

Foreign Real Estate Investments and Tourism development in island economies:

An Panel ARDL Approach

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Abstract

Tourism development and foreign real estate investment (FREI) are two aspects that have gained impetus in developing contexts over the past years. Using the context of small island developing economies, the study is being conducted to depict the link between tourism and foreign real estate investments (FREI). A sample of seven island economies, with data spanning over the period 2001 – 2018 is used for the study. To gauge the dynamic link, as well as find if there are any long or short-term relationships between the two variables, a Panel Autoregressive Distributed Lag (PARDL) methodology is used. The results illustrate that the link between FREI and tourism development is significant and positive in the long term and insignificant in the short term. It is concluded that for small island economies foreign investments in the real estate sector are used to generate infrastructural developments and this entails tourism development in the longer term. The Granger causality test also reveals that the link runs from tourism to FREI, suggesting that when tourists visit a country, this entails their investment in the real estate sector of the domestic country.

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1.0 Introduction

Small island developing states (SIDs) normally depend upon external resources and they have been attracting foreign investments and tourism to propel their economic development

(Barrowclough, 2007; Seetanah and Fauzel, 2019). Indeed both tourism and foreign investment were on the rise in most of the island destinations before the pandemic period (refer to table in appendix). One sector particularly benefiting from important levels of foreign direct investments (FDI) in most of the island economies is the real estate sector (refer to the appendix for a trend in this sector).

There is a rich literature on the determinants of tourism demand (Song and Li, 2008) and there is a growing belief that there might be an important connection between FREI and tourism. Wealthy individuals get attracted to the natural and paradisiac nature of those islands and may invest in them. Studies have highlighted that tourists could be visiting a country to introspect the real estate market and a country attracting tourists would also be perceived as a good destination for real estate investments (Rodrigues and Bustillo, 2010; Fereidouni and Al-Mulali, 2014). Numerous empirical works have confirmed the positive influence of tourism on FREI (see Rodriguez and Bustillo, 2010; Fereidouni and Masron, 2011; Fereidouni, 2013; Poon, 2017 and Wong et al. 2017a).

When a foreigner purchases a property (for commercial or residential use) in the domestic island economy this should normally induce more frequent visits of the foreigner or their friends or relatives to the domestic country (Rodrigues and Bustillo, 2010). A consequence of globalization with the set up of multinational companies has also led more individuals to travel for work purposes (Bardhan and al., 2008). Residential tourism has also been on the rise, for example over the past decades an increase in retirement migration (second home for retired individuals) has been observed (see Breuer, 2005). An upsurge has been noted for both residential and business tourism. The injection of FREI in the hotel sector normally leads to more accommodation ability in a domestic country. For example, international chains of hotel with their existing reputation and skills would tend to enhance the tourism sector's productivity and competitiveness (UNCTAD, 2008). Moreover, as Tang et al., (2007) and Yazdi et al., (2017) posited, increased FREI may also imply accompanying infrastructural capital, for instance, tourist attractions and transport facilities among others, which is likely to promote further tourism arrival.

The literature on the potential impact of FREI¹ on tourism growth has been quite scant and the possible impact of FREI on tourism growth should not be underestimated. To the best of our knowledge, only a couple of studies (see Fereidouni et al., 2010 for the case of Dubai and Fereidouni and Al-Mulali, 2014 for the case of a sample of 24 OECD countries) have tried to assess if FREI influences tourism arrival. Fereidouni et al. (2010) verified the presence of a short-run bidirectional causal relationship between FREI and tourism. More recently Gopy-Ramdhany et al. (2021) considered this link for a sample of developed and developing countries and ascertained that FREI positively influences tourism demand. Studies focusing on island economies have till now been largely ignored and it is believed that an investigation of the FREI-Tourism nexus in such countries would be insightful, especially taking into consideration the fact that both tourism and FREI are very important determinants of economic development in the island economies.

The research aims at finding how tourism development and FREI are related by using a sample of 7 island economies over the period 2001 – 2018, based on data availability. To account for the dynamic nature of the FREI-Tourism relationship, an element often ignored by previous research. A dynamic panel data regression technique, namely a Panel Autoregressive Distributed lag (PARDL) model is used in the present study. To establish the direction of causation between the two main variables being studied, a panel causality test is employed.

The organization of the study will be as follows: Section 2 provides a discussion of the methodology used for undertaking the study; in section 3 the regression results obtained are discussed and section 4 contains the study conclusions and implications.

¹Although there is a strand of literature which assesses the impact of overall FDI on tourism development (see Selvanathan and al., 2012; Tang and al., 2007; Craigwell and Moore, 2008; Seetanah and Fauzel, 2019 among others).

2.0 Methodology

Model Specification

The conceptual model used in the present study has been adopted from the tourism demand model used in prior empirical works such as Yazdi et al., (2017) and Seetanah (2019). Apart from the classic determinants appearing in the tourism demand model, a proxy of FREI has been included in the model. The following tourism demand model is specified:

$$\text{TARV} = f(\text{FREI}, \text{CPI}, \text{EXC}, \text{GDP}, \text{RWG}) \quad (1)$$

Where TARV represents tourism arrival in the destination country; FREI is proxy for the foreign real estate investment, the consumer price index of the domestic country is represented through CPI; the exchange rate of the domestic countries (vis-à-vis the USD) is denoted using EXC; GDP abbreviates for the gross domestic product per head for destination country and RWG proxies for the real world gross domestic product per capita. To facilitate the interpretation of the regression results, all the variables in the model have been converted in their natural logarithmic forms.

The model used for the study is as follows:

$$\ln \text{TARV}_{it} = \beta_0 + \beta_1 \ln \text{FREI}_{it} + \beta_2 \ln \text{CPI}_{it} + \beta_3 \ln \text{EXC}_{it} + \beta_4 \ln \text{GDP}_{it} + \beta_5 \ln \text{RWG}_t + e_{it} \quad (2)$$

Where i represents the islands in the sample² and t is the time dimension.

Tourism development, the dependent variable in the study is measured by using tourism arrival, a similar measure had been used by Seetanah (2019). The data for tourism arrival has been obtained from the World Bank database.

In the study, the main independent variable is FDI in the real estate sector, also known as foreign real estate investment (FREI). This data has been obtained from the OECD database³ and the Central Bank websites of the respective countries. Those island economies with missing FREI

² Cyprus, Dominican Rep, Mauritius, Fiji, Malta, Philipinnes , Singapore

³https://stats.oecd.org/viewhtml.aspx?datasetcode=FDI_FLOW_INDUSTRY&lang=en#

figures over several years (this could suggest no FREI over those particular years) were omitted from the sample.

From past studies (see Witt and Witt, 1995; Poon, 2015; Seetanah et al., 2015 among others), the following factors have been identified as affecting tourism demand. These factors are relative prices as measured by consumer price indices, exchange rates, the tourists' income level is proxied using the real-world gross domestic product per capita (RWG), and each countries' level of development is proxied by using the gross domestic product per head (GDP).

Methodology

Before choosing the appropriate method to undertake the regression, unit root tests are performed to verify the stationarity of the variables. Panel unit root tests, namely the augmented Dickey-Fuller (ADF) and Phillips Perron (PP) unit root tests were used. The results indicated that the variables were either integrated of order 0 or order 1. Under such specifications, the most appropriate model to find the long-run and short-run dynamic link between the variables is the autoregressive distributed lag approach (ARDL). The Bounds test confirms the existence of a long-run relationship in the model.

Stylos and Bellou (2018) have highlighted the importance of destination loyalty. With recurrent tourism occurring in the island economies, it would be interesting to assess the influence of the lagged values of tourism on the actual tourism demand. In the presence of potential dynamism in tourism modeling, this research accordingly employs a PARDL framework. Given the potential theoretical existence of reverse causation, panel Granger Causality tests are also used to investigate the existence of reverse and bi-causality. Moreover, the PARDL approach in the presence of cointegration yields the short-run effects of FREI on tourism for more insights.

3.0 Empirical Result

Using the ARDL methodology the link tourism – FREI is estimated in both the long and short terms.

Long-Run Link FREI-Tourism Development

The results for the long-term estimates are given in table 1.

Table 1. Long Run ARDL Estimates

Independent Variables	Coefficient	P-Value
FREI	0.211***	0.00
EXC	1.777	0.80
CPI	-2.257**	0.03
GDP	-0.759	0.20
RWG	4.863***	0.00

From the regression results, it is found that, in the long run, FREI has a positive significant effect on tourism demand, with a 1% increase in FREI causing a 0.21% increase in tourism. As foreigners purchase more residential and commercial properties, this has led to an increase in tourism levels, through a rise in residential and business tourism (Bardhan et al., 2008). From Rodriguez and Bustillo (2010) the positive relationship is reinforced by the fact that the friends and/ or relatives of the residential and/or business tourists will normally be visiting them. Another theoretical justification explaining the positive link is that as the domestic countries benefit from FREI, these resources can be used for infrastructural development. For example, the set up of new facilities and venues such as hotels, restaurants, and tourism attractions among others, would normally enhance tourism arrival (Craigwell and Moore, 2008; Tang et al., 2007). When international hotel chains invest in the island economies, through their reputation and the facilities provided, they normally attract an established tourism market (Barrowclough, 2007).

The results obtained in the present study are empirically supported by those obtained by Fereidouni and Al-Mulali (2014) who also found a long-run relationship between FREI and tourism. Another study highlighting the link FREI - tourism development is by Fereidouni et al. (2010). In a similar vein, Rodrigues and Bustillo (2010) also suggested that FREI and tourism could be considered endogenous variables. They postulated that the presence of FREI in a country promotes the set up of tourist infrastructures, which subsequently encouraged more tourism arrival.

Taking into consideration the island economies and their lack of resources or ease of access to international markets, foreign direct investment is perceived as an important source of income, promoting the economic development of those countries (Dieke, 2000). For the island economies, this foreign acquired income specifically dedicated to the real estate sector would serve as an important input in the development of the tourism industry as suggested by Endo (2006). UNCTAD (2008) also highlights the importance of FREI in attracting tourists in developing countries that do not have the infrastructural capacities deemed important by tourists. Comparatively, in developed contexts, they already possess such facilities and FREI would have a marginally lower influence on tourism.

The other control variables significantly influencing tourism are RWG and CPI. RWG is a measure of the average income of the tourists and it bears a positive relationship with tourism development, indicating that as foreigners' income increases they travel more to foreign destinations. The price level prevailing in the domestic country as measured by CPI negatively affects tourism, high price levels would lead to a reduction in tourism.

Short-Run Link FREI-Tourism Development

The ARDL model allows an analysis of the short-term relationship between the variables. The error correction term (ECT) measures the speed of adjustment towards the long-term equilibrium and is equal to -0.12 for the present model. Indicating that each year the disequilibrium is corrected by 12% to attain the long-term equilibrium. The negative and significant coefficient can be interpreted as the existence of a long-run causal relationship between the variables studied.

Table 2. Short-Run ARDL Estimates

Independent Variables	Coefficient	P-Value
FREI	0.025	0.12
EXC	-0.183	0.18
CPI	-0.867***	0.01
GDP	0.373**	0.02
RWG	-1.374	0.38

The short-run ARDL results given in table 2 illustrates that FREI does not influence tourism demand. From the regression results, it is concluded that there is not an immediate effect of the foreign investments in real estate on the level of tourism demand. Rather the use of foreign resources in real estate developments and their subsequent influence on tourism is perceived as a longer-term procedure. A variable affecting tourism demand in the short term is the general price levels prevailing in domestic countries. An inverse link is depicted between the two variables, suggesting that countries with lower prices tend to attract more tourists. The level of economic development in a country also has a significant influence on tourism demand in the short term.

From the above results, the inexistence of an influence of FREI on tourism demand in the short term would suggest that the integration of FREI and its subsequent influence on tourism is a longer-term process. Seetanah and Fauzel (2019) pinpointed that the use of FDI for the setting up of tourism infrastructures takes some time, as well as its following influence on tourism development.

Pairwise Granger Causality

A pairwise Granger causality test has further been employed to establish the direction of causation between the two variables, that is to determine the presence of bi-causality.

Table 3. Pairwise Granger Causality

Null Hypothesis	F-Statistic	Prob.
Tourism does not Granger Cause FREI	2.62733	0.0766 YES
FREI does not Granger Cause Tourism	1.62399	0.2016 NOT CAUSE

The results from table 3 indicate that FREI does not cause tourism demand, whilst tourism causes FREI. There is unidirectional causality from tourism to FREI. This result suggests that the lagged

values of tourism arrival are influencing the actual FREI. Both the tourists who visited the domestic country in the past and those visiting in the present influence the actual FREI level. This is in line with results obtained by Rodriguez and Bustillo (2010), Fereidouni and Masron (2011), Poon (2017) and Wong et al., (2017) among others.

4.0 Conclusions and Implications

The principal aim of this study was to analyze the effect of FREI on tourism development for the case of a sample of 9 island economies. Using a panel ARDL method, it was found that in the long run, FREI significantly affected tourism demand in the island economies. The positive link implies that increased FREI level led to more tourism for the island economies. From the short-term ARDL results, FREI did not influence tourism demand. Whilst the Granger causality test results gauging the causal links between the two variables found unidirectional causality from tourism to FREI.

The study highlights the importance of real estate and other infrastructures in promoting tourism for the island economies and the results further illustrate that an island economy benefitting from FREI will not generate an immediate rise in tourism level but this is rather a long-term process. Most of the island economies studied have been promoting themselves as tourist destinations and the international tourists (with visiting purposes being holiday or business) represent the potential investors in real estate. While encouraging tourism, the island economies also boost FREI. Over the past decades, most of the island economies studied have set up policies to encourage foreigners invest in their real estate markets. The study results indicate that island economies which depend upon foreign resources for economic development, should in the present promote tourism as this will be engendering FREI in the future. An increasing FREI level will foster tourism arrival in the longer term.

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