Analysing the impact of tourism foreign direct investment on economic growth: Evidence from a small island developing state

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Abstract
The present study attempts to address the important question of whether foreign direct investment (FDI) flowing into the tourism sector has served to enhance economic growth in Mauritius for the period 1984–2014. Using a dynamic vector error correction model, and catering for dynamism, the results show that tourism FDI has indeed contributed to fostering economic growth; albeit the magnitude of the coefficient being relatively smaller than FDI in the non-tourism sector. A plausible explanation for such a finding may reside in the fact that the bulk of FDI flows in the non-tourism sectors while domestic investment predominates in the tourism sector in Mauritius. The findings also demonstrate a positive relationship between tourism development and economic growth, thus supporting the tourism-led growth hypothesis.

Keywords
economic growth, Mauritius, tourism FDI, VECM

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Introduction

The tourism sector has received considerable attention by many developing countries' government since it is often perceived as a potentially promising source of economic growth and development as well as for promoting human development. Indeed, the tourism sector can be a major route through which the country can boost its export revenues, generating a large number of jobs – both directly and indirectly – and creating employment for the young and women. More so, the development of the tourism sector in a country fosters economic diversification and promotes a more service-oriented economy; and in this regard, foreign direct investment (FDI) in the tourism sector has played a key role in promulgating and expanding indigenous tourism sectors across a wide spectrum of developing nations including the small island economy of Mauritius, albeit in the latter case, at the onset of the sector's development and over the last decade. The Mauritian tourism sector that is positioned at the high end of the global market is regarded as a major gross domestic product (GDP) contributor for the island. By the end of 2013, it accounted for approximately 7.1% of GDP, and such a number is expected to grow in the future, even more so in light of the audacious objective of the government to host two million tourists in the foreseeable future.

Although the literature is fraught with studies measuring the direct interplay between FDI and economic growth, nevertheless, to the best of our knowledge, there is to date, none of the studies have assessed the growth effect of tourism FDI on the economy. Some of the studies undertaken on the tourism sector for Mauritius relate more to the determinants of tourism demand or on the impact of tourism on economic growth (see Seetanah, 2009, 2011). As such, there is a need to analyse the implications of the dynamics of FDI in the tourism sector on the economy. In this regard, while it is by enlarge acknowledged that there are benefits to be had from tourism trans-national corporations (TNCs), unfortunately however, it is also true that these foreign firms do pose certain problems in certain cases. For instance, an increase in foreign capital can lead to an appreciation in the exchange rates. This will cause a reallocation of production resources and make the sector exposed to international competition less competitive. This is referred as the Dutch disease theory, and studies of Corden (1984) and Corden and Neary (1982) developed this model in an attempt to show the adverse economic effects that a large inflow of foreign currency can have. Furthermore, as argued by Nowak et al. (2003), an increase in inbound tourism may be welfare reducing instead of being welfare increasing.

In addition to aforementioned studies, the present article attempts to fill the aforementioned gap and aims at adding to the existing literature by investigating the direct and indirect relationship between tourism FDI and economic growth for Mauritius. Methodologically, this study uses a rigorous dynamic time series analysis, namely a dynamic vector error correction model (VECM), to carry out the proposed investigation. Such a procedure will ensure that the dynamic behaviour of the time series under consideration is properly captured, while simultaneously catering for causality issues. In fact, this method often provides superior forecasts compared to those from univariate time series models and elaborates theory-based simultaneous equation models. Forecasts from vector autoregressive (VAR) models are also quite flexible because they can be made conditional on the potential future paths of specified variables in the model. However, since the variables are stationary only in the first difference and are co integrated, we estimated a VAR in an error correction model (VECM).

The VECM is appropriately suited for integrating short-run and long-run analyses. VECM is also useful as it helps to account for spurious correlation and exogeneity bias (Beaugrand, 2004). Any feedback and indirect effects that may be present will also be detected within the VECM. The

model also allows for the identification of any bidirectional and/or unidirectional causality between the variables of interest.

The rest of this article is organized as follows: 'Literature review' section discusses the theoretical and empirical literature; 'Overview of FDI and tourism in Mauritius' section provides a brief overview of the evolution of the tourism sector and tourism FDI in Mauritius, while 'Methodology' section defines the methodological approach used; 'Analysis of findings' section delineates and discusses the findings and the final section gives the conclusion.

Literature review

It is widely recognized in the literature that TNCs play an important role in the economies of both developed and developing countries in that they allow the host countries to be integrated into international tourism networks that eventually lead to an increase in the flow of tourists and generate more income from tourism-related activities. However, it is also undeniable that to be able to successfully attract tourism FDI, there exists several components that are of a priori importance: political stability, level of economic development, socio-economic environments, privatization of the industry, liberalization of FDI regime, taxation, investment incentives, availability and quality of hard and soft infrastructures and corporate strategies or company-specific factors among others (Endo, 2006).

Additionally, tourism FDI may stem from various sources and these activities relate mostly to the details given in Table 1.

FDI in the tourism sector, similar to FDI in any other sector, is often considered to be growth enhancing and is regarded as an effective engine for economic development. It is primarily seen as an important channel through which capital, technology and know-how are transferred to the recipient country. By transferring knowledge, FDI normally increases the existing stock of knowledge of the host country through labour training, transfer of skills and the transfer of new managerial and organizational practice. FDI also promotes the use of more advanced technologies by domestic firms through capital accumulation in the domestic country (De Mello, 1997). Foreign tourism companies also often act as catalysts for the injection of fresh capital in the host country and also help in attracting foreign tour operators and tourists. As a result, given the numerous benefits attached, there are many emerging tourism destinations vying for these firms (Yunis, 2008), particularly since foreign investment is considered to be of paramount importance in creating and upgrading tourism-related infrastructure.

Tourism itself is seen to be an important ingredient for economic growth, and the benefits of tourism tend to extend to a wider section of the society as compared to other sectors of the economy (Telce and Schroenn, 2006). Various studies have demonstrated that tourism development has the potential effect of promoting economic growth, creating jobs and generating revenue for the government. For instance, the tourism-led growth hypothesis that analyses the possible relationship between tourism and economic growth supports a bidirectional relationship between tourism and economic growth (Risso et al., 2010). In addition, tourist spending is regarded as an alternative form of exports that provides much-needed foreign exchange earnings for an economy that are used to import capital goods to produce goods and services, which in turn may foster economic growth in host countries (Balaguer and Cantavella-Jorda, 2002).

Through competition among firms and other international tourist destinations, international tourism also enhances the efficiency level in the host country. Furthermore, since tourists demand goods and services such as accommodation, food, transportation facilities and entertainment

Table 1. Most frequent tourism FDI activities.

	Frequency with which FDI appears to occur		
	Most frequent	Occasional	Rare
Hotels and similar	√		
Restaurants and similar	√		
Second homes	√		
Passenger transport rental equipment	√		
Railway passenger transport services		√	
Air passenger transport services		√	
Road passenger transport services			√
Water passenger transport services			√
Passenger transport supporting services			√
Travel agencies and similar			√
Cultural services			√
Sports and other recreational services			√

Note: FDI, foreign direct investment.
Source: FDI in tourism. The Development Dimension. UNCTAD, 2007, p. 14.

services, there is an increasing demand for local producers' goods and services. Hence, one can argue that tourism development is accompanied, more often than not, by an increase in aggregate supply in the economy. These, taken together, may potentially lead to an increase in income, output and employment in the host country (Balaguer and Cantavella-Jorda, 2002).

FDI in the tourism sector, economic growth and development

Additionally, FDI in the tourism sector can also serve to boost the economic growth of host countries in various ways. For instance, FDI fosters economic growth through an increase in income, a rise in local employment, an increase in foreign exchange and an improvement in income distribution. It also leads to growth by promoting the countries productive capacities including transfer of technology and management practices, spillovers, externalities, stimulation of domestic investment, increases in productivity of domestic firms, increased integration in global markets and decreased cost/increased rates of research and development and innovation (World Wide Fund for Nature Gland, 2003).

The employment creation aspect of FDI in tourism is another crucial contributor to pro-mulgating economic growth and development of the host country. For instance, the tourism industry employs local citizens in hotels, restaurants and entertainment and tourist services that cater directly for tourists or through the multiplier effect (Haley and Haley, 1997). In addition, in view of the prevalence of service quality in the tourism sector, there is a constant demand for training that can only serve to upgrade the skills of local employees working in the industry. In this regard, skill transfers are common practice for international hotels.[1]

Furthermore, the significant spillover benefits engendered by tourism TNCs' operations cannot be underestimated. FDI in tourism, for instance, can also contribute significantly through the adoption of a diverse range of new technologies and skills that may lead to substantial techno-logical and skills diffusion into the economy. Another strand of the literature outlines that tourism-

related TNCs often establish linkages with local suppliers and distributors, which can only serve to boost the host country's economic activity and business opportunities.

Crucially also, many developing countries are overly dependent on the tourism sector as a major source of foreign exchange; even more so since such foreign exchange revenues often serve to contribute towards improving the host countries balance of payments (Belloumi, 2010). In this manner also, Robu and Balan (2009) suggest that a growing national tourism sector contributes to increased national income and employment that effectively leads to an improved balance of payment situation.[2]

Finally, it may be argued that tourism TNCs can also potentially contribute towards building and/or reinforcing the positive image of a destination in which they choose to locate. For example, the establishment of foreign hotel chains in a host country can enhance a destination's positive image. Furthermore, as supported by Kusluvan and Karamustafa (2001), the knowledge that familiar hotels exist in particular countries encourages and reduces the search costs for potential tourists.

Empirical review

Studies investigating the relationship between FDI in tourism and economic growth are relatively sparse to say the least; even more so those focusing on small island states. Furthermore, the very few existing studies tend to focus on the relationship between total FDI, economic growth and tourism development. One such study may be traced back to Selvanathan et al. (2012) who, by employing quarterly statistics from 1995 to 2007, investigated the causal link between FDI and the tourism industry in India under a VAR framework. The results depicted a one-way causal link from FDI to tourism arrivals. Likewise, Tang et al. (2007), in their study assessing the causality relationships among FDI, economic growth and tourism demand in China using an ECM method from 1978 to 2005, found a bilateral causality relationship between tourism demand and economic growth, thus confirming the tourism-led growth hypothesis. The results also confirmed the presence of a one-way causality link from FDI to tourism demand.

Additionally, Samimi et al. (2013), in their analysis of the relationship between tourism-related FDI and tourism development in developing countries using panel VECM techniques from 1995 to 2008, confirmed the existence of a cointegrated relationship between the aforementioned variables in the long run. Furthermore, the results also showed the existence of a bilateral long-run causal relationship between tourism-related FDI and tourism development. However, there was limited evidence of short-run causality between the variables. The above clearly points to the relatively scanty nature of the empirical evidence available on the relationship between tourism FDI and growth, let alone those investigating the relationship between tourism FDI and growth.

As such, it is argued that the present study will help towards filling such a gap through an investigation of the aforementioned relationship in Mauritius, a small island state, using a dynamic VECM, and catering for dynamism and causality issues.

Overview of FDI and tourism in Mauritius

Mauritius is often regarded as one of the richest and most successful African economies, with its GDP per capita rising from US$260 in 1968 – year of independence – to more than US$7000 in 2013. Indeed, the economy has been growing almost consistently at an average of approximately 5% yearly for the last quarter century. The success of the Mauritian economy can largely be

Table 2. FDI inflow by sector (Rs. million).

Description/industry	2009	2010	2011	2012	2013
Agriculture, forestry and fishing	–	–	215	127	678
Manufacturing	485	63	669	1597	280
Electricity, gas, steam and air conditioning supply	–	2	18	8	238
Construction	211	1292	2117	2305	762
Wholesale and retail trade; repair of motor vehicles and motorcycles	291	125	600	746	327
Transportation and storage	10	110	204	43	–
Accommodation, food service and IRS	3923	2869	4351	6067	4910
Information and communication	–	235.47	462	373	60
Financial and insurance activities	1371.4	4645.292	1972	5512	716
Real estate activities	2231.29	1389.2	1884	3324.6	1328
Professional, scientific and technical activities	–	404.2	266	52	12
Administrative and support service activities	–	–	38	8	161
Education	125	18	4	–	32
Human health and social work activities	145.1	2732.2	91	210	–
Arts, entertainment and recreation	–	61.8	3	–	8.1
Total	8793.18	13,948.062	12,894	20,373	9512.1

Note: IRS: Integrated Resort Scheme.

attributed to its policy of trade openness, given its small domestic market. The traditional ingredients of growth have been sugar, textile and tourism. The economy also diversified into financial services and information and computer technologies, while keeping the traditional sector base.

In 2005, the country introduced bold reforms that changed the landscape of business activities in Mauritius and these ranged from changes in policies related to the ease of doing business, to labour reforms and to liberalization of tariff (duty-free island concept) and non-tariff barriers. The economy also registered significant investment in infrastructure, and there was a general consensus towards the need to move to higher value-added production. As such, one could argue that such reforms have contributed in making the economy stronger and more competitive.

FDI in tourism

FDI has greatly contributed towards the diversification of the Mauritian economy and in stimulating the economic growth of the island. Furthermore, FDI has also had several positive effects on the economy, and these include productivity gains, technology transfers and the introduction of new processes, managerial skills and know-how in the domestic market.

However, FDI for the best part of the 70s and 80s has flown almost exclusively into the export processing zone (EPZ) sector. However, since the turn of 1990, FDI in the tourism sector and other service providing sectors has also been on the rise. With the implementation of measures that have considerably eased the cost of doing business, the Hotels and Restaurants and the financial intermediation sectors have been the recipient of huge inflows of FDI in recent years. In addition, since 2005, FDI has increased tremendously with the introduction of the Integrated Resort Scheme (IRS), which is centred on the acquisition of villas for residential purposes by foreigners.[3] Table 2 delineates FDI inflows by sector in Mauritius from 2009 to 2013.

Table 2 clearly highlights the prevalence of tourism FDI including IRS over the past years with the latter rising sharply since 2006. In this regard, the role of the government in delineating sound policies that have served to induce foreign investors and in creating an environment conducive to investment through the elimination of bureaucratic procedures should not be underestimated. Interestingly, although the tourism sector is widely regarded nowadays as an established pillar of the Mauritian economy, the government's support in further fostering the sector is still very much on the agenda.

Methodology

Model specifications

The main objective of the present study is to investigate the relationship between FDI in tourism and economic growth in Mauritius for a period of 31 years (1984–2014). This section describes the model adopted and the empirical indicators of tourism FDI, economic growth and other control variables used in the model. The basic specification of the model is based on the principles of some earlier studies of growth models carried out by Temple (1999), Durbarry (2004) and Seetanah et al. (2011). In this regard, the econometric model takes the following functional form:

$$\text{Model}: Y = f(\text{HC}, \text{EF}, \text{FDIT}, \text{FDINT}, \text{TOUR}). \tag{1}$$

The model is used to analyse the impact of tourism FDI on economic growth, which is measured by Y and the proxy used is real GDP.

The variable of interest in this study, FDI in the tourism sector, is measured by FDIT and the proxy used is FDI in the tourism sector as a percentage of real GDP. As argued by various scholars, such as Yunis (2008), tourism FDI can boost a country's economic growth through the injection of fresh capital into the host country and also by attracting foreign tour operators and tourists. More so, as Dwyer et al. (2003) argued, foreign investment and know-how are considered to be of paramount importance in creating and upgrading tourism-related infrastructure and also in fostering additional investment in the tourism sector. As such, a positive coefficient is expected in the present instance.

FDI in the non-tourism sector as a percentage of real GDP, FDI NT, is also included in the model, and similar to FDIT, we expect the coefficient to depict a positive relationship with economic growth. We also added a measure of education (HC) to account for the quality of the labour force. A higher level of human capital increases the ability of workers to learn and adopt new technologies faster and more efficiently and thus are more productive. Many scholars, such as Gregory et al. (1992) and Barro (1998) have propounded that there exists a positive relationship between human capital and economic growth. In the present study, a secondary school enrolment ratio is used as a proxy for human capital and a positive coefficient is expected. The data for FDIT, FDINT and HC are extracted from the Bank of Mauritius and Statistics Mauritius database.

Since political, economic, social, transparency and security requirements are deemed crucial ingredients fostering economic growth, we have included in this study a measure of economic freedom (EF),[4] and the measure used is the EF index that is sourced from Holmes, Feulner and O'Grady (various ranking years).[5] We have also included tourism receipts as a measure of tourism development in the country in the present model. As discussed previously, tourism development is often regarded as a crucial element for economic growth. For instance, the tourism-led growth hypothesis, as propounded by Louca (2006), Noriko and Mototsugu (2007) and Gani (1998),

supports the positive relationship between international tourism and economic growth for small island economies. Hence, tourism receipt is used as a proxy for tourism expansion in the country and data is extracted from the Statistics Mauritius database.

The econometric specification can thus be written as follows:

$$y_t = \alpha_0 + \beta_1 fdi\ t_t + \beta_2 fdi\ nt_t + \beta_3 hc_t + \beta_4 ef_t + \beta_5 tr_t + \mu_t \tag{2}$$

where t denotes the time dimension and the small letters denote the natural logarithm of the variables employed for ease of interpretation (that is in percentage terms).

Estimation issues

A VAR approach is used to delineate the relationship between FDI in tourism and economic growth. Such an approach does not impose a priori restriction on the dynamic relations among the different variables. It resembles the simultaneous equation modelling, whereby several endogenous variables are considered together. Hence, the VECM linking short-term and long-term causality between tourism FDI and economic growth is set as follows:

$$\Delta \ln Y_t = \alpha_0 + \sum_{j=1}^{n} \alpha_1 \Delta \ln \text{FDI } T_{t-j} + \sum_{j=1}^{n} \alpha_2 \Delta \ln \text{FDI } NT_{t-j} + \sum_{j=1}^{n} \alpha_3 \Delta \ln \text{HC}_{t-j}$$
$$+ \sum_{j=1}^{n} \alpha_4 \Delta \ln \text{EF}_{t-j} + \sum_{j=1}^{n} \alpha_5 \Delta \ln \text{TR}_{t-j} + \eta \text{ECT}_{t-1} + \varepsilon_t. \tag{3}$$

The coefficient of the error correction term (ECT_{t-1}) indicates whether there exists a short-run relationship among the time series variables.

Furthermore, applying regression on time series data may generate spurious results (Granger and Newbold, 1974; Phillips, 1986), given the possibility of non-stationary data. As such, undertaking a check as to the stationarity of data is a prerequisite for applying the cointegration test. As a result, the augmented Dickey–Fuller (ADF) test (Dickey and Fuller, 1979, 1981) was applied.

Analysis of findings

From the application of the ADF (1979) unit root tests, we observe that all the variables are integrated of order 1 and stationary in the first difference. The Johansen maximum likelihood approach is subsequently used to test the presence of cointegration in a VECM. Trace statistics and maximal eigenvalue confirm the presence of cointegration, and we thus conclude that a long-run relationship exists in the aforementioned specification (refer to Tables A1 and A2 in the Online Appendix).

Empirical results

The long-run estimates of equation (2) are reported as follows:

$$y_t = 15.53 + 0.20^* fdi\ t_t + 0.39^{**} fdi\ nt_t + 1.28^* tr_t - 5.70\ hc_t + 0.21^* ef_t.$$

where '*' indicates the significance at 10% and '**' significance at 5%.

The long-run equation yields very interesting results and are depicted earlier. From the results, one can argue that all variables, with the exception of the human capital variable, have a significant impact on the economic growth of Mauritius.

As regards to the variable of interest, namely *fdi t*, the results show that tourism FDI has contributed to the economic well-being of the country in the long run as supported by the positive and significant coefficient of the variable. In fact, a 1% increase in FDI in tourism raises economic growth by 0.20%. Such a finding is in line with the results of Tondl and Fornero (2008) for the case of Latin America. A plausible explanation for such a relatively small coefficient may be due to the restrictive policies that were in place in the tourism sector at the onset of the island's industrialization process, and 100% FDI was only permissible for investment into hotels with room capacity exceeding 100. On the other hand, there was a wide array of incentives that was adopted following the advent of the Industrial Act (1993), and this led to significant inflows of FDI into the manufacturing and EPZ sectors. The latter clearly serves to explain the positive and highly significant relationship between FDI in the non-tourism sector and growth. In this particular instance, the results show that a 1% increase in FDI in other sectors than the tourism sector has contributed to 0.39% increase in the economic growth. Our results are in line with the studies of Blin and Ouattara (2009), Seetanah (2009) and Seetanah et al. (2011) who have analysed the impact of FDI on the economic growth.

Interestingly, the Mauritian government has adopted a series of measures that have fostered an opening up of the tourism industry that included measures permitting foreign investment in restaurants, yachts and travel agencies among others. Such a change in philosophy has not only served to boost FDI in the sector, but it has also brought much needed capital for further investment and also in up skilling the sector. Direct and indirect employment has also increased to a large extent.

The aforementioned results clearly highlight not only the prevalence of FDI towards the industrialization process of the island but also its crucial importance in helping the economy to diversify. According to the UNCTAD Report (2008), 'Mauritius is among the few sub-Saharan African countries to have successfully competed with other countries for FDI'. The Mauritian government's decision to engage in an open-door policy has helped Mauritius to successfully integrate into the globalization process, and this has fostered significant export-oriented FDI, which nowadays is viewed as playing a fundamental role in the present development of the country's economy.

More so, the results show that the tourism development variable is positive and significant. In this regard, the coefficient of 1.28 denotes that a 1% increase in tourist development has contributed to 1.28% increase in the economic growth of Mauritius. Such a finding tends to support studies such as Dritsakis (2004), Kim et al. (2006), and Eugenio-Martin et al. (2004) among others. Indeed, the tourism industry in Mauritius has experienced sustained growth since 1995 with tourism receipts also registering significant increases.

Finally, the findings also denote a positive and significant relationship between economic growth and EF, which tends to provide support to the widely held view that EF in a country, is of upmost importance for the country's economic growth.

The short-run regression

Given the presence of cointegration, we subsequently estimated a VECM including the ECT that allowed for an investigation of the dynamic nature of the model. The VECM specification induces the long-run behaviour of the endogenous variables to converge towards their cointegrated relationships, which accommodates short-run dynamics. In this study, the VECM is estimated using an optimum lag length of 1. The empirical results of the short-run estimates for model 1 of the VECM are displayed in Table 3.

Table 3. Short-run dynamics.

Error correction model	Δy	$\Delta fdi\ t$	$\Delta fdi\ nt$	Δhc	Δef	Δtr
Constant	−0.17	−1.10	0.52	−0.003***	0.14***	0.11***
Δy_{t-1}	0.46***	0.54**	0.16*	0.016***	0.13***	0.12*
$\Delta fdi\ t_{t-1}$	0.06*	0.39***	0.40	0.003*	0.013	0.001*
$\Delta fdi\ nt_{t-1}$	0.11*	0.21**	0.32***	0.017*	−0.03	0.02*
Δhc_{t-1}	−7.21	−6.89	14.71	−0.321***	1.07	1.47
Δef_{t-1}	1.26	0.27	−11.24	0.06	0.38***	−0.53
Δtr_{t-1}	0.16*	0.25*	0.11	0.08	−0.95	0.082***
$\sqrt{}_{t-1}$	−0.70*	−2.23	−0.49**	−0.03***	−0.17***	0.12***
R^2	0.80	0.70	0.60	0.30	0.76	0.45

Note: fdi: log of foreign direct investment; ef: log of economic freedom; fdi nt,log of foreign direct investment in the non-tourism sector; hc: log of human capital; tr: log of tourism receipt.
*Significant at 10%.
**Significant at 5%.
***Significant at 1%.

Table 3 is a composite table, where each column can be viewed and analysed as an independent function, that is, each column in the table corresponds to an equation in the VECM. The variable named in the first cell of each column is viewed as the dependent variable. The estimated coefficient of the explanatory variables is reported in the cells. Our focus will be on the second column.

The short-run estimates of equation (1) show that tourism FDI is an important contributor to economic growth in the present instance, albeit the coefficient being smaller, which tends to support the argument that such capital flow takes time to have its full effect on the economy. In this present instance, a 1% point increase in the growth rate of foreign capital flows into the tourism sector leads to a 0.06% point increase in the growth rate of output after 1 year. Additionally, but similar to the findings uncovered for the long-run equation, FDI in non-tourism sector is also significant. More so, tourism development has also positively influenced output growth. It should be noted that the magnitude of the tourism FDI coefficient remains relatively smaller in comparison to the other control variables such as FDI in the non-tourism sector and tourism development, which, as per the present findings, remains the major growth drivers in Mauritius.

Furthermore, and as discussed previously, the VAR/VECM framework allows us to detect any potential indirect effects. While our results show that FDI in tourism influences growth, the results reported in Table 3 demonstrate that economic growth in the country also influences the level of tourism FDI. In this regard, and more specifically referring to the FDI tourism equation depicted in the third column of Table 3, it is observed that a reverse causation exists between output growth and tourism FDI. Thus, the results demonstrate that a bidirectional relationship exists between output growth and tourism FDI. As such, one could argue that output level, which proxies economic well-being and level of development, also plays a key role in attracting tourism FDI in the country. Similar inferences may be done for FDI in the non-tourism sector where the results also demonstrate that there exists a bi-causal and reinforcing relationship between output growth and aggregate FDI. Such findings are in line with those uncovered in several studies such as Choe (2003) and Bende-Nabende et al. (2000).

With respect to the tourism FDI equation, the results show that there are positive indirect effects flowing from tourism development to tourism FDI. Such a finding confirms the generally accepted view that an increase in tourists' numbers in a country is generally accompanied by further investment, both domestic and foreign, in the sector. Furthermore, it is also observed that tourism FDI is influenced by FDI in the non-tourism sector as well. The result shows that a 1% point increase in FDI in non-tourism sector leads to a 0.21% point increase in tourism FDI. Therefore, such results tend to point to the presence of FDI spillover effects flowing from the non-tourism sector to the tourism sector.

Given the above, the overall results tend to provide support to the existence of a positive and significant relationship between tourism FDI and economic growth, both in the short run and in the long run.

Conclusion

The main objective of the present study was to investigate the relationship that might exist between tourism FDI and economic growth in Mauritius over the period 1984–2013, within a VECM framework. The results have shown that tourism FDI is an important contributor of economic growth in Mauritius both in the long run and in the short run, and the findings have also highlighted the prominent role played by the government in fostering inward FDI.

Through the adoption of measures aimed at opening up the economy, foreign investment was allowed to flow in key tourism activities such as restaurants, yachts and travel agencies among others. These policies have not only served to attract more FDI in the sector but also brought the much-needed capital for further investment and the necessary know-how and skills that have led to an increase in the value addition engendered by the sector. Furthermore, direct and indirect employment has also increased to a large extent.

Interestingly, the results also confirm the presence of bi-causality and feedback effects in the tourism FDI-economic growth model. The findings have also provided support to the tourism-led growth hypothesis in that they depicted a positive relationship between tourism development and economic growth.

Such findings may also provide important lessons for other island states, especially with regard to the adoption of sound measures to boost their tourism sector. First, the results have clearly demonstrated that the adoption of measures geared towards eliminating any restrictive provisions inhibiting the operating environment of any country can only serve to boost FDI inflows with the resulting positive impact on growth.

However, despite the overarching positive results engendered in the present circumstances, it is also well documented that small island developing states have been facing several challenges that are direct consequences of climate change and that constitute a trade-off between the short-term benefits to be drawn from the sector and the very survival of the same in the long run. This is why it is crucial for governments and policymakers alike to adopt measures that would foster not only the sustainability of the sector but also the environment in which the sector operates.

In this regard, one can safely advance that the Mauritian Government has already implemented a series of measures that should hopefully ensure the very sustainability of the tourism sector. For instance, the Tourism Authority Act, which was enacted in 2006 and further amended in 2008, made better provisions for regulating the operation of tourist enterprises and pleasure craft (boats used for fishing, water sports, etc.). In addition, insofar as hotel development projects were

concerned, the Act urged hotel developers to install eco-friendly and energy saving practices such as desalination plants and recycling plants.

Additionally, in 2008, the government revised the hotel development strategy, requiring hoteliers among others to strictly follow the recommendations of the Planning Policy Guidance for coastal development. The document also offered guidelines on land management, architectural design and eco-friendly practices among others. Other areas of intervention included tourism-related development control through the environmental impact assessment mechanism, control of recreational activities in the lagoon and the promotion of energy efficient and environment friendly technology in hotels among others. Finally, the Tourism Sector Strategy Plan (2009–2015) was prepared, recommending ways and means of achieving an environmentally sound, socially acceptable and economically viable tourism development.

As a concluding note, the authors believe that the present study has contributed to the existing literature, given first, the very scanty nature of such type of studies; and second, given that, to the best of our knowledge, such type of studies investigating the direct and indirect relationship between tourism FDI and economic growth and even more so focusing on a small island economy is non-existent.

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Supplemental material

The online appendix is available at http://te.sagepub.com/content/by/supplemental-data.

Notes

1. However, there are criticisms that in some cases the types of jobs that are created by tourism transnational corporations for the indigenous labour are mostly at the lower hierarchical level. On the other hand, higher managerial posts are normally given to expatriates who unfortunately tend to limit the career advancement prospects of the local citizens (Dwyer et al., 2010).
2. Nevertheless, host countries' BOP situations may deteriorate under certain circumstances. For example, when profits are repatriated, or when foreign employees repatriate their income (Kusluvan and Karamustafa, 2001), this may negatively impact on the balance of payment situation.
3. Investment under this scheme has driven foreign direct investment inflows upward in the Hotel and Restaurant sector (UNCTAD Report, 2008).
4. The economic freedom (EF) index is calculated as the weighted average of 10 EFs related, namely, to business, trade, fiscal, government size, monetary, investment, financial, property rights, corruption and labour freedoms. It is measured on a scale of 0–100 with the higher the scale, the higher the level of freedom.
5. Data for economic freedom is obtained from Heritage foundation.

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