Trade in Services and Poverty Alleviation in Mauritius

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Abstract

Although there exists a large strand of the empirical literature which focused on the impact of tourism development on the economic growth of countries (and assuming that growth will trickle down to assist in poverty alleviation), however, empirical work on the direct relationship between tourism development and poverty have been very relatively rare. This research investigates the link between tourism and poverty levels for the case of a tourist dependent economy, namely Mauritius. It employs dynamic time series analysis, namely a Vector Autoregressive framework, over the period 1987 to 2017 to account for dynamism and endogeneity issued in the tourism-poverty modelling. The findings suggest that tourism development is negatively associated with the level of poverty in Mauritius (pro-poor), although it exhibits a relatively lower impact as compared to other classical factors in the aggregate poverty model. Interestingly, tourism development is observed to be growth conducive, confirming the Tourism Led Growth hypothesis (TLG), thus providing an indirect path to poverty reduction. Finally a bi-causal relationship between tourism and poverty is reported, suggesting that tourist are sensible to some extent to the poverty level of the country in their choice destination.

1. INTRODUCTION

It is a fact that tourism development is now widely used as a strategy to enhance economic wellbeing and to reduce the level of poverty in developing countries. Many countries, especially developing countries, have also tried to add tourism to the list of important economic sectors in which to pursue economic growth (Croes and Vanegas, 2008). Hawkins and Mann (2007) stated that approximately 80% of the 56 countries with a poverty reduction policy recognized tourism as an ingredient for poverty reduction. Saayman et al. (2012) also suggested that tourism earnings could be a tool to reduce poverty, provided that appropriate policies on the labor market and human resource development are present. At the multilateral level, The United Nations Conference on Trade and Development (UNCTAD)[1], the World Tourism and Travel Council (WTTC) and the United Nations World Tourism Organization (UNWTO)[2] strongly support a change in prevailing economic development strategies arguing that tourism development can play a significant role in poverty reduction and in economic growth for the developing world (Croes and Vanegas, 2006, 2008; Cortés-Jiménez et al, 2009; Croes, 2012; Vanegas, 2012).

While tourism and poverty reduction have been linked since the 1960s, the search to establish the direct empirical link between the two has been very recent. There exists a large strand of the empirical literature which assesses the impact of tourism development on the economic growth of countries and an overwhelming majority of studies have confirmed the positive the tourism led growth (TLG) hypothesis (see Balaguer and Cantavella-Jorda, 2002; Dritsakis, 2004; Durbarry, 2004; Katircioglu, 2009 & Seetanah, 2011 among others). Although one would argue that a positive effect of tourism in accelerating growth would also imply that this would in turn

[1] UNCTAD (1998) posits that, ''tourism is the only major sector in international trade in services in which developing countries have consistently had surpluses.'

[2] The United Nations World Tourism Organization (UNWTO) responded to this challenge by setting up the Sustainable Tourism-Eliminating Poverty (ST-EP) Initiative which was meant to promote poverty alleviation through sustainable tourism development projects. Since 2002 it has specifically recommended the adoption of pro-poor approaches (WTO, 2002b, 2004). Moreover, The UNWTO New Year message for 2007 read as 'this year:. . . should be a year to consolidate tourism as a key agent in the fight against poverty and a primary tool for sustainable development' (UNWTO, 2007).

trickle down to alleviate poverty (as on the other hand economic growth has been empirically validated to impact on poverty alleviation), however empirical work on the direct relationship between tourism development and poverty have been very scant and tourism researchers tend to neglect the link between tourism and poverty alleviation (Zhao and Ritchie, 2007) (except rare works from Croes and Vanegas, 2008, Blake et al. 2008; Croes, 2014, Vanegas et al., 2015). The WTO (2002) argued that tourism, with the requisite of travel to a destination, is a sector that is likely to lead to poverty reduction as the tourist consumes a bundle of services and non-traded goods locally from more than one supplier. This implies that many different service suppliers participate in creating a tourism experience. This could create the opportunity for poor, marginal and remote areas to benefit from the advantages (increased employment opportunities, higher income levels and a trickle-down effect) that tourism spending may bring to a destination.

In order to improve our understanding of the tourism-poverty link, the current study aims to assess how tourism affects poverty beyond its effects on growth for the case for a tourism dependant island economy, namely Mauritius. It investigates whether an empirical relationship between tourism and poverty reduction exists and measures the specific effects on poverty decline. Specifically, the study attempts to answer three interrelated questions. First, is there a relationship between tourism development and poverty decline? Second, in the eventuality of a relationship, what is the nature of that relationship? Third, what is the direction of the relationship? The study will focus on the tourist dependent island of Mauritius and will employ a dynamic time series analysis over the period 1987 to 2017. Mauritius poses as a good case study as it is one of the best performer of the continent and moreover is a tourist dependent economy. It has been relatively successful in achieving a decent poverty level since its independence. In order to gauge the effect of tourism, an aggregate poverty model specification will be augmented to include a tourism development proxy while including the classic determinants of poverty as well. The study is expected to supplement the dwarf literature on the direct empirical relationship between tourism and poverty reduction and will be useful for policy implications.

This rest of this chapter is organized as follows: section 2 dwells into the theoretical and empirical review, section 3 discusses the model specification, the methodology and analyses the findings while section 4 concludes.

2. RELATED LITERATURE

Theoretical Underpinning

Theoretically, tourism as a sector is linked to poverty alleviation through its benefits in the development of local economies (Ashley et al. 2000; Ashley, Goodwin & Roe, 2001). Tourist visits provides opportunities for selling additional goods and services (e.g. agricultural products, handicrafts among others) produced by locals including the poor. The resulting income and employment generation is likely to cut down poverty levels particularly income poverty of the local residents including the poor.

Moreover, the poor can reduce their poverty if the tourism are used to support their essential items such as health and education services, which eventually help in enhancing their well-being and capabilities and thus in poverty alleviation. As such tourism is a crucial opportunity to diversify local economies. Remote areas particularly attract tourists because of their origin, cultural, wildlife and landscape value, creating new income generating activities and employment opportunities. Benefits may also be obtained as the infrastructure and social service facilities are often established or improved using earnings from tourism. It has been argued that tourism offers labour intensive and small-scale opportunities compared to other non-agricultural activities and the sector is particularly engaged in employing a high proportion of women. It also give much importance to natural resources and culture, which may feature among the few assets belonging to the poor.

There are also indirect incomes and employment generated from tourist purchases outside the hotel business, which sometimes may be more important than the direct effects, but once again are hard to estimate. De Kadt (1979) indicates that tourists usually spend less than two-thirds of their expenditures on typical tourist hotels/restaurants. Therefore, the rest is spent elsewhere, on souvenirs and transport services, and on indirect services provided to tourists, such as food and

other items supplied to hotels and restaurants, construction facilities, capital goods and the tax collected on this expenditure

Increased tourism spending also means heightened opportunities for employment for the poor. A report by ECLAC (2007) suggested that job creation entertains the most potential for tourism in Nicaragua in its search to defeat poverty. Besides the amount of jobs created, tourism seems to provide better quality jobs in terms of providing healthier, safer and more pleasant working conditions than other economic sectors in Nicaragua. Lengefeld and Beyer (2006) found while the hotel sector may entertain lower wages than, for example, the sugar industry, hotel employees have permanent contracts and have better fringe benefits, such as a bonus and paid leave. A word of caution: Pay in tourism jobs is comparatively lower than the average pay in the country (ECLAC, 2007), and jobs seem affected by seasonality (Ferguson, 2010).

Tax revenues to the government, both direct and indirect ones, are also an important benefit from tourism. Early evidence for sampled countries provides estimates for tax revenue in the order of 20 percent of (gross) tourist receipts. On average, 10 percent of gross tourism receipts go to government revenues in the Caribbean countries compared to 20 percent reported in Tunisia and Kenya (Bryden 1973). World Bank estimates from tourist projects show that budgetary receipts generated by tourist expenditures are in the range of one fifth and one-third of tourist receipts. In Maldives in 1984, government revenues from tourism accounted for 40 percent. A study by World Tourism Organisation (1988) indicated that it was common in "tourist countries" to get between 10-25 percent of their fiscal revenues from tourism. The proportion may go up to 50 percent for smaller and specialised tourist countries such as Bahamas. Rising incomes for the individuals and households mean the government would receive higher taxes which would increase the government's capacity to invest in infrastructure, health, education and other services relevant for the poor Hara (2008).

Interestingly, there is also a causal relationship from tourism to Foreign Direct Investment (FDI)(which in itself has been argued to be propoor in nature). Tourists demand goods and services such as accommodation, food, transportation services and entertainment among others in the destination country and it is a fact that in most developing countries that this put pressure on the current level of production which needs to be increased to meet this increasing demand.

Tang, Selvanathan and Selvanathan (2007) argue that investment, particularly FDI would eventually expand. Moreover, the authors argued that FDI will increase as the international hotel chains are usually attracted by the prospects of growing tourism demand and will thus attempt to capitalize on their brands to. Sandford and Dong (2000) further argued that international tourism gives potential investors the opportunity to obtain 'first-hand knowledge' and 'ground information' of the economic and business environment of the host country and, as a result, investment possibilities could be identified and made in more confidence. FDI has been widely documented to be propoor in itself. Foreign direct investment can have direct and indirect impacts on poverty reduction in the host country. The indirect impact of FDI on the reduction of poverty is through economic growth which results in the improvement of living standards due to the increase in GDP, improvement of technology and productivity, as well as the economic environment (Bende-Nabende and Ford, 1998; Borenzstein et al.,1998; Kakwani,2000 and Seetanah and Khadaroo, 2007). The direct impact of FDI on poverty can be seen through the increase in employment and the reduction of people living below the poverty line resulting from the increase in the demand for employment, and the improvement of workforce and safety nets. Studies that have found a positive impact of FDI on poverty reduction include Hung (1999), Reiter and Steensma (2010), Ucal (2014), Israel (2014) and Soumare (2015).

However, there are some potentially adverse effects which may arise from tourism development. These may include the transfer of tourism revenue out of the host country and also potential exclusion of local businesses, inhabitants and local products. In general it is therefore possible that, the poor may gain few direct economic benefits from tourism while bearing many of the costs and hence fail to reduce their poverty. Shah and Gupta (2000) also posited that no much attention has been given to the impact that diversion of natural resources for tourist facilities would have on local communities. They further noted that tourism is a complex sector mainly driven by the private sector, of which often by large international companies, with the latter having negligible interest in the quest to alleviate poverty in the local community.

Furthermore, leakages also occur, due to use of imported skilled labour and luxury products, repatriation of profits by international companies, and the considerable role of marketing, transport and other services based in the originating country. As a matter of fact up to 85% of the

estimated benefits of tourism is 'leaked out' of developing countries (cited in Bolwell and Weinz, 2008), due mainly to the power of international tour operators (Broham, 1996), foreign ownership, and high import propensity of tourism (Jules, 2005). Clancy(2001) also added that tourism employment could be 'seasonal, low-paying and exploitative' in few cases while Dwyer et al, (2000) posited that tourism employment is more often secured by those with skills, and not necessarily accessible to the poor.

Related Empirical literature

While tourism and poverty reduction have been linked since the 1960s, the search to establish an empirical link between the two has been very recent. The search can be classified in two strands: the first refers to the establishment of a link between tourism and economic growth and is grounded in the debate of the tourism-led growth hypothesis. It asserts that tourism is growth oriented and implicitly assumes that growth will trickle down to the poor. The second refers to the attempt to establish a direct empirical link between tourism and poverty reduction.

The first strand, that is the tourism led growth hypothesis, contains country-specific and cross-section studies. Evidence from country-specific studies includes earlier work from Ghali (1976) who assessed the contribution of tourism to the economic of income in the case of Hawaii. The author found that tourism has had a positive and significant growth effect. Similar result is confirmed by Balaguer and Cantavella-Jorda (2002) for the case of Spain and Dritsakis (2004) for the case of Greece. As such evidences for the TLG hypothesis are also validated for emerging economies such as Mauritius (Durbarry, 2004), Indonasia (Sugiyarto et al., 2003) and South African (Akinboade and Braimoh, 2010). Other studies have tested the hypothesized link in cross sectional and panel data setting and include Eugenio-Martin et al., (2008) for the case of developing economies and Seetanah (2011) for the case of a sample of island economies. Lanza and Pigliaru (2000) and Brau et al. (2007) further reported that small states are likely to grow quickly when they are highly specialized in tourism while Sequeira and Nunes (2008) confirmed a positive association between tourism receipts and the growth rate of tourist specialist countries. However, it is noteworthy that there are some studies who could not confirm the positive

tourism-growth link, for instance Eugenio-Martin et al (2004) observed that tourism was not always related to economic for the case of Latin America, being growth conducive only in medium and low-income countries. Oh (2005) could not establish the catalytic effect of tourism on growth but rather found a significant positive relationship between growth and tourism for the case of Korea. Taking the Balearics and Canary Islands as case studies, Nowak and Sahli (2007) reported that tourism spending could even have even lead to welfare losses and to early symptoms of the Dutch Disease. Katircioglu (2009), for the case of Turkey could not validate any significant causal relationship between tourism and economic growth and more recently Kim and Lee (2012) reported similar evidences from the case of newly industrialized countries namely South Korea.

The second strand of the literature has dwelled into a more direct link in the tourism poverty link. Indeed, a sizeable part of this literature exists at the micro level, either including a single enterprise (lodge, resort, or community business), a cluster of enterprises or related enterprises(seefor example, Elliot, 1998; Elliot and Mwangi, 1998; Gujadhur, 2012; Hal stead, 2003; Murphy and Halstead, 2003; Mulonga and Murphy, 2003;Clauzel, 2005; McNab, 200 5; Hainsworth, 2008 and Lengefeld and Beyer, 2006 among others). Empirical methods used in such micro level studies have been based mainly on sustainable livelihoods analysis (SLA) (nonfinancial impacts on the local community) and micro-economic analysis of enterprise operations (that is based on revenues, profits and wages among others).

A number of recent studies have provided some broader perspectives to the debate and has recently moved towards macroeconomic approaches and this relates to analysis based mainly on either simulation models such as computable general equilibrium models (CGE) or econometric methods based on time series and cross sectional data sets (Winters et al., 2013). It remains a fact that relatively few studies have examined an empirical link between tourism and poverty reduction at the macroeconomic level. Among those studies feature the pioneering work of Ashley et al. (2000, 2001) who reported that tourism could contribute to poverty alleviation by providing job opportunities to economically vulnerable groups of society in the production of goods and services related to tourism. The authors assessed pro-poor tourism experiences in six country case studies and discussed the fact that while tourism activities is seen to have sizeable

poverty reduction impacts at the regional level such may not be the case at the national level. They argued that such impacts are dependent on the scale of tourism within the economy and on the capacity for it to change towards more pro-poor activities.

Croes and Vanegas (2008) using a vector autoregressive (VAR) approach for the case of Nicaragua reported a uni-causal link between tourism development and economic expansion, and between tourism and poverty reduction. The authors posited that the relationship among tourism, economic growth and poverty reduction was related to the 'democratization of the dollar' by stressing on the employment, income and opportunities for participation that are derived from a transfer of wealth and income from residents (tourists) of wealthier countries to developing countries (recipients). Blake et al (2008) on the other hand employed a computable general equilibrium model (CGE) to assess the contribution of tourism to poverty reduction in Brazil and found that tourism benefits the lowest income households, albeit to a lesser extent than higher income groups.

Croes (2014) investigated the role of tourism in fighting absolute poverty, beyond its effects on economic growth, in two developing countries, namely Nicaragua and Costa Rica. Using an error correction model, their results revealed that while tourism reduced the level of poverty for the case of Nicaragua, in Costa Rica, which enjoys a higher level of economic development than Nicaragua, tourism does not seem to matter for the poor tourism. The findings from the two developing countries exhibit differing impacts of tourism development with thus differing policy implications. Indeed, Vanegas et al. (2015) extended the study to examine the existence of a long-run relationship between extreme poverty reduction and agricultural, manufacturing and tourism development using an autoregressive distributed lag (ARDL) approach. The authors reported that poverty reduction effect was statistically significantly greater than that of agriculture and manufacturing for both countries.

More recently Kim et al. (2016) researched the relationship among tourism, poverty, and economic development for a panel of 69 developing countries for the period 1995–2012. The authors confirmed that tourism had heterogeneous effects on the poverty ratio with some threshold effects,that is depending on a country's income per capita. Indeed, the poverty reducing effects of tourism development was only found for the least developed countries.

Rodriquez, Jurado and Fernandez (2017) analysed the impact of tourism on poverty using a fixed effects model based on a panel data set of Peruvian departments for the period 2001-2013. Their findings suggested that tourism was important for the poor but the benefits did not reach to the extreme poor. The low community participation coupled with a weak macro environment were identified as elements impeding on poverty alleviation through tourism.

However, it is noteworthy that there are some few studies that could not established any poverty alleviation effect of tourism as well. For instance, Mbaiwa (2005) observed that tourism development in Botswana was accompanied by higher level of poverty, thereby implying that tourism was not sustainable in reducing poverty. However, the authors noted that the overwhelming concentration of multinational safari operators in the country relative local operators was not taken into account. Wattanakuljarus and Coxhead (2008) confirmed the same for the case of Thailand and posited that even although Thailand is a highly tourism intensive economy and that tourism development has raised aggregate household incomes, it however worsened the income distribution. Saayman et al. (2012) showed that increased tourism in South Africa led to an increase in the country's real growth rate but that a decreased in the household expenditure of the poor and their unemployment rates increase were also noted.

3. METHODOLOGY AND ANALYSIS

The study follows the recent research on tourism and poverty from Kim (2016) et al. and Rodriquez et al. (2017) and also on classical studies from Ravallion and Datt (1996) and Ghura et al.(2002) whereby poverty is modeled at the macroeconomic level using the following aggregate poverty function as per equation 1 below. The study covers the 31 years period ranging from 1987 to 2017 inclusive due to data availability. The explanatory variables of the poverty model pertain to the following determinants namely: economic growth, income inequality, employment, human capital and financial development. For the sake of the study tourism arrival is included to account for tourism development.

The proposed economic model is specified as follows

$$POV=f(GDP, INEQ, EMP, EDU, TOURIST) \quad (1)$$

Where,

POV is the dependent variable and measures the level of poverty in the country and is measured by the poverty head count ratio.

Explanatory Variables: Macroeconomic Determinants of Poverty

In the long run economic growth is the key to the alleviation of absolute poverty since it creates the resources to raise incomes. Real GDP per capita *(GDP)* is the measure used to account for the above. Such measure also simultaneously captures macroeconomic performance which is commonly considered to be a key determinant of poverty (DeFina,2004; Freeman 2001; Gundersen and Ziliak 2004; Mishel, Bernstein, and Allegretto 2005; Sawhill 1988).

The progress in reducing rates of poverty through economic growth depends crucially on its distributional characteristics. This is particularly true for statistical measures of poverty as relatively high numbers of people are clustered around typical poverty lines. In theory, a country could enjoy a high average growth rate without any benefit to its poorest households, if income disparities grew significantly—that is, if the rich got richer while the incomes of the poor stagnated or declined. This is unlikely, however; income distribution tends to be stable over time, and rarely changes so much that the poor would experience an absolute decline in incomes while average incomes grow in a sustained fashion. Danziger and Gottschalk (1995) and Iceland (2003b) found that declining economic inequality served to reduce poverty. Freeman (2001) and Gundersen and Ziliak (2004) also found that income inequality was associated with higher poverty. The variable used to proxy for inequality *(INEQ)* is the Gini coefficient

The potential link between the employment and unemployment rates, work hours, and poverty has been well documented in the literature (see Atkinson, Rainwater, and Smeeding 1995; Kenworthy, 2004; Bernstein and Baker, 2003 and Iceland, Kenworthy and Scopilliti, 2005). To capture the employment effect *(EMP)* above effect, we use the employment level of the country.

The role of human capital, in the form of education, experience, skills, training and health, has often been emphasized as a particularly important determinant of income or production (Mincer, 1958 and Schultz, 1988). Given a conducive environment, the productivity of the labour supplied by the poor is an important determinant of their ability to benefit from the enhanced

opportunities and an important determinant of labour productivity is human capital in the form of for example education, health. Studies from Ackland and Falkingham (1997) showed that secondary education reduces probability of being poor in comparison with both primary and higher education. It should be noted that education may affect economic welfare in many different ways. For example it may influence both returns within economic activities and access to such activities. In addition education may limit fertility and thus reduce the number of dependent children. So, education may raise income, increase access to non-farm employment, improve the ability to set up a household business and improve productivity in farming. Moreso, due to the lack of education and skills, the poor tend to be less mobile (across sectors and regions) than better educated workers and are therefore often unable to switch jobs and capitalize on available employment opportunities. To measure human capital *(EDU)*, we use the Secondary enrolment ratio over the period of study.

Having established the theoretical and empirical link of the role of tourism on poverty alleviation, a measure of tourism development, namely the number tourism arrivals in the country *(TOURISM)* of the country is used to measure tourism development. The data source is from Statistics Mauritius.

The econometric function is thus written as follows:

$$pov = \alpha + \beta_1 growth + \beta_2 ineq + \beta_3 emp + \beta_4 edu + \beta_5 tourism + \varepsilon \qquad \textbf{(2)}$$

The small letters denote the log of the respective variables and such a transformation is undertaken for ease of interpretation and comparability of estimated coefficients.

Endogeniety and Dynamic Issues: The VAR Specification

Given that the variables are stationary of the same order, that is at first difference (tested using the Augmented Dickey Fuller and Phillips-Perron Tests), the second step is to check for co-integration test or long run co-integration relationship amongst the variables. The Johansen Co-integrating Test (Johansen 1988; Johansen and Juselius, 1990) have been used and the result validated the presence of cointegration. An often ignore element in modeling of the determinant

of poverty at the macroeconomic level has been the control for simultaneous interactions between the variables in the specified equations. In fact the static single-equation framework often adopted by an overwhelming number of studies fails to take into account the presence of dynamic feedback among relevant variables. Accordingly, a Vector Autoregressive approach (VAR) is thus used to delineate the relationship between trade and poverty. Such an approach does not impose a priori restriction on the dynamic and endogenous relations among the different variables. It resembles simultaneous equation modeling, whereby several endogenous variables are considered together. Moreover, in the presence of cointegration, this framework allows us to generate both short term and long term associations between climatic change and tourism. The long run results is summarized in Table 1 below.

Table 1: *The Long Run VAR Estimates*

	Poverty equation *Dependent Variable: Pov*	**GDP equation** *Dependent Variable: gdp*	**Tourism equation** *Dependent Variable: tourism*
pov		-0.234**	-0.134*
Gdp	-0.474***		0.325**
Ineq	0.284**	0.123	-0.143
Emp	-0.282**	0.274***	0.129
Hc	-0.409***	0.543***	0.212***
Tourism	-0.221**	0.428***	

**Indicates significance at 10%, ** significance at 5% and ***significance at 1%*

The long run estimates yield quite interesting results and it can be noted that tourism development has had a negative and significant effect on the level of poverty for the island,

albeit, with a relatively lower impact as compared to the other factors included in the model. The estimated coefficient of -0.221 indicates that a 1% increase in tourism arrival in the island has been associated with a reduction of 0.2% in the level of poverty. Such finding confirms the empirical results of Croes and Vanegas (2008), Croes (2014), and Vanegas et al (2015) who used econometric approach to model the tourism link. The relatively small coefficient obtained is more in line with the results of Lim et al.(2016) who posited that the poverty reducing effects of tourism development was found to be more for least developed countries.

The findings further confirm that in the long run economic growth is the key to the reduction of absolute poverty since it creates the resources to raise incomes. For instance, a 1% increase in real GDP has led to a 0.47% decrease in poverty level. This result is in line with Squire (1993) who regressed the rate of poverty reduction against its rate of economic growth and found that a one percentage increase in the growth rate reduced the poverty headcount ($1 per person per day) by 0.24 percentages. Empirical work from Bruno, Ravallion and Squire (1998) for 20 developing countries and Akmal et al. (2007) for the case of Pakistan also confirmed a negative relationship between trade and poverty reduction.

However the poverty-reducing effect of growth tends to be mitigated by a rise in inequality as witness by the negative and significant coefficient of *ineq* and is in line with studies from Freeman (2001) and Gundersen and Ziliak (2004) who also found that income inequality was associated with higher poverty The relatively high and significant coefficient of human capital confirms that the latter is a key determinant of labour productivity which in turn significantly affects the ability of the urban poor to benefit from enhanced opportunities. Higher level of education also helps the urban poor to be more mobile and switch jobs and capitalize on available opportunities. Employment have had positive effect on the poverty fight, confirming the literature (see Ackland and Falkigham, 1997 and Candouel, 1998) for confirmatory findings)

The VAR framework enables us to dwell into additional insights. For instance, from the *gdp* equation, tourism is confirmed to be growth conducive thus validating the Tourism Led Growth hypothesis (TLG) for the country, at the same time implicitly implying that growth will trickle

down to the poor. Interestingly, such a finding is a rejoinder to numerous studies on emerging and developing countries (Durbarry, 2004, Seetanah, 2011, Sugiyarto et al., 2003, Eugenio-Martin et al., 2008 ans Akinboade and Braimoh, 2010). As such focusing on the tourism equation (4th Column), it can be observed that the coefficient of poverty is negative and significant, although relatively low, suggesting that tourists are sensible to some extent to the poverty level of the country. This confirms the existence of a bi-causal relationship between tourism and poverty. The level of the development (as measured by *gdp*) and human capital (*edu*) are also found to be ingredient of tourism development.

In the presence of co integration, a VECM was subsequently estimated and it includes an error correction term which should allow for an investigation of the dynamic nature of the model and also to estimate the short run estimates[3]. In fact, the VECM specification forces the long run behavior of the endogenous variables to converge towards their co integrated relationships, which accommodates short run dynamics. In this study, the VECM is estimated using an optimum lag length of 1. The negative and significant ECM term confirms the confirming the existence of a long run stable relationship with respect to the poverty equation. Analysing the main variable of interest to us, tourism, it can be noted that in the short run it has a positive and significant impact on poverty reduction. However, the result is very small and it can hence be argued that tourism takes time to have its full effect on poverty alleviation.

The positive and significant coefficient of the lagged dependent (0.29) variable suggests that poverty is a vicious cycle, since the responsiveness of current period poverty measures with respect to their respective last year values is high and significant, thereby confirming the existence of dynamism and endogeneity in the modeling framework. This result is in line with Seetanah et al (2009).

4. CONCLUSIONS

[3] The results for the short run estimates are not presented in this research but are available upon request.

Although there exists a large strand of the empirical literature which focused on the impact of tourism development on the economic growth of countries and assuming that growth will trickle down to assist in poverty alleviation, however empirical work on the direct relationship between tourism development and poverty have been very relatively rare. This research assessed the direct empirical link between tourism and poverty levels for the case of a tourist dependent island of Mauritius by employing a dynamic time series analysis, namely a Vector Autoregressive framework, over the period 1987 to 2017 in an augmented aggregate poverty function.

The findings suggest that tourism development has had a negative and significant effect on the level of poverty for the island, although with a relatively lower impact as compared to other classical factors in the aggregate poverty model. Such a result tend to be aligned with those Lim et al.(2016) who reported that the poverty reducing effects of tourism development was found to relatively smaller for upper middle income economies. Moreover, in the long run, economic growth is validated to be a key ingredient in alleviating absolute poverty and that the poverty-reducing effect of growth tends to be mitigated by a rise in inequality. Employment and education level are also proved to be important in the quest of poverty alleviation. Interestingly, tourism development is observed to be growth conducive, confirming the Tourism Led Growth hypothesis (TLG) thus providing an indirect path to poverty reduction as well. Finally a bi-causal relationship between tourism and poverty is observed, suggesting that tourist are sensible to some extent (although quite low as judged by the coefficient) to the poverty level of the country.

The implication of the study is two folded. Existing studies on the direct link between tourism and poverty is at the best scant and moreover, most of the studies have focused on case studies in specific regions, which makes it difficult to obtain a broader (global) picture of the tourism–poverty link. Studies dealing with relatively large panel sets (and disaggregated by income group as well) over reasonable time frame are important to further understand the hypothesized links and for more insights.

At the policy implications level it seems clear that promoting the tourism sector appears to be the proper pathway. Policy interventions could include government's alignment of economic and budgetary incentives with social costs and benefits to stimulate investment in this sector (for example, hotels and restaurants among others). Since tourism sector is also linked with the informal economy (whereby the poor are most likely to get engaged in tourism), the government should aim at more enabling environment for enterprise. Moreover, the authorities should more aggressively market the destinations in an attempt to enhance international tourism demand and spending (including in products that directly benefit the local economy).

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Appendix:

Table A1: Some key figures about the Mauritian Tourism Sector and Poverty

	1990	***2000***	***2010***	***2013***	***2016***
Population of MUS	1080000	1186140	1195433	1259838	1,275,227
No. Hotels	75	95	97	107	111
Tourist arrival	291550	656543	702018	993106	1,275, 227
Tourism Receipts (% of GDP)	10%	14%	17%	18%	20%
Proportion of poor person (national poverty line)	14.2	11.8	12.3	9.8	6.3

Proportion of poor person (USD 1 per day)	<1	<1	<1	<1	<1
Proportion of poor person (USD 2 per day)	2.9	2.5	2.2	<2	<2
Gini Coefficient	0.396	0.381	0.36	0.414	0.400
HDI	0.62	0.673	0.748	0.769	0.781