AFRICAN ECONOMIC AND SOCIAL RESEARCH INSTITUTE (AESRI) WORKING PAPER SERIES

DETERMINANTS OF TOURISM DEVELOPMENT: EMPIRICAL EVIDENCE FROM THREE DEVELOPING COUNTRIES[1]

Accepted*: DG Economia Internazionale-International Economics*

Sheilla Nyasha & Nicholas M. Odhiambo

WP/21/24

January 2021

Sheilla Nyasha
Department of Economics
University of South Africa
P.O Box 392, UNISA
0003, Pretoria
South Africa
Email: sheillanyasha@gmail.com

Nicholas M. Odhiambo
Department of Economics
University of South Africa
P. O. Box 392, UNISA
0003, Pretoria
South Africa
Emails: odhianm@unisa.ac.za / nmbaya99@yahoo.com

[1] This working paper also appeared in the UNISA Economic Research Working Paper Series.

DETERMINANTS OF TOURISM DEVELOPMENT: EMPIRICAL EVIDENCE FROM THREE DEVELOPING COUNTRIES

Sheilla Nyasha[2] & Nicholas M. Odhiambo

Abstract

In this study, the key determinants of tourism development in three study countries – South Africa, Brazil and Vietnam – have been examined for the period from 1995 to 2018. Despite the growing empirical literature on the determinants of tourism development from a number of countries, these countries have remained understudied. The study uses two proxies, namely: tourism revenue (TR) and the number of international tourist arrivals (TA), to measure the level of tourism development. Using the ARDL bounds-testing approach, the findings of the study have shown that the determinants of tourism development differ from country to country and over time. In addition, the study shows that the determinants depend on the proxy used to measure the level of tourism development. Overall, the study found that the positive drivers of tourism in these countries are tourist disposable income, financial development, trade openness and political stability, while the negative drivers include exchange rate, price level and carbon emissions.

KEYWORDS - Tourism Development, Determinants, South Africa, Brazil, Vietnam, ARDL

JEL CLASSIFICATION CODE - Z3, Z32

[2] Corresponding author: Sheilla Nyasha, Email address: sheillanyasha@gmail.com

1. INTRODUCTION

Since the uncovering of the importance of tourism in the real sector growth, as determined by a number of tourism-growth studies (see, among others, Fayissa *et al.*, 2008; Holzner, 2011; Ma *et al.*, 2015; Pratt, 2015; Bojanic and Lo, 2016; Sofronov, 2017; Songling *et al.*, 2019), there has been a mushrooming of studies focused on examining the determinants of tourism development (see, among others, Gormus and Gocer, 2010; Malec and Abrham, 2016; Raghavendra *et al.*, 2016; Parida *et al.*, 2017; Shafiullah *et al.*, 2019) on the premise that once these tourism-enhancing factors are known, policies to promote tourism will be more informed and directed, with the ultimate goal of driving economic growth.

A number of determinants have been identified as driving tourism development in a number of countries. However, these determinants have been varying in form and nature of their drive. Among the most prominent determinants of tourism development uncovered in literature are income in tourist source countries, exchange rate, price level, level of infrastructure development, and government expenditure on tourism in tourist destination countries (Malec and Abrham, 2016; Shafiullah *et al.*, 2019). In some studies, these determinants have been found to be positive while in others some have been negative (Gormus and Gocer, 2010; Malec and Abrham, 2016). Thus, this outcome has made it impossible to reach a conclusion on which variables drive tourism positively or negatively; but rather it opened up a debate on which variables drive tourism and which ones do not. This study, therefore, aims to contribute towards filling up this lacuna. Besides these studies, others focused on attraction features and institutional factors as determinants of tourism – making the determinants of tourism subject more complex (Gebrehiwot and Gebre, 2015).

Despite the growing importance of establishing the determinants of tourism development in each economy, the study area remains understudied. Of the available handful of studies on the determinants of tourism development, most are on developed countries (see Gormus and Gocer, 2010; Malec and Abrham, 2016; Shafiullah *et al.*, 2019, among others) and selected developing countries in the Asian region (see among others, Raghavendra *et al.*, 2016; Parida *et al.*, 2017). This leaves a multitude of countries without sufficient coverage, if any, irrespective of some countries being key in the continental growth trajectory. South Africa, Brazil and Vietnam are

some of these countries that need urgent coverage in terms of tourism determinants studies; hence, these are the study countries chosen for this study.

Most of the available studies on the examination of tourism determinants are based on cross-sectional and panel data analysis, which give results that are generalised across the group (see Gormus and Gocer, 2010; Vencovska, 2014; Gebrehiwot and Gebre, 2015; Parida *et al.*, 2017). To address this challenge, this study uses the autoregressive distributed lag (ARDL) approach – a time series-based analysis method with superior qualities (see Nyasha and Odiambo, 2020).

Against this backdrop, the objective of this study is to empirically examine the determinants of tourism development in three countries – South Africa, Brazil and Vietnam. The study is fundamentally different from previous studies on the subject in that it has focused on key three countries – one in each under-studied continent. The study also uses the ARDL approach, with superior qualities. Therefore, the results of this study are expected to contribute immensely towards the conclusion of the tourism demand function in the study countries. The rest of the paper is organised as follows: Section 2 analyses the tourism dynamics in the study countries; Section 3 reviews the literature on the determinants of tourism development, while Section 4 discusses the methodology employed to examine the determinants of tourism development in the three study countries. Section 5 reports and analyses the results of the study, while Section 6 concludes the study.

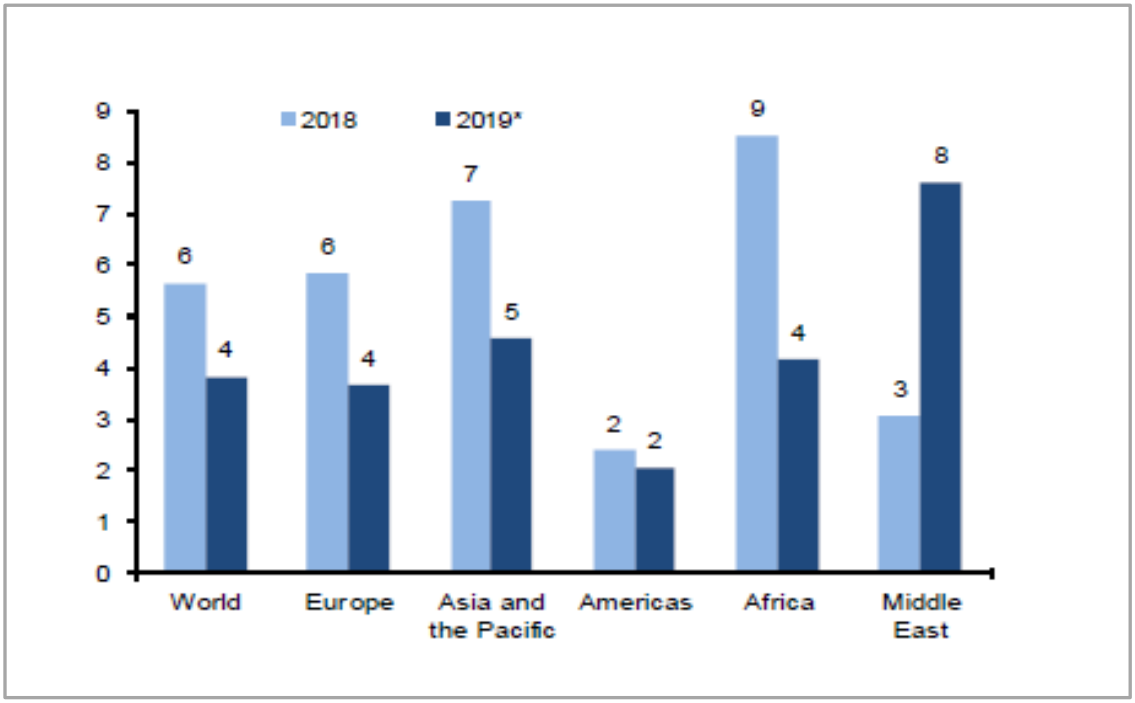
2. TOURISM DYNAMICS IN THE STUDY COUNTRIES

According to the United Nations World Tourism Organization "UNWTO" (2020), growth in international tourism, as measured by tourist arrivals, continued to outpace the economy in 2019. Based on the tourism data reported by destinations around the world, in 2019, the annual global international tourist arrivals grew by 4% to reach 1.5 billion – making 2019 another year of strong growth (UNWTO, 2020). Despite this remarkable growth, it remained slower in comparison to the tourism growth in the two preceding years, where exceptional growth rates of 7% and 6% were posted in 2017 and 2018, respectively. The slower growth in 2019 tourism as compared to the 2017 and 2018 growth was largely driven by slower demand in advanced economies and

particularly in Europe. It was also, in part, propelled by uncertainty surrounding Brexit, geopolitical and trade tensions, and the global economic slowdown, coupled with major shifts in the sector with the collapse of several low-cost airlines in Europe (UNWTO, 2020).

From a regional perspective, all regions were reported to have enjoyed an increase in arrivals in 2019. Figure 1 shows growth in regional tourism in 2018 and 2019.

FIGURE 1 - Growth in Tourism by Region (%)



Source: Extracted from UNWTO (2020); * is provisional data

As shown in Figure 1, the Middle East tourism grew the fastest, by 8%, followed by Asia and the Pacific at 5%, then Europe and Africa each at 4% in line with the world average, while the Americas saw growth of 2% (UNWTO, 2020). The Middle East is the only region whose 2019 tourism growth surpassed that of 2018.

Based on 2019 and early 2020 trends, earlier in the year of 2020, the UNWTO (2020) forecast for economic prospects and the UNWTO Confidence Index was a growth of 3% to 4% in international

tourist arrivals worldwide in 2020. However, due to countries' reaction to the coronavirus pandemic, where lockdowns topped the list, this forecast is likely to be revised downwards significantly.

The tourism performance of the study countries can also be assessed at country level, where each study country ranking is analysed. Table 1 provides a summary of the study countries' rankings with respect to tourism performance.

TABLE 1 - Tourism Performance Ranking of Study Countries

Country	**Arrivals**		**Receipts (EUR bn)**		**Expenditure (EUR bn)**	
	2018	2017	2018	2017	2018	2017
South Africa	39	38	37	35	-	-
Brazil	50	48	47	47	19	15
Vietnam	26	32	35	34	45	45

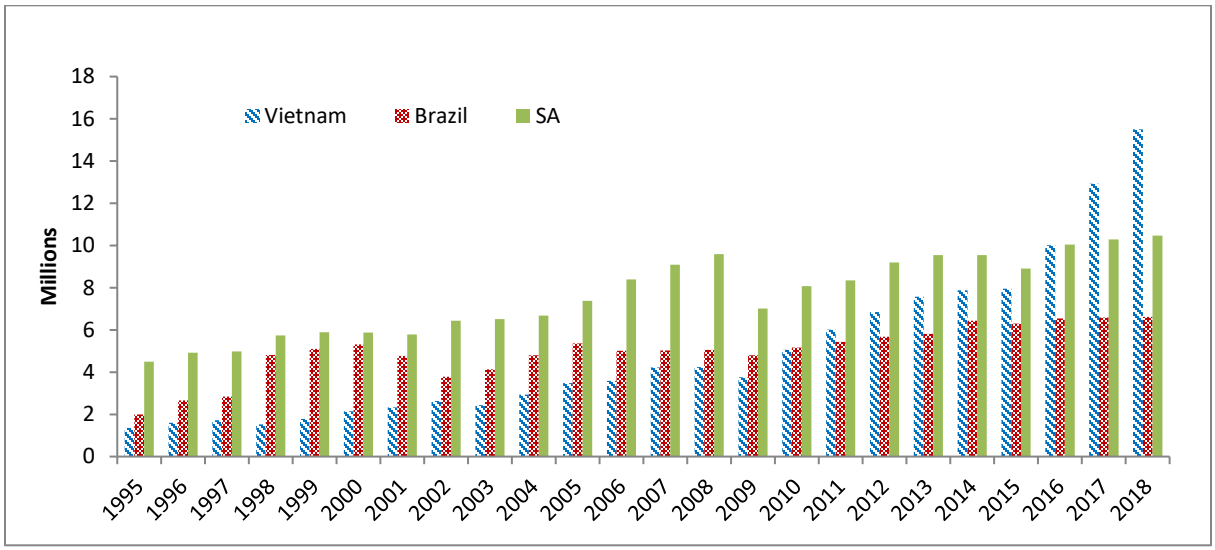
Source: UNWTO (2020)

In terms of country ranking, all the study counties made it to the top 50, in terms of the number of tourist arrivals. Vietnam fared better than its two counterparts, moving up the ranks from 32 in 2017 to 26 in 2018 (UNWTO, 2020). Both South Africa and Brazil slid, from 38 to 39 for the former and from 48 to 50 for the latter. In terms of receipts, as proxied by Euros, Vietnam still performed better, ranked 34 in 2017 before sliding one position to 35 in 2018. Vietnam is followed by South Africa, ranked 35 in 2017 and 37 in 2018; then Brazil, with ranking 47 in both years (UNWTO, 2020). However, South Africa disappeared from the top 50 rankings when expenditure is considered as a measure of tourism development – implying that South Africa is spending less on tourism as compared to the other two study countries. Brazil, on the other hand, seems to be spending more on tourism development, though its ranking went down from 15 in 2017 to 19 in 2018. Vietnam maintained a ranking of 45 in both years (UNWTO, 2020).

In order to get a clearer insight into the long-term dynamics of tourism development in the study countries, long-term time series measures of tourism development are taken into consideration.

Figures 2 to 4 display trends in tourist arrivals and tourism receipts of the three study countries from 1995 to 2018 in a comparative fashion.

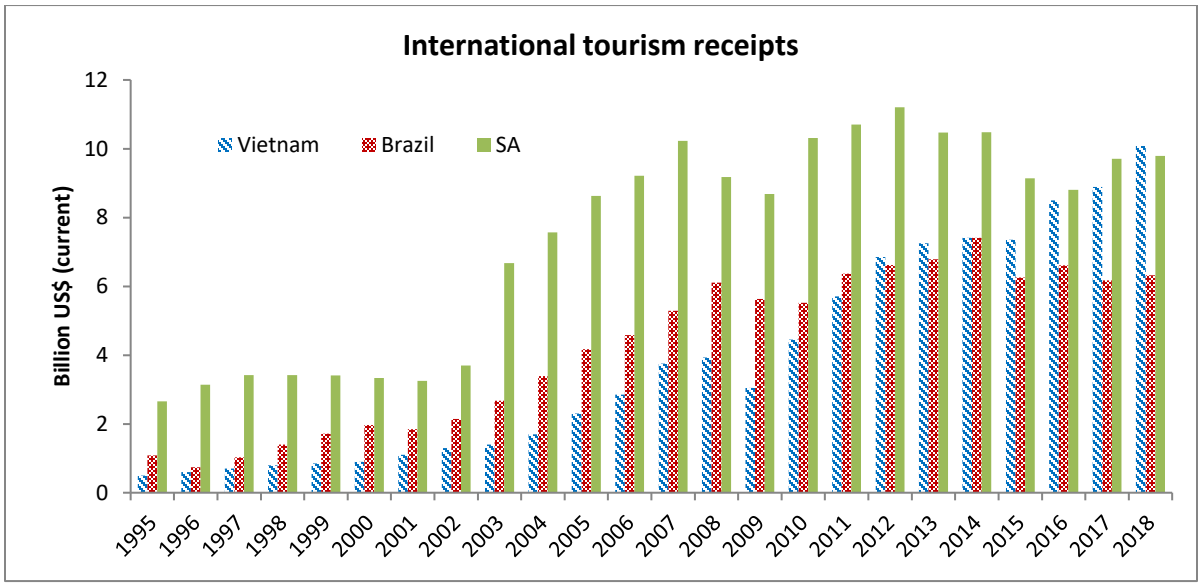
FIGURE 2 - Number of International Tourist Arrivals



Source: World Bank (2020)

As shown in Figure 2, all the three study countries – South Africa, Brazil and Vietnam – experienced an increased trajectory of international tourist arrivals over the period from 1995 to 2018 (World Bank, 2020). South Africa attracted the most international tourists over the period, that increased from 4.5million (mn) in 1995 to 10.5mn in 2018. On average, over the review period, South Africa attracted 7.6mn international tourists per annum, while the other two study countries attracted an average of 5mn each. However, Vietnam started slowly, but its tourism sector picked momentum from 2010 to 2018, making it the study country with the fastest growing tourism sector amid its pears – with a growth rate, from 1995 to 2018, of 1047.2%, followed by Brazil at 232.5%, then South Africa with an international tourist arrival growth rate of 133.3% (World Bank, 2020). In 2017 and 2018, Vietnam assumed the first position with tourist arrivals of 12.9mn and 15.5mn, respectively (World Bank, 2020). There appears to be a structural break in 2009, uniformly across all the study countries, as they were all negatively affected by the global financial crisis of 2008/9.

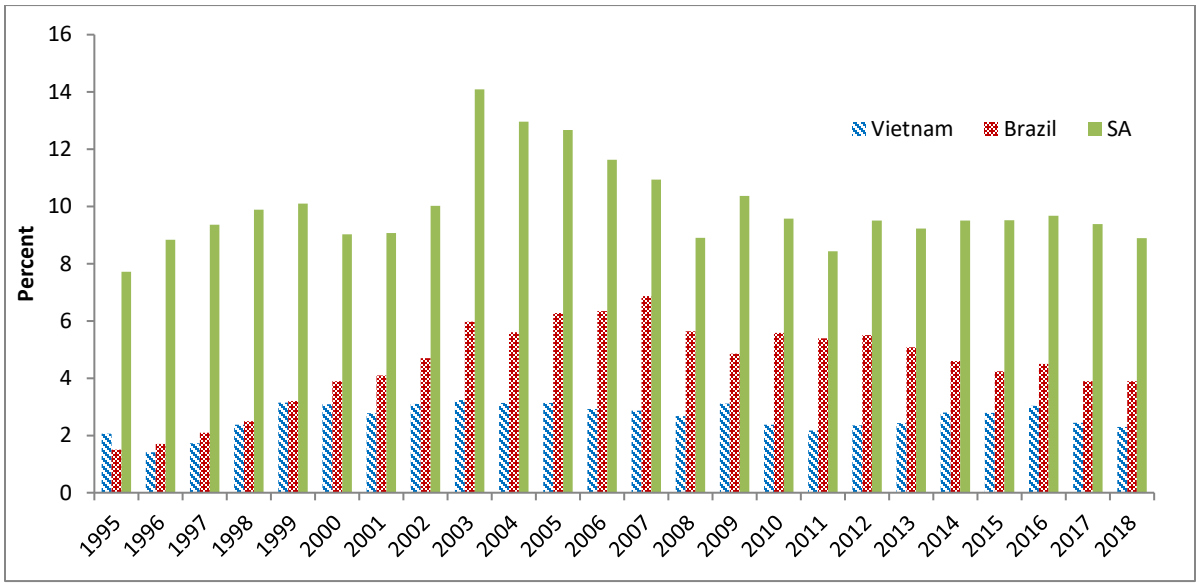
FIGURE 3 - International Tourism Receipts



Source: World Bank (2020)

Figure 3 reveals three structural breaks in the trend of international tourism receipts for South Africa, 2002, 2009 and 2015. Despite these breaks, South Africa remained the top country in terms of tourism revenue. On average, from 1995 to 2008, South Africa attracted annual tourism revenue of US$7.4billion (bn), followed by Brazil with an average annual tourism revenue of US$4.2bn, then Vietnam with US$3.8bn (World Bank, 2020). International tourism revenue for South Africa peaked at US$11.2bn in 2012 while that of Brazil and Vietnam peaked at US$7.4bn in 2014 and US$10.1bn in 2018, respectively (World Bank, 2020). Despite having the highest tourism revenue, South Africa's tourism receipts growth rate from 1995 to 2018 was the least among the three study countries, at 268.8% while Vietnam's was the highest at 1916%. That of Brazil was 482.9% over the same period (World Bank, 2020).

FIGURE 4 - International Tourism Receipts (% of Total Exports)



Source: World Bank (2020)

The extent of international tourism in an economy can be measured in relation to the total exports of that economy – giving rise to international tourism receipt as a ratio of total exports as a measure of tourism. In terms of this measure, as shown in Figure 4, South Africa has been consistently ahead of the pack – reaching as high as 14% in 2003 before constantly declining to 8.9%, its lowest since 2012 – a floor which neither Brazil nor Vietnam reached as a peak (World Bank, 2020). Over the review period, tourism receipts as a ratio of total exports averaged 10%, 4.5% and 2.6% for South Africa, Brazil and Vietnam, respectively (World Bank, 2020). As tourist receipts increased (Figure 3), the other exports also increased at an even faster rate, leading to a flat tourism receipts to exports ratio trend for Vietnam, slightly increasing trend for Brazil and a slightly decreasing one for South Africa. On average, Brazil is the study country that had the fastest growing tourism sector, as measured by tourism receipts as ration of total exports – increasing by 2.4 percentage points from 1995 to 2018; by 1.2 percentage points for South Africa; and by 0.2 percentage points for Vietnam (World Bank, 2020).

3. LITERATURE REVIEW

Tourism development has recently gained attention has a driver of economic growth – which has made it a candidate for further research and exploration among researcher over the years. Of great

interest among these exploration studies have been the determinants of tourism development – which some researchers call tourism demand.

In tourism demand literature, a number of variables, macro and non-macro, have been identified as determinants of tourism development. Among these variables are income, exchange rate, price level, trade openness, the quality of environment in destination countries, level of infrastructure development, the level of financial development, and institutional variables such as political stability and the rule of law (Lim, 1997; Gormus and Gocer, 2010; Vencovska, 2014; Shafiullah *et al.*, 2019). In some other studies, determinants of tourism were identified as historical monuments, environmental attitude, level of advertisement, skills level of tourism sector employees and that of service providers (Parida *et al.*, 2017; Mohaidin *et al.*, 2017).

Gormus and Gocer (2010) empirically investigated the socio-economic determinants of international tourism demand in Turkey from 2000 to 2006, with 32 countries considered as the sources of tourists to Turkey. Based on the two-way random effect models, the results of the study show that real income of tourist source countries, trade value between source countries and Turkey as well as accommodation capacity are positively related to tourism demand; while the distance between source countries and Turkey is negatively related to tourism demand. However, contrary to expectations, the study found relative prices and real exchange rate to be positive determinants of tourism in Turkey.

Vencovska (2014) modeled the determinants of tourism demand in the Czech Republic during the period from 2000 to 2012. Using the Arellano-Bond generalized method of moments (GMM) estimation method, the results of the study revealed that in the Czech Republic, demand for tourism is positively determined by the income of tourists in source countries and trade openness of the destination country. The price level was also found to be a significant determinant of tourism demand, though in a negative way.

Gebrehiwot and Gebre (2015) assessed the basic determinants of tourism development in Aksum Town using 1997-2005 cross-sectional data of 2012 household survey in Aksum Town. Based on descriptive analysis technique, the study found tourism development in the study area to be

positively determined by infrastructural development, increases in promotion and awareness on historical sites, high service quality within the industry enabled by employing professionals, and expansion of internet services.

Raghavendra *et al.* (2016) set out to determine the determinants of tourism demand in India. Based on a review of tourism literature from various secondary sources, the study found disposable income and fluctuations in exchange rate as key macro determinants of tourism demand in the study country.

Malec and Abrham (2016) explored the determinants of tourism industry in selected European countries using a smooth partial least squares approach. Although the results revealed a myriad of dynamics, overall, price level and exchange rate were found to be negative determinants of tourism demand in most of the study countries, while income in tourist source countries was found to be a positive determinant of tourism demand in the study countries.

Parida *et al.* (2017) empirically analysed the determinants of tourism development, both domestic and foreign, in 25 Indian states during the period from 1995 to 2011. Using IV-2SLS method within states panel data setting, the results of the study pointed to economic development, government expenditure on the tourism sector, the presence of world-class monuments, natural landscapes and cultural heritage as positive determinants of international and domestic visitors in Indian states. Crime activities, on the other hand, were found to negatively affect both local and international tourism; while terror activities were found to insignificantly determine tourism in the Indian states.

Mohaidin *et al.* (2017) examined factors influencing the tourists' intention to select sustainable tourism destination using Penang, Malaysia as a case study. The main objective of the study was to examine the factors of environmental attitude, motivation, destination image, word-of-mouth, and perceived service quality to predict the tourists' intention to select a tourist destination. The study further investigated the moderating effect of knowledge on the relationship between environmental attitude and the tourists' intention to select sustainable tourist destination. Using survey design methodology, primary data was sourced using self-administrated questionnaires,

and the data was analysed using SPSS and Smart PLS software. The results of the study revealed that environmental attitude, motivation, and word-of-mouth positively influenced the tourists' intention to select sustainable tourism destination in a significant way, while destination image and perceived service quality were insignificant determinants of tourist choices. Further, the results of the study proved that knowledge negatively moderates the positive effect of the environmental attitude on tourists' intention to select sustainable tourism destination in the study region of Malaysia.

Shafiullah *et al.* (2019) empirically examined the determinants of international tourism in Australia's states and territories; and further explored whether these determinants differ by state and territory. The determinants put to the test were world income, state-level transportation costs, stock of foreign-born residents, the Australian real exchange rate and the price levels of international and domestic substitutes. Using both time series analysis (of individual states or territories) and panel data analysis (of a set formed by pooling all state-level data). The results of the study confirmed all the explanatory variables used in the equation as determinants of international tourism development in the study states and territories, although the level of impact varied across states and territories. Despite these variations, by and large, world income and stock of foreign-born residents were found to be positive determinants while state-level transportation costs, the real exchange rate and the price levels were found to be negative determinants.

From the review of literature on the determinants of tourism, it can be observed that although many of these studies take the empirical and applied form, some, though very few, are based on surveys (Gebrehiwot and Gebre (2015). Those studies that are empirical and applied in nature have used wide-ranging econometric techniques and varying data sets – time series or panel data. While a handful used time series data sets (Shafiullah *et al.*, 2019), a significant number of studies utilised panel data (Gormus and Gocer, 2010; Vencovska, 2014; Gebrehiwot and Gebre, 2015; Parida *et al.*, 2017). It can also be noted that studies that used applied methods focused more on macroeconomic determinants of tourism, while surveys dwelled much on micro determinants. In terms of the results of these reviewed studies, there is no clear pattern as to which determinants were found using which methodology. However, overall, irrespective of the method of analysis used and the study country considered, national income, trade openness, infrastructural

development, prevalence of monumental features, political stability and environmental attitudes were found to be positive determinants of tourism development; while exchange rate, price level and distance between tourist source and destination countries were found to be negative determinants of tourism development (see, among others, Onder *et al.*, 2009; Malec and Abrham (2016) Shafiullah *et al.* (2019)

4. ESTIMATION METHODS AND EMPIRICAL ANALYSIS

4.1 *ARDL Bounds-Testing Procedure*

This study employs relatively newly proposed autoregressive-distributed lag (ARDL) bounds testing approach to empirically examine the determinants of tourism development in the three study countries – South Africa, Brazil and Vietnam. This approach was initially introduced by Pesaran and Shin (1999), but later extended by Pesaran *et al.* (2001); and was found to be the best suitable technique for this study because of its numerous advantages over the conventional methods such as those by Johansen (1988), and Johansen and Juselius (1990).

Besides its non-imposition of the restrictive assumption that all the variables under study must be integrated of the same order, the ARDL also possesses superior small sample properties, making it a suitable technique even when the sample size is small. Additionally, even when some of the regressors are endogenous, the ARDL technique provides unbiased estimates of the long-run model and valid t statistics. The method also has the power to use only a single reduced-form equation and still get superior results, unlike conventional co-integration methods that estimate the long-run relationship within the context of a system of equations (Pesaran and Shin, 1999). As a result, the ARDL estimation approach is considered to be most appropriate in the analysis of the determinants of tourism development in this study. Its use over the years in empirical research has been on the rise too.

4.2 Model Specification

Based on the ARDL estimation technique, the empirical model used in this study, to empirically investigate the determinants of tourism development in the study countries is expressed as follows:

$$\Delta TOUR_t = \lambda_0 + \lambda_1 T + \sum_{i=1}^{n} \lambda_{2i} \Delta TOUR_{t-i} + \sum_{i=0}^{n} \lambda_{3i} \Delta DI_{t-i} + \sum_{i=0}^{n} \lambda_{4i} \Delta ER_{t-i} + \sum_{i=0}^{n} \lambda_{5i} \Delta PL_{t-i}$$
$$+ \sum_{i=0}^{n} \lambda_{6i} \Delta FD_{t-i} + \sum_{i=0}^{n} \lambda_{7i} \Delta TO_{t-i} + \sum_{i=0}^{n} \lambda_{8i} \Delta EE_{t-i} + \sum_{i=0}^{n} \lambda_{9i} \Delta PS_{t-i}$$
$$+ \sigma_1 TOUR_{t-1} + \sigma_2 DI_{t-1} + \sigma_3 ER_{t-1} + \sigma_4 PL_{t-1} + \sigma_5 FD_{t-1} + \sigma_6 TO_{t-1}$$
$$+ \sigma_7 EE_{t-1} + \sigma_8 PS_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where:

TOUR = Tourism development, replaced in turns by tourism revenue (TR) and tourist arrivals (TA)

DI = disposable income in the tourist source country

ER = exchange rate

PL = price level

FD = financial sector development of the tourist destination country

TO = trade openness

EE = environmental emissions

PS = political stability

T is trend, λ_0 is a constant; λ_1-λ_9 and σ_1-σ_8 are regression coefficients; Δ is the difference operator; n is the lag length and ε_t is the white noise-error term.

The corresponding error correction model is specified as follows:

$$\Delta TOUR_t = \lambda_0 + \lambda_1 T + \sum_{i=1}^{n} \lambda_{2i} \Delta TOUR_{t-i} + \sum_{i=0}^{n} \lambda_{3i} \Delta DI_{t-i} + \sum_{i=0}^{n} \lambda_{4i} \Delta ER_{t-i} + \sum_{i=0}^{n} \lambda_{5i} \Delta PL_{t-i}$$

$$+ \sum_{i=0}^{n} \lambda_{6i} \Delta FD_{t-i} + \sum_{i=0}^{n} \lambda_{7i} \Delta TO_{t-i} + \sum_{i=0}^{n} \lambda_{8i} \Delta EE_{t-i} + \sum_{i=0}^{n} \lambda_{9i} \Delta PS_{t-i}$$

$$+ \xi ECM_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where:

ECM = error correction term

ξ = coefficient of the error correction term

All the other variables and characters remain as defined in equation 1.

4.3 Data Description and Source

In this study, the dependent variable is tourism development. For the purpose of this study, tourism refers to international tourism, also referred to as inbound tourism. Tourism can be measured in different ways. Among these are the number of nights spent, tourism revenue and the number of tourist arrivals (Pedak, 2018; Gormus and Gocer, 2010). However, the two prominent measures, which economists and researchers alike have been battling to rank as best over the years, are tourism revenue or receipts and tourist arrivals. To date, this battle is still far from being won.

Tourism revenue as a proxy of tourism development demonstrates the concept of expenditure by international inbound tourists. It includes tourists' payments to national carriers for international transport and any other payments made for goods and services received in the destination country. Thus in this study, tourism revenue is measured by international tourism receipts as a percentage of total exports. The value shows the percentage share of international tourism receipts in the tourist destination country's total exports. According to Pedak (2018), this proxy can determine how specialised, concentrated and dependent the country is on tourism.

The number of international tourist arrivals is another form of measuring the level of tourism development in a country (Song *et al.*, 2008). Every country has a tourism basket consisting of tourists from different countries. In literature, scholars have generally used tourism expenditure. However, tourism expenditure as a measure of tourism development may be biased as it is dependent on a number of factors, such as average length of stay (see Ren *et al.*, 2019). Therefore, in this study, not only tourism revenue is considered as a proxy for tourism development but the number of international tourist arrivals is used to proxy tourism development too in the study countries (see also Kibara *et al.* 2012).

Tourism development (**TOUR**) is, therefore, proxied by two variables – tourism revenue (**TR**) and the number of international tourist arrivals (**TA**).

Based on both theoretical and empirical literature, this study has identified seven key determinants of tourism development. There are tourist disposable income (**DI**); exchange rate (**ER**); piece level (**PL**); the level of financial development, especially the banking sector (**FD**); trade openness (**TO**); environmental emissions (**EE**); and political stability (**PS**).

Tourist disposable income (DI) refers to the level of income tourists have as it determines their appetite and ability to tour other countries and visit various areas of interest as tourists. Despite minor differences on how income was defined and expressed in various studies, this determinant emerged to be the most frequently used variable in the tourism determinants studies (Lim, 1997; Vencovska, 2014). Because tourism is viewed as a luxury (Smeral, 2003), it is regarded as a function of disposable income after all other expenses. However, this fine measure of disposable income is hard to establish accurately in studies (Lim, 1997). The closest to reality proxy for this variable is income levels in tourist source countries. Most studies have used gross domestic product (GDP) or gross national income (GNI) or their per capita counterparts to proxy tourist disposable income (see Park *et al.*, 2011). In this study, net national income per capita in tourist source countries is used to proxy tourist disposable income. Following Shafiullah *et al.* (2019) and assuming that for one study country, its tourist source countries is the rest of the world (excluding the study country), in this study, the net national income of tourist source countries – proxied by net national income per capita of tourist source countries – is determined by the net national income

of the world minus the net national income of the tourist destination country, divided by world population minus the population of the tourist destination country. This formulation can be expressed as

$$Y_{zi} = \frac{Y_w - Y_i}{P_w - P_i} \quad \text{.....(3)}$$

Where Y_{zi} is national income per capita of tourist source countries of the destination country i; Y_w is world national income; Y_i is national income of tourist destination country i; P_w is the world population; and P_i is the population of the tourist destination country i. The coefficient of this proxy is expected to be positive (Shafiullah *et al.*, 2019).

Exchange rate (**ER**) can also be included in the tourism demand function as its variation may influence tourism development. Exchange rates vary a lot over time and are, therefore, constantly affecting the number of tourists visiting a certain country. It follows that the fluctuation in exchange rates can alter tourists' decisions in various ways (Gerakis, 1966; Vencovska, 2014). An increase in exchange rate of a tourist destination country implies that a tourist requires more units of tourist source country's currency to purchase same units of tourist destination country's currency. In such instances, tourism is negatively affected. The opposite also holds. In the event of an exchange rate decrease in the tourist destination country, tourists would require less units of their currency to purchase the same units of the destination country's currency – hence tourism demand increases. This study utilises real effective exchange rate index for this variable, and its coefficient is expected to be negative.

The price level (**PL**) of the tourist destination country is also considered as a determinant of tourism development (see Song *et al.*, 2010; Vencovska, 2014). The higher the price level in tourist destination country relative to tourist source country or to alternative tourist destination country, the less the destination country is attractive to tourists. However, with a lower price level in the tourist destination country, tourism demand is likely to be higher. It is, therefore, the expectation of this study that the coefficient of price level is negative. Following Morley (1994), the consumer

price index in destination country has been utilised in this study as a measure of the price level in the destination country because it tracks tourism prices very closely.

The financial development (**FD**) indicator shows the depth and breadth of financial sector development. Although it would have been possible to have this approximated by both financial intermediaries and stock markets, tourists are mostly more worried about the everyday transactional aspect of the banking sector than the financial and capital market aspect – hence financial development in this study only focused on the extent of intermediation in the study countries; and is proxied by domestic credit to the private sector by banks as a percentage of GDP. Private bank credit to the private sector is often claimed to be a more superior measure of financial development (Ang and McKibbin, 2007). The premise of this argument is the ability of the private sector to utilise financial resources in a more efficient and productive manner as compared to the public sector. Hence, the exclusion of the credit to public sector is a reflection of efficient resource allocation (Ang and McKibbin, 2007). Higher ratio of the private bank credit to the private sector indicates that the financial sector is more developed and the more attractive the economy is as a tourist destination (see Katircioglu *et al.*, 2018); hence, the coefficient of financial development is expected to be positive.

Trade openness (TO), measured as the sum of imports and exports as a ratio of GDP can be considered a key determinant of tourism development because tourism as part of trade in services is highly sensitive to open markets (Heston *et al.* 2006). The relationship between trade openness and tourism development has been well explored over the years, and there is overwhelming evidence pointing to the positive impact of trade openness on the tourism sector of an economy (see Pedak, 2018, among others). The coefficient of trade openness is, therefore, expected to be positive.

Besides consideration of macroeconomic variables as determinants of tourism development in a destination country, literature also alludes to the importance placed by tourists on their safety and security (Kaufmann *et al.*, 2006). To cover this security aspect, the study considers two additional proxies – environmental emissions (EE) and political stability (PS). Environmental emissions are measured by carbon dioxide emissions in metric tons per capita. The higher the emissions, the less

attractive the tourist destination country it is to the tourists, hence its coefficient is expected to be negative. On the other hand, political stability is measured by an index of political stability and absence of violence or terrorism (Asongu *et al*., 2019). While political stability has a positive impact on tourism development, political instability has a tendency to drive tourists away. The coefficient of political stability is, therefore, expected to be positive.

The study utilised annual time series data, covering the period from 1995 to 2018, obtained from the World Bank DataBank, Economic Indicators Database (World Bank, 2020) and Governance Indicators Database (World Bank, 2020). The motivation for choosing this time frame was based on the need to have a longer time period of analysis, which also coincided with the availability of essential data. All estimations were computed using Microfit 5.0 software.

5. Empirical results

5.1 Results of Unit Root Test

Even though pre-testing variables for unit root is not a pre-condition when using ARDL approach to data analysis, the results of such a test assist in determining, with certainty, the applicability of the approach. This is critical because the ARDL approach can only be utilised when the variables are either integrated of order zero [i.e. I(0)] or are integrated of order one [i.e. I(1)]. Hence, before any analysis was conducted, the variables were first subjected to stationarity test using two unit root tests – the Dickey-Fuller generalised least-square (DF-GLS) and the Phillips-Perron (PP). The latter test was critical in an effort to cater for possible structural breaks within the dataset. Table 2 summaries the results of these two unit root tests.

TABLE 2 - Results of Stationarity Tests of all Variables

Dickey-Fuller Generalised Least Square (DF-GLS)

	South Africa				**Brazil**				**Vietnam**			
Variable	**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**		**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**		**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**	
	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend
TR	-1.030	-2.286	-4.726***	-5.040***	-1.547	-2.005	-3.851***	-4.788***	-1.405	-1.067	-4.117***	-5.517***
TA	-0.662	-2.584	-5.858***	-5.874***	0.509	-2.002	-3.912***	-4.119***	0.910	-1.174	-2.986***	-3.821***
DI	0.118	-2.849	-4.611***	-4.765***	0.255	-2.714	-4.541***	-4.671***	0.017	-2.856	-4.564***	-4.728***
ER	-1.585	-2.361	-4.121***	-4.270***	-1.580	-1.696	-4.397***	-4.424***	-0.117	-2.337	-2.893***	-3.850***
PL	0.084	-1.310	-2.730***	-3.854***	0.154	-2.085	-2.833***	-3.814***	-1.074	-2.876	-2.535**	-3.543**
FD	-1.305	-2.576	-5.521***	-5770***	-0.645	-1.833	-3.064***	-3.803***	0.291	-2.415	-4.261***	-4.392***
TO	-1.556	-2.081	-5.446***	-5.255***	-1.303	-1.788	-4.685***	-4.523***	0.335	-2.329	-4.865***	-5.731***
EE	-1.600	-2.397	-4.699***	-4.692***	0.978	-0.916	-4.359***	-5.237***	-0.191	-2.170	-5.017***	-5.116***
PS	-1.526	-1.779	-5.044***	-5.332***	-1.254	-2.466	-4.805***	-4.857***	-0.513	-2.317	-2.895***	-5.865***

Phillips-Perron (PP)

	South Africa				**Brazil**				**Vietnam**			
Variable	**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**		**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**		**Stationarity of all Variables in Levels**		**Stationarity of all variables in First Difference**	
	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend
TR	-2.383	-2.379	-4.818***	-4.837***	-2.120	-1.699	-4.674***	-5.155***	-2.155	-0.866	-4.015***	-5.600***
TA	-0.917	-3.161	-7.981***	-7.746***	-2.381	-3.004	-3.984***	-3.952**	-2.214	-2.051	-6.667***	-5.600***
DI	0.629	-2.852	-5.053***	-5.170***	0.897	-2.666	-4.766***	-4.746***	0.384	-2.871	-5.026***	-4.840***
ER	-2.181	-2.776	-4.347***	-4.515***	-1.776	-1.726	-4.360***	-4.294***	-0.764	-1.345	-3.830***	-5.034***
PL	0.377	-0.027	-3.771***	-4.740***	2.553	-0.324	-3.828***	-3.531***	1.087	-1.707	-3.815***	-4.763***
FD	-2.518	-2.507	-5.465***	-5.490***	-0.403	-2.273	-3.795***	-4.548***	-0.145	-2.377	-4.301***	-4.166***
TO	-2.363	-2.980	-6.709***	-8.425***	-1.713	-1.764	-4.574***	-4.565***	0.095	-3.136	-7.877***	-8.506***
EE	-1.915	-2.361	-4.618***	-4.499***	0.979	-0.635	-4.671***	-5.356***	-1.702	-1.874	-4.853***	-6.573***
PS	-1.770	-1.570	-5.239***	-7.326***	-2.307	-2.367	-4.689***	-4.635***	-2.329	-2.411	-4.239***	-4.746***

*Note: ** and *** denote statistical significance at 5% and 1% levels.*

Based on the results reported in Table 2, it can be confirmed that none of the variables is integrated of the order higher than one, irrespective of the unit root test employed. The study, therefore, proceeds with ARDL estimation procedure.

5.2 *Co-integration Test*

Using the ARDL bounds-testing approach, the long-run equilibrium relationship between the variables is examined. The results of the cointegration tests are reported in Table 3.

TABLE 3 - Bounds F-test for Co-integration

Country	**Dependent Variable**	**Function**	**F-statistic**	**Cointegration Status**
South Africa	TR	F(TR|DI, ER, PL,FD, TO, EE, PS)	5.47***	Cointegrated
	TA	F(TA|DI, ER, PL,FD, TO, EE, PS)	7.26***	Cointegrated
Brazil	TR	F(TR|DI, ER, PL,FD, TO, EE, PS)	5.81***	Cointegrated
	TA	F(TA|DI, ER, PL,FD, TO, EE, PS)	9.54***	Cointegrated
Vietnam	TR	F(TR|DI, ER, PL,FD, TO, EE, PS)	4.97***	Cointegrated
	TA	F(TA|DI, ER, PL,FD, TO, EE, PS)	4.68***	Cointegrated
Asymptotic Critical Values				
Pesaran *et al.* (2001), p.301, Table CI(v) Case V	1%	5%	10%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	3.34	4.63	2.69	3.83	2.38	3.45

Note: *** denotes statistical significance at 1% level.

The results of the cointegration tests, summarised in Table 3, reveal that for all the proxies of tourism development (TR and TA) and across all the study countries, the calculated bounds f-test statistic was above the upper bound critical value at 1% significance level. These results confirmed the existence of a stable long-run relationship among the variables with the model.

5.3 *Estimation of Long Run and Short Run Coefficients*

Following the establishment of cointegration among the variables, the study proceeded with the estimation of the long-run and short-run coefficients. Based on the Akaike Information Criterion, an optimal lag-length was selected for each equation for each study country. ARDL(1,0,0,1,0,0,0,0) and ARDL(1,0,0,0,0,0,0,0) are optimal models selected for South Africa, TR and TA, respectively; while ARDL(1,1,0,1,1,1,0,1) and ARDL(1,0,0,1,1,1,1,1) are optimal models selected for Brazil, TR and TA, respectively. For Vietnam, ARDL(1,0,0,0,1,0,1,1) ARDL(1,1,0,0,1,1,1,0) were optimal models selected for TR and TA, respectively. Table 4 presents the results. While Panel A of the table summarises the long-run results, Panel B summarises short-run results.

TABLE 4 - Long-Run and Short-Run Results of all the Study Countries

	South Africa		**Brazil**		**Vietnam**	
	ARDL(1,0,0,1,0,0,0,0)	**ARDL(1,0,0,0,0,0,0,0)**	**ARDL(1,1,0,1,1,1,0,1)**	**ARDL(1,0,0,1,1,1,1,1)**	**ARDL(1,0,0,0,1,0,1,1)**	**ARDL(1,1,0,0,1,1,1,0)**
Panel A: Estimated long-run coefficients						
Dependent variable	**TR**	**TA**	**TR**	**TA**	**TR**	**TA**
Regressors	**Coefficient (t-statistic)**					
C	52.347** (2.656)	-18.556** (-2.551)	10.725*** (9.578)	17.765* (2.176)	28.227* (2.162)	-34.146 (-0.728)
T	1.612*** (3.824)	-0.149 (-0.762)	0.415*** (8.890)	1.143*** (4.777)	1.473*** (6.985)	-1.347 (-1.496)
DI	0.395* (1.928)	0.025** (2.5663)	0.134** (2.861)	-0.067** (-2.752)	-0.964* (-2.020)	-0.065* (-2.182)
ER	-0.144*** (-3.296)	0.011 (0.525)	-0.045*** (-4.623)	0.019 (1.058)	-0.017* (-2.046)	0.066 (1.727)
PL	-0.370*** (-4.079)	-0.011* (-1.926)	-0.067*** (-7.016)	-0.138*** (-5.461)	-0.112*** (-8.672)	-0.230** (-2.558)
FD	0.312*** (3.919)	0.003 (0.118)	0.012 (1515)	0.088** (2.759)	0.039*** (3.326)	0.169 (1.743)
TO	0.190** (2.276)	0.084* (2.083	0.134*** (7.295)	0.002 (0.022)	0.037) (1.239)	0.283* (1.911)
EE	-0.337**	-0.050	-0.580	-0.491**	-0.911**	0.136

	South Africa		**Brazil**		**Vietnam**	
	ARDL(1,0,0,1,0,0,0,0)	**ARDL(1,0,0,0,0,0,0,0)**	**ARDL(1,1,0,1,1,1,0,1)**	**ARDL(1,0,0,1,1,1,1,1)**	**ARDL(1,0,0,0,1,0,1,1)**	**ARDL(1,1,0,0,1,1,1,0)**
	(-2.394)	(-0.153)	(-1.770)	(-2.591)	(-2.790)	(0.188)
PS	-0.809 (-0.768)	-0.643 -0.416)	0.896*** (5.051)	3.720** (3.389	-0.224 (-1.671)	0.155** (2.266)
Panel B: Error Correction Representation for the Selected ARDL Model						
Dependent variable	**ΔTR**	**ΔTA**	**ΔTR**	**ΔTA**	**ΔTR**	**ΔTA**
ΔT	1.321*** (3.542)	-0.149 (-0.814)	0.654*** (10.927)	0.908*** (6.940)	1.694*** (4.337)	-0.372* (-1.794)
ΔDI	0.324* (2.127)	0.015** (2.606)	0.212* (1.851)	-0.073* (-2.083)	0.951** (2.598)	0.125* (1.821)
ΔER	-0.118*** (-3.071)	0.010 (0.554)	-0.037*** (-9.791)	0.015 (1.244)	-0.019* (-1.792)	0.003 (0.437)
ΔPL	-0.303** (-2.990)	-0.001 (-0.026)	-0.028 (-1.735)	0.021 (0.489)	-0.025 (-0.665)	-0.064** (-3.680)
ΔFD	0.289** (2.366)	0.103** (2.117)	0.047*** (5.787)	0.121*** (4.224)	0.044** (2.577	0.047** (3.282)
ΔTO	0.155* (0.091)	0.084** (2.266)	0.104*** (5.756)	0.047 (0.671)	0.017 (0.641)	0.040 (1.439)
ΔEE	-0.195** (2.179)	-0.049 (-0.156)	-0.915 (-1.661)	0.250** (2.287)	-0.648** (-2.577)	0.314 (0.188)
ΔPS	-0.301 -0.745)	-0.641 (-0.141)	0.500** (2.553)	-0.449 (-0.938)	-0.408 (-1.506)	0.401** (2.842)
$ECM_{(-1)}$	-0.819*** (-4.163)	-0.797*** (-4.235)	-0.577*** (-6.919)	-0.794*** (-4.357)	-0.650*** (-4.297)	-0.277* (-1.869)
R-squared	0.782	0.811	0.988	0.941	0.841	0.951
F-statistic	4.772	6.187	72.669	14.198	5.885	19.544
Prob(F-statistic)	0.006	0.002	0.000	0.000	0.002	0.000
DW statistic	2.222	1.941	2.464	2.035	2.130	2.120

Notes: 1. ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.
2. Δ=first difference operator.

As displayed in Table 4, the results of the study reveal that although the coefficients of most estimators are significant, some are insignificant; and of the significant ones, they carry expected signs. Consistent with the expectations of the study, disposable income of tourists was found to be a positive determinant of tourism development across all the study countries, irrespective of the

measure of tourism under consideration. Its coefficient was found to be positive and statistically significant for all the study countries irrespective of whether the dependent variable is tourism revenue or tourist arrivals; and irrespective of whether the estimations were in the long run or in the short run. This result suggests that international tourism development in South Africa, Brazil and Vietnam is dependent on the economic situation in tourist source countries. These findings are consistent with tourism theory and have also found support in Smeral (2003) and Shafiullah *et al.* (2019), among other tourism studies.

The coefficients of exchange rate, also as expected, were found to be negative and statistically significant in all the study countries in both the long run and the short run. However, they were only significant when tourism revenue was used as a measure of tourism development. When tourist arrival was used as a proxy, the coefficients of exchange rates were insignificant across the time horizon and across the study countries. Thus this outcome is consistent with the other previous studies (see Vencovska, 2014) and it implies that in South Africa, Brazil and Vietnam, exchange rate is a negative determinant of tourism development in general; and a negative determinant of tourism receipts, in particular.

The results of the study further reveal that the long-run coefficients of price level are negative and statistically significant across all the study countries, irrespective of the measure of tourism development considered. However, in the short run, the coefficients are only negative and statistically significant for South Africa when tourism receipts is used to proxy tourism development; and for Vietnam when tourist arrivals is a proxy. The rest of the short-run coefficients are statistically insignificant. These results imply that price level is a significant negative determinant of tourism development in all the study countries in the long run (see Song *et al.*, 2010; Vencovska, 2014). However, in the short run, tourism development may be insensitive to changes in price level.

Tourism development has also been found to be positively determined by the level of financial development in the destination countries, especially in the short run. This is supported by the short-run coefficients of financial development across all the study countries and across both measures of tourism development that are positive and statistically significant. The outcome appears to be

slightly different in the long run as financial development is found to be a positive determinant of tourism for all the study countries but only when different proxies of tourism development are considered – tourism receipts for South Africa and Vietnam and tourist arrivals for Brazil.

Another positive determinant of tourism development established in this study is trade openness. The more a country is open for trade, the more tourists it attracts. In South Africa, trade openness has been found to be a positive determinant of tourism development both in the long run and in the short run, irrespective of whether tourism is measured by tourism receipts or tourist arrivals. In the case of Brazil, trade openness has been found to be a positive determinant of tourism development both in the long run and in the short run, but only when tourism development is proxied by tourism receipts. However, for Vietnam, trade openness is only a positive determinant in the long run and only when the number of tourist arrivals is considered as a measure of tourism development. This outcome is consistent with other previous studies (see Heston *et al.* 2006; Pedak, 2018, among others).

Also revealed by the study is that tourists are sometimes particular about the cleanliness and safety of the environment of the tourist destination countries (also see Kaufmann *et al.*, 2006). This outcome finds support in the long-run and short-run coefficients of environmental emissions that were found to be negative and statistically significant across all the study countries when at least one measure of tourism development is considered. Political stability was found to be a positive determinant of tourism development only in selected countries – Brazil and Vietnam – and only when at least one measure of tourism development was considered. In South Africa, this determinant was found to be insignificant. The coefficient of $ECM_{(-1)}$ across all the study countries was also found to be negative and statistically significant, as was expected.

Overall, the results of the study show that the determinants of tourism development vary slightly across study countries, time horizons and the measure of tourism development. However, despite these differences, in general, tourist disposable income, financial development, trade openness and political stability were found to be positive determinants of tourism development. On the other hand, exchange rate, price level and environmental emissions were found to be negative determinants of tourism development in the study countries.

As displayed in Table 5, the results of the diagnostic tests performed on serial correlation, functional form, normality and heteroscedasticity show that the model passes all the diagnostic tests performed in all the study countries.

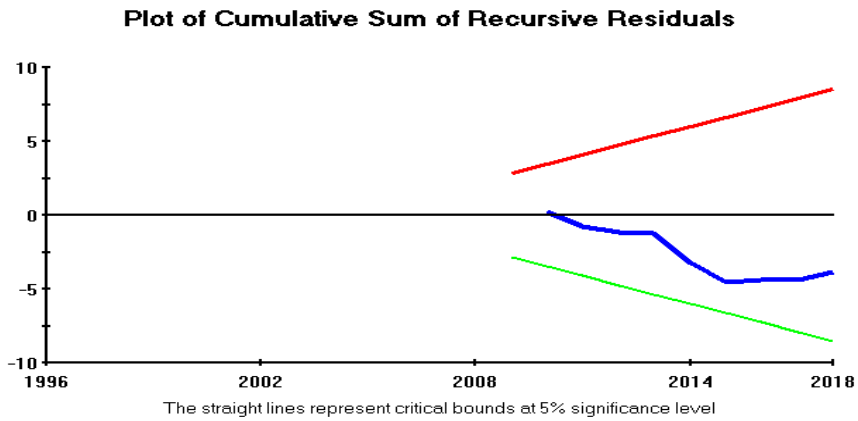
TABLE 4 - ARDL – VECM Diagnostic Tests

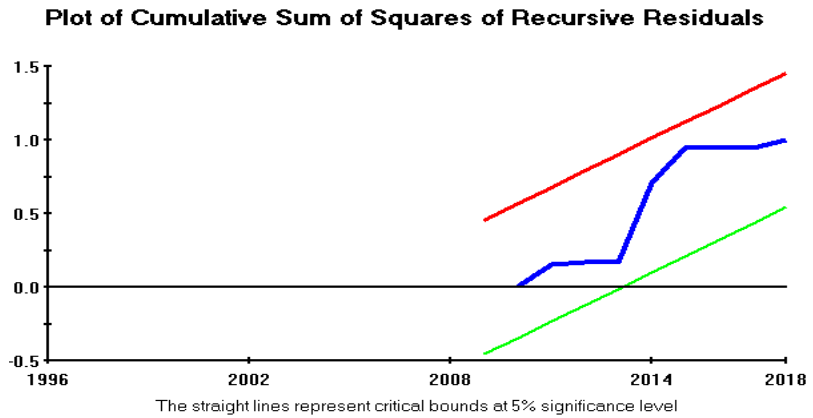
LM Test Statistic	**Results Statistic [Probability]**					
	South Africa		**Brazil**		**Vietnam**	
Dependent variable	TR	TA	TR	TA	TR	TA
Serial Correlation: CHSQ(1	1.486 [0.223]	0.006 [0.938]	0.117 [0.198]	0.912 [0.392]	0.816 [0.371]	0.179 [0.673]
Functional Form: CHSQ(1)	0.550 [0.458]	1.952 [0.162]	2.220 [0.259]	0.393 [0.531]	0.875 [0.350]	0.248 [0.463]
Normality: CHSQ (2)	2.667 [0.264]	2.163 [0.339]	0.490 [0.783]	1.354 [0.508]	1.135 [0.567]	0.219 [0.896]
Heteroscedasticity: CHSQ (1)	1.303 [0.214]	0.053 [0.818]	0.7001 [0.254]	2.483 [0.115]	0.242 [0.663]	0.543 [0.461]

An inspection of the Cumulative Sum of Recursive Residuals (CUSUM) and the Cumulative Sum of Squares of Recursive Residuals (CUSUMSQ) graphs, in Figures 5, reveals that there is stability and that there is no systematic change identified in the coefficients at 5% significance level over the study period. The CUSUM and CUSUMSQ graphs, thus, show that the parameters in this model are stable over the sample period.

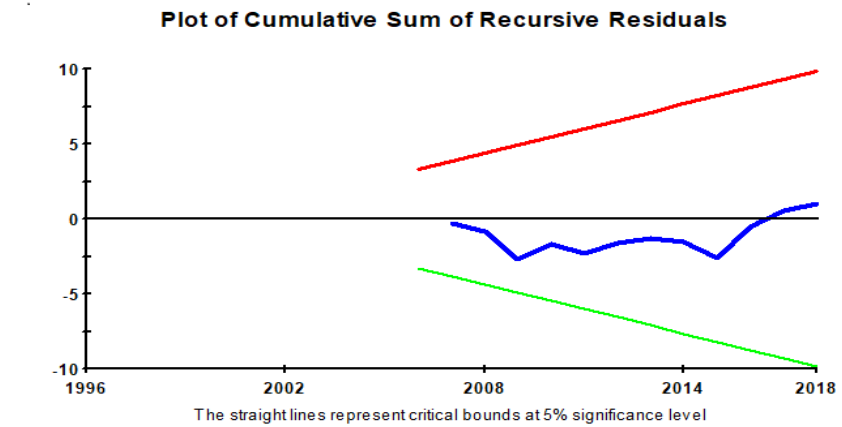
FIGURE 5 - Plot of Cumulative Sum of Recursive Residuals

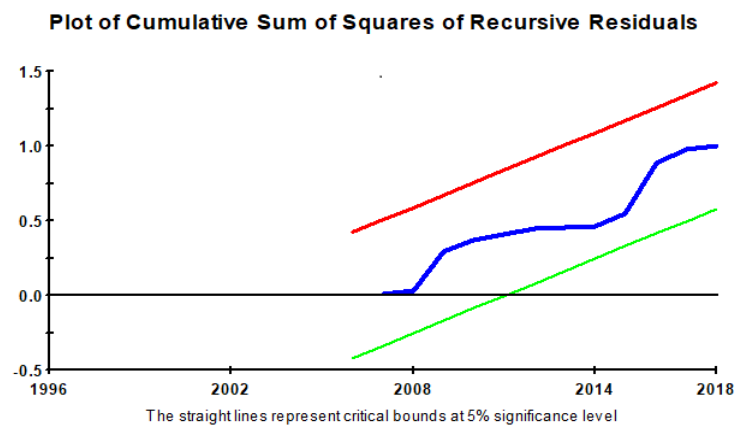
South Africa - TR function



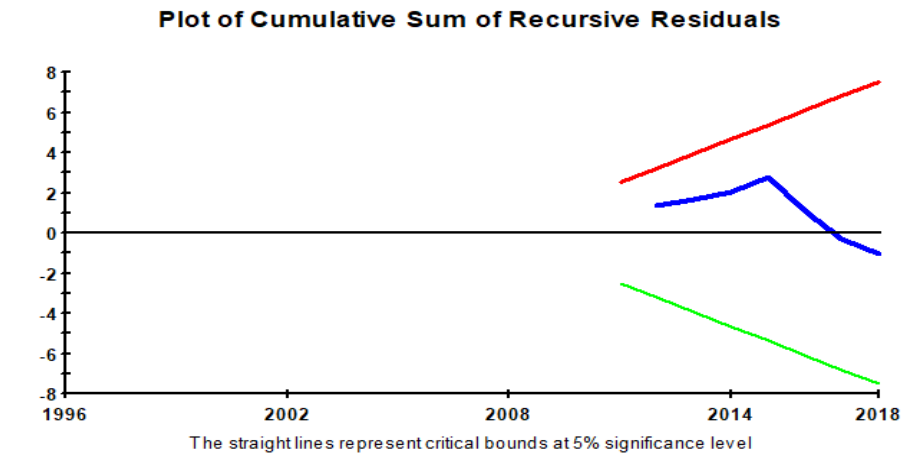


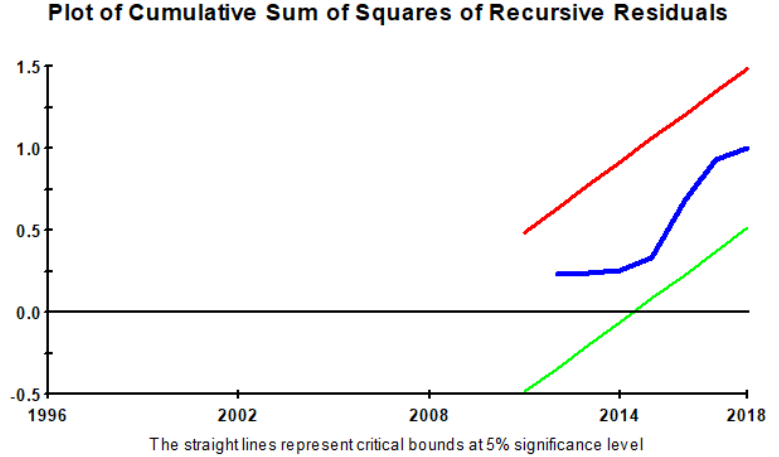
South Africa – TA function



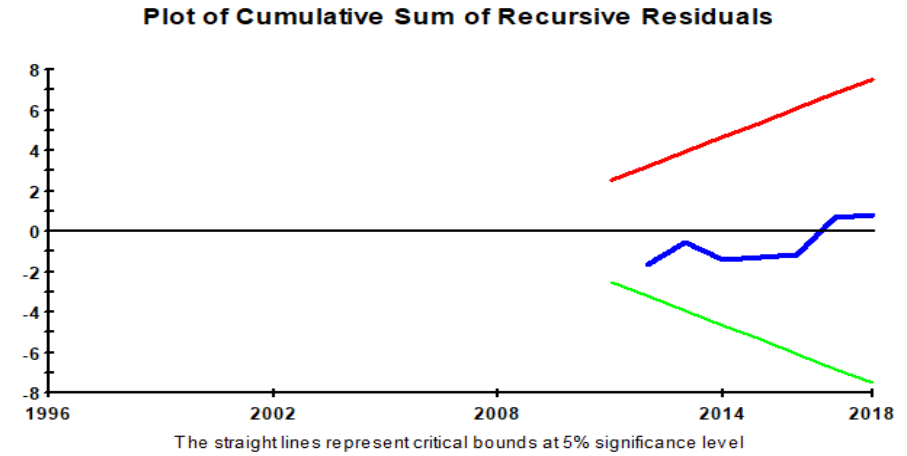


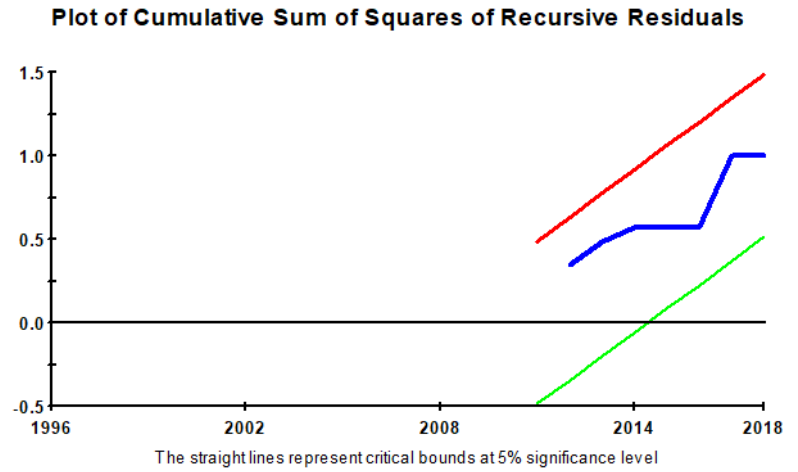
Brazil – TR function



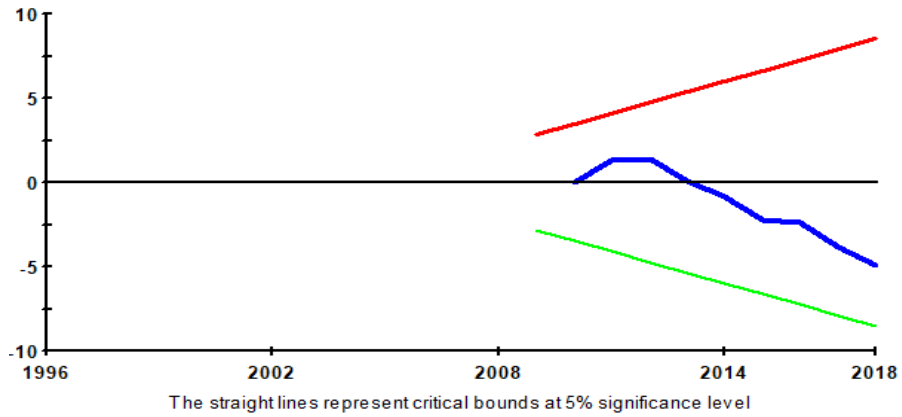


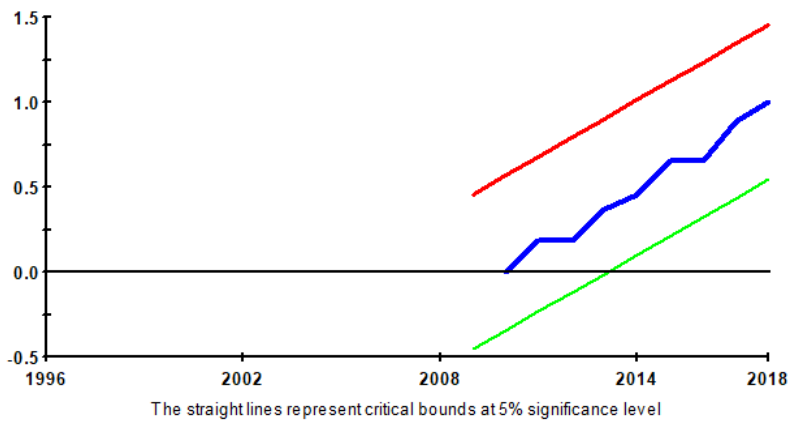
Brazil – TA function



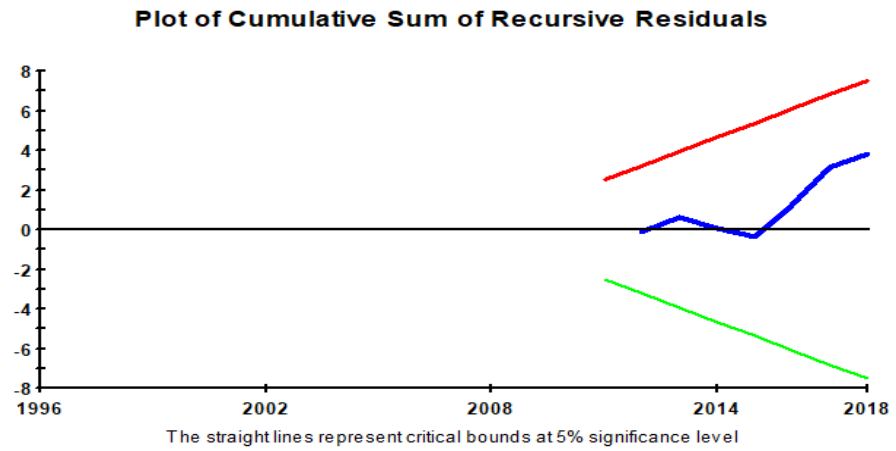


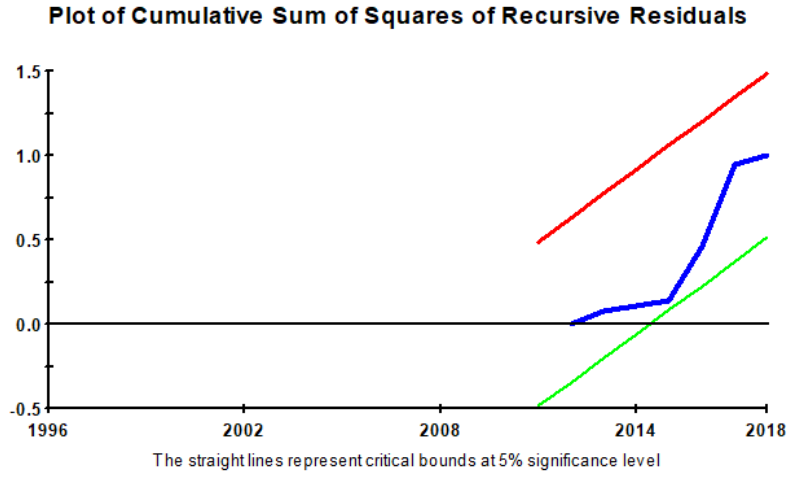
Vietnam – TR function





Vietnam – TA function





6. Conclusion

This paper has empirically examined the determinants of tourism development in three study countries – South Africa, Brazil and Vietnam – during the period from 1995 to 2018. Despite the growing number of studies on the determinants of tourism development in a number of countries, these three countries have remained understudied. Of the available handful of studies on the determinants of tourism development, most are on developed countries and selected developing countries in the Asian region. This leaves a multitude of countries with little or no coverage at all. This study is fundamentally different from some of the previous studies on the subject in that it is based on a comparative analysis of three carefully selected developing countries from three different continents, namely Africa, Latin America and Asia. Unlike the majority of the previous studies, the current study has used a relatively recently developed ARDL bounds-testing approach to examine the key determinants of tourism development in these three study countries. The method's superior qualities imply the robustness of the results. While most of the existing studies have used only one measure of tourism development, this study has utilised two proxies of tourism development, thereby setting this study apart from the rest in the tourism field. The findings of the study show that the determinants of tourism development differ from country to country and over time. In addition, they depend on the proxy used to measure the level of tourism development. Overall, the study found that the positive drivers of tourism in the studied countries are: tourist disposable income, financial development, trade openness and political stability, while the negative drivers include exchange rate, price level and carbon emissions. Despite this overall outcome, the slight differences highlighted in the results imply that the relevant policy makers in each study country are recommended to desist from a blanket approach, but are encouraged to pursue tourism promotion policies that are specific to their countries and target the relevant tourism

proxies in order to promote tourism development in their respective countries. For example, while South Africa is likely to make strides in tourism development by promoting trade openness, Brazil will fare better if it focuses on the promotion of political stability.

REFERENCES

Ang, J.B. and W.J. McKibbin (2007), "Financial Liberalization, Financial Sector Development and Growth: Evidence from Malaysia", *Journal of Development Economics*, 84(1), 215-233.

Asongu, S.A., J.I. Uduji and E.N. Okolo-Obasi (2019), "Tourism and Insecurity in the World", *International Review of Economics* 66**,** 453-472.

Bojanic, D.C. and M. Lo (2016), "A Comparison of the Moderating Effect of Tourism Reliance on the Economic Development for Islands and other Countries", *Tourism Management*, 53(C), 207-214.

Fayissa, B., C. Nsiah and, B. Tadasse (2008). "Impact of Tourism on Economic Growth and Development in Africa", *Tourism Economics*, 14(4), 807-818.

Gebrehiwot, D.B. and H. Gebre (2015), "Determinants of Tourism Development in Aksum Town", *International Journal of Current Research*, 7(10), 12150-12157.

Gerakis, A.S. (1966), "Effects of Exchange-Rate Devaluations and Revaluations on Receipts from Tourism", *International Monetary Fund Staff Papers*, 12, 365-384.

Gormus, S. and I. Gocer (2010), "The Socio-economic Determinant of Tourism Demand in Turkey: A Panel Data Approach", *International Research Journal of Finance and Economics*, 55, 88-99.

Heston, A., R. Summers and B. Aten (2006), "Penn World Table Version 6.2", Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania.

Holzner, M. (2011), "Tourism and Economic Development: The Beach Disease?", *Tourism Management*, 32, (4), 922-933.

Johansen, S. (1988), "Statistical Analysis of Cointegration Vectors", *Journal of Economic Dynamics and Control*, 12, 231-254.

Johansen, S. and K. Juselius (1990), "Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money", *Oxford Bulletin of Economics and Statistics*, 52, 169-210.

Katircioglu, Setareh., Salih Katircioğlu and M. Altinay (2018), "Interactions between Tourism and Financial Sector Development: Evidence from Turkey", *The Service Industries Journal*, 38:9-10, 519-542.

Kaufmann, D., A. Kraay and M. Mastruzzi (2006), "Governance matters VI: Aggregate and individual governance indicators 1996–2006", The World Bank, WPS4280.

Kibara, O., N. Odhiambo and J. Njuguna (2012), "Tourism and Economic Growth in Kenya: An Empirical Investigation", *International Business & Economics Research Journal (IBER),* 11(5). 517-528.

Lim, C. (1997), "Review of International Tourism Demand Models", *Annals of Tourism Research*, 24, 835-849.

Ma, E., C. Qu, A. Hsiao and X. Jin (2015), "Impacts of China Tourism Law on Chinese Outbound Travelers and Stakeholders: An Exploratory Discussion", *Journal of China Tourism Research,* 11(3), 229-237.

Malec, L. and J. Abrham (2016), "Determinants of Tourism Industry in Selected European Countries: A Smooth Partial Least Squares Approach", *Economic Research- Ekonomska Istraživanja*, 29(1), 66-84.

Mohaidin, Z., K.T. Wei and M. Ali Murshid (2017), "Factors Influencing the Tourists' Intention to Select Sustainable Tourism Destination: A Case Study of Penang, Malaysia", *International Journal of Tourism Cities,* 3(4), 442-465.

Morley, C.L. (1994), "The Use of CPI for Tourism Prices in Demand Modeling", *Tourism Management*, 15(5), 342-346.

Nyasha, S and N.M. Odiambo (2020), "Does Remittance Inflow Granger-Cause Economic Growth in South Africa? A Dynamic Multivariate Causality Test", *The Review of Black Political Economy*, 47(1) 86-103.

Önder, A., C. Aykan and K. Nese (2009), "An Empirical Analysis of the Determinants of International Tourism Demand: The Case of Izmir", *European Planning Studies*. 17, 1525-1533.

Parida, Y., P. Bhardwaj and J. Chowdhury (2017), "Determinants of Tourism in Indian States: An Empirical Analysis", *Tourism Review*, 72(3), 330-343.

Park, J.H., H.B. Kim, S.K. Lee and S.C.S. Jang (2011), Wealth Effect and Demand for Outbound Tourism, Proceedings of the 16th Annual Graduate Student Research Conference in Hospitality and Tourism, Houston, Texas, 6-8 January.

Pedak, M.O. (2018), "The Effect of Tourism on GDP", A dissertation submitted to Jonkoping University.

Pesaran, M.H. and Y. Shin (1999), *An autoregressive distributed lag modelling approach to cointegration analysis,* in: S. Storm (Ed), "Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium", Cambridge University Press, Chapter 11, 1-31.

Pesaran, M.H., Y. Shin. and R. Smith (2001), "Bound Testing Approaches to the Analysis of Level Relationship", *Journal of Applied Econometrics*, 16, 174-189.

Pratt, S. (2015), "The economic Impact of Tourism in SIDS", *Annals of Tourism Research* 52, 148-160.

Raghavendra D.V., V. Shilpa and S. Vijayachandra Reddy (2016), "Determinants of Tourism Demand in India", *International Journal of Humanities and Social Science Invention*, 5(5), 20-26.

Ren, T., M. Can, S.R. Paramati, J. Fang and W. Wu (2019), "The Impact of Tourism Quality on Economic Development and Environment: Evidence from Mediterranean Countries", *Sustainability*, 11, 2296.

Shafiullah, M., E.M. Okafor and U. Khalid (2019), "Determinants of International Tourism Demand: Evidence from Australian States and Territories", *Tourism Economics*, 25(2), 274-296.

Smeral, E. (2003), Die Zukunft des internationalen Tourismus, Vienna: WIFO.

Sofronov, B. (2017), "The Economic Impact on Global Tourism", *Annals of Spiru Haret University, Economic Series, Universitatea Spiru Haret*, 17(2), 127-139.

Song, H. and G. Li (2008), "Tourism Demand Modeling and Forecasting: A Review of Recent Research", *Tourism Management*, 29(2), 203-220.

Song, H., S. Lin, X. Zhang and Z. Gao (2010), "Global Financial/Economic Crisis and Tourist Arrival Forecasts for Hong Kong", *Asia Pacific Journal of Tourism Research*, 15, 223–242.

Songling, Y., M. Ishtiaq and B.T. Thanh. (2019), "Tourism Industry and Economic Growth Nexus in Beijing, China", *Economies* 7(1), 1-15.

UNWTO (2020), World Tourism Barometer, 18(1).

Vencovska, J. (2014), "The Determinants of International Tourism Demand", A dissertation submitted to Charles University in Prague.

World Bank (2020), World Bank DataBank. April 5, https://databank.worldbank.org/home.aspx.