourism Management* 2008; 29:89–100.

Ng, T. H., Lye, C. T., & Lim, Y. S. (2016). A decomposition analysis of CO_2 emissions: evidence from Malaysia's tourism industry. *International Journal of Sustainable Development & World Ecology*, 23(3), 266-277.

Odhiambo NM., (2009), Energy consumption and economic growth Nexus in Tanzania: an ARDL bounds testing approach. *Energy Policy* 2009; 37:617–

22.

Odhiambo, N. M. (2009). Energy consumption and economic growth nexus in Tanzania: An ARDL bounds testing approach. *Energy Policy*, 37(2), 617-622.

Oh, C. O. (2005). The contribution of tourism development to economic growth in the Korean economy. *Tourism Management*. 26(1), 39-44.

Olayinka, K. (2008),"Tourism-Exports and Economic Growth in Africa", African Econometrics Society (AES), *Conference in Pretoria, South Africa*, http://www.africametrics.org/documents/conference08/day1/sessioniz/kareem .

Ozcan, B., & Ari, A. (2017). Nuclear energy-economic growth nexus in OECD countries: a panel data analysis. *International Journal of Economic Perspectives*, 11(1), 138-154.

Ozturk, I., & Acaravci, A. (2010). CO2 emissions, energy consumption and economic growth in Turkey. Renewable and Sustainable *Energy Reviews,* 14(9), 3220-3225.

Paramati, S. R., Shahbaz, M., & Alam, M. S. (2017). Does tourism degrade environmental quality? A comparative study of Eastern and Western European Union. Transportation Research Part D: *Transport and Environment*. 50, 1-13.

Park J, Hong T. (2013), Analysis of South Korea's economic growth, carbon dioxide emission, and energy consumption using the Markov switching model. Renewable & Sustainable *Energy Reviews*;18:543–51.

Pesaran, M. H., & Smith, R. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*. 68(1), 79-113.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*. 94(446), 621-634.

Rodríguez, A. R. (2002). Determining factors in entry choice for international expansion: The case of the Spanish hotel industry. *Tourism Management*, 23,

Sadorsky, P. (2010). The impact of financial development on energy consumption in emerging economies. *Energy Policy*. 38(5), 2528-2535.

Saleh, A. S., Assaf, A. G., Ihalanayake, R., & Lung, S. (2015). A panel cointegration analysis of the impact of tourism on economic growth: Evidence from the middle east region: The impact of tourism on economic growth. *International Journal of Tourism Research*, 17(3), 209-220. doi:10.1002/jtr.1976

Samina, K. (2006),"Role of Tourism in Economic Growth: Empirical Evidence from *Pakistan Economy*", http://www.pid.org.pk/psde23/pdf/samina/khalil.

Scott, A. J. (2006). Creative cities: Conceptual issues and policy questions. *Journal*

of Urban Affairs. 28(1), 1-17.

Seghir, G. M., Mostéfa, B., Abbes, S. M., & Zakarya, G. Y. (2015). Tourism spending-economic growth causality in 49 countries: A dynamic panel data approach. *Procedia Economics and Finance*, 23, 1613–1623.

Sequeira, T and C. Campos (2005),"International Tourism and Economic Growth", *Natural Resources Management*, no. 14, pp. 1-25.

Sequeira, T. N., & Maçãs Nunes, P. (2008). Does tourism influence economic growth? A dynamic panel data approach. *Applied Economics*. 40(18), 2431-2441.

Simple test. *Oxford Bulletin of Economics and Statistics*. 61(S1), 631-652.

Simulation, no. 77, pp. 358-368.

Sinclair, M. T. (1998). Tourism and economic development: A survey. *The journal of development Studies*. 34(5), 1-51.

Srinivasan, P., Kumar, P. K. S., & Ganesh, L. (2012). Tourism and economic growth in sri lanka: An ARDL bounds testing approach. *Environment and Urbanization Asia,* 3(2), 397-405. doi:10.1177/0975425312473234

Sriyana, J. (2019). dynamic effects of energy consumption on economic growth in an emerging economy. *International Journal of Energy Economics and Policy,*

9(4), 283-290. doi:10.32479/ijeep.7787

Svensson, L. E. O. (1984). Factor trade and goods trade. *Journal of International Economics*, 16, 365-378.

Tabatchnaia-Tamirisa N, Loke MK, Leung PS, Tucker KA. Energy and tourism in Hawaii. *Annals of Tourism Research* 1997;24(2):390–401.

Tamazian, A., Chousa, J. P., & Vadlamannati, K. C. (2009). Does higher economic and financial development lead to environmental degradation: evidence from BRIC countries? *Energy Policy*. 37(1), 246-253.

Tang, C. F., & Abosedra, S. (2014). Small sample evidence on the tourism-led growth hypothesis in Lebanon. *Current Issues in Tourism*. 17(3), 234-246.

Tang, C. F., Tang, C. F., Tiwari, A. K., & Shahbaz, M. (2016). Dynamic inter-relationships among tourism, economic growth and energy consumption in india. *Geosystem Engineering, 19*(4), 158-169. doi:10.1080/12269328.2016.1162113

Tang, C., & Jang, S. (2009). The tourism – economy causality in the United States: A sub-industry level examination. *Tourism Management*, 30(4), 553–558.

The World Tourism Organization (UNWTO 2007). www.unwto.org.

Tovar, C., & Lockwood, M. (2008). Social impacts of tourism: An Australian

regional case study. *International Journal of Tourism Research*. 10(4), 365-378.

Trung DN, Kumar S. Resource use and waste generation in the Vietnam hotel industry. *Journal of Cleaner Production* 2005; 13:109. (106).

Tsagarakis KP, Bounialetou F, Gillas K, Profylienou M, Pollaki A, Zografakis N. Tourists' attitudes for selecting accommodation with investments in renewable energy and energy saving systems. *Renewable & Sustainable Energy Reviews* 2011;15: 1335–42.

Tsang, E. W., & Yip, P. S. (2007). Economic distance and the survival of foreign direct investments. *Academy of Management Journal*. 50(5), 1156-1168.

Vanegas, M. and R. Croes, (2007),"Tourism, Economic Expansion and Poverty in Nicaragua", Second *International Conference on Tourism Economics,* http://jtr.sagepub.com/cgi/rapidpdf/0047287507312429v1/pdf.

Warnken J, Bradley M, Guilding C. Exploring methods and practicalities of conducting sector-wide energy consumption accounting in the tourist accommodation industry. *Ecological Economics* 2004; 48:125–41.

World Bank (2008), WDI, *CD*, Washington DC.

World Bank (2017) World Bank *Development Database* (online).

Wright, P. (1989). Motivation and job satisfaction. In C. Molander (Ed.), Human resource management. *Lund, Sweden: Student literature*.

WTTC (2015) World Travel and Tourism Council *Report: Greece*.

Xing, J. (2012). Tax structure and growth: How robust is the empirical evidence? *Economics Letters*. 117(1), 379-382.

Yang, Y., Luo, H., & Law, R. (2014). Theoretical, empirical, and operational models in hotel location research. *International Journal of Hospitality Management,* 36, 209-220.

Zaman, K., Moemen, M. A. E., & Islam, T. (2016). Dynamic linkages between tourism transportation expenditures, carbon dioxide emission, energy consumption and growth factors: evidence from the transition economies. *Current Issues in Tourism*. 1-16.

Zhang X, Wu L, Zhang R, Deng S, Zhang Y, Wu J, Li Y, Lin L, Li L, Wang Y, Wang L. (2013). Evaluating the relationships among economic growth, energy consumption, air emissions and air environmental protection investment in China. *Renewable & Sustainable Energy Reviews*;18:259–70.

Zhang X-P, Chen XM., (2009), Energy consumption, carbon emissions, and economic growth in China. *Ecological Economics*, 68 (10):2706–12.

Zhang, Z. (2011). China's energy security, the Malacca dilemma and

responses. *Energy Policy. 39*(12), 7612-7615.

Zhao, L., & Mao, R. Z. (2013). Tourism development, threshold effect and economic growth: empirical evidence from China. *Journal of Shanxi Finance and Economics University, 35*(12), 69–83.

Zhou, W. (2011). A review on impact of tourism on economic growth. *Economic Geography, 31*(8), 1402–1408.