TẠP CHÍ KHOA HỌC
TRƯỜNG ĐẠI HỌC QUY NHƠN

Đánh giá tác động của du lịch đối với việc giảm tỷ lệ nghèo tại Việt Nam: Phương pháp tiếp cận dữ liệu bảng

Phạm Thị Thúy Hằng*, Nguyễn Minh Thư, Nguyễn Thị Minh Ảnh

Khoa Tài chính - Ngân hàng và Quản trị Kinh doanh, Trường Đại học Quy Nhơn, Việt Nam

Ngày nhận bài: 08/08/2023; Ngày sửa bài: 17/11/2023;
Ngày nhận đăng: 20/11/2023; Ngày xuất bản: 28/12/2023

TÓM TẮT

Nghiên cứu xem xét tác động của du lịch đối với việc giảm tỷ lệ nghèo tại Việt Nam bằng cách sử dụng dữ liệu bảng từ 63 tỉnh thành trong giai đoạn từ năm 2010 đến 2021. Bằng cách sử dụng các phương pháp ước lượng khác nhau như Bình phương tối thiểu thông thường (OLS), Hiệu ứng cố định (FE), Hiệu ứng ngẫu nhiên (RE) và GMM, bài báo cung cấp bằng chứng thực nghiệm về ảnh hưởng tích cực của du lịch đối với việc giảm tỷ lệ nghèo ở Việt Nam. Kết quả nghiên cứu ủng hộ giả thuyết tăng trưởng do du lịch và nhấn mạnh vai trò của du lịch trong việc nâng cao sinh kế của người dân ở một quốc gia mới nổi như Việt Nam.

Từ khóa: *Du lịch, giảm tỷ lệ nghèo, Việt Nam, phương pháp tiếp cận dữ liệu bảng.*

**Tác giả liên hệ chính.*
Email: phamthithuyhang@qnu.edu.vn

QUY NHON UNIVERSITY
JOURNAL OF SCIENCE

Assessment of impacts of tourism on poverty alleviation in Vietnam: A panel data approach

Pham Thi Thuy Hang*, Nguyen Minh Thu, Nguyen Thi Minh Anh

Department of Finance - Banking and Business Administration, Quy Nhon University, Vietnam

Received: 08/08/2023; Revised: 17/11/2023;
Accepted: 20/11/2023; Published: 28/12/2023

ABSTRACT

This research examines the effect of tourism on poverty alleviation in Vietnam using panel data from 63 provinces from 2010 to 2021. By employing various estimation methods such as Ordinary Least Squares (OLS), Fixed Effect (FE), Random Effect (RE), and Generalized Method of Moments (GMM), this study provides empirical evidence of the positive influence of tourism on poverty reduction in Vietnam. The findings strongly support the tourism-led-growth hypothesis, highlighting the significant role of tourism activities in enhancing the livelihoods of citizens in an emerging country such as Vietnam.

Keywords: *Tourism, poverty alleviation, Vietnam, panel data approach.*

1. INTRODUCTION

Poverty alleviation is a fundamental objective in the Millennium Development Goals of the United Nations.[1] Tourism is one of the world's largest industry[2] which has the potential to harness its power in developing economies and become an engine of poverty reduction and development in emerging economies.[3] Many empirical evidences support the notion that tourism plays a crucial role in poverty reduction.[4] Since it is one of the most essential foreign exchange earners and the world's largest job creators.[4-7]

The tourism-led-growth (TLG) hypothesis asserted that income from tourism could be an instrument to reduce poverty.[7,8] Additionally, tourism can mitigate poverty through three avenues: improving labour income and other forms of payment (e.g., handicraft sales), creating indirect income, generating long-term changes in the macroeconomy.[9]

However, the effect of tourism on poverty reduction has been debatable for decades. By expanding the TLG hypothesis, numerous studies incorporate poverty into their research models.[7,10-12] Evidences show that tourism development has improved economic conditions and reduced poverty levels in developing countries.[13] Nevertheless, there is little consensus and understandings regarding tourism's effect on poverty in developing countries.[9] Therefore, further research is necessary to analyze this relationship, particularly in developing nations like Vietnam.

Poverty is still a significant concern in Viet Nam. The government has prioritized poverty reduction as a cross-cutting goal in socio-

**Corresponding author.*
Email: phamthithuyhang@qnu.edu.vn

https://doi.org/10.52111/qnjs.2023.17601

economic development. Consequently, over the past years, the poverty rate has gradually reduced from 9.2% in 2016 to 4.4% in 2021.[14] Tourism is a potential solution to reduce poverty in Vietnam. However, few existing studies have focused on the role of tourism in poverty alleviation in Vietnam.[15] Most of these studies have primarily aimed to test the tourism-led growth (TLG) hypothesis.[16-18] Moreover, there is a scarcity of scholarly discourse regarding the significance of tourism in poverty alleviation, resulting in a limited understanding of the pivotal role tourism plays in addressing poverty.[15,18-20]

From all above reasons, we decide to conduct this study to investigate the impact of tourism on poverty alleviation in Vietnam from 2010 to 2021. The study can contribute to the academic in various aspects. Firstly, the study's finding is highly supported by the TLG hypothesis with the case study in Vietnam. Secondly, it extends the previous literature by presenting evidence of the positive impact of tourism on poverty reduction. Finally, it might be one of the first studies addressing the effect of tourism on poverty alleviation by panel data approach in Vietnam in longer study period.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1. Effect of tourism on poverty

The TLG hypothesis suggests that tourism reduces poverty by creating employment opportunities, stimulating local economies, and fostering small business development.[7,8] Moreover, tourism is pivotal in cultural preservation and revitalization, enabling communities to showcase their unique heritage and traditions to visitors.[9,21] Numerous empirical studies focused on tourism impact on poverty in some countries, however, the results are not united with different evidences.

The first stream revealed tourism has a positive effect on poverty. Truong, et al.[20] present compelling evidence that local communities acknowledge the significant contribution of tourism towards poverty alleviation. Klytchnikova and Dorosh[22] prove that the tourism sector has positive multiplier effects on the Panamanian economy and has the potential for significant benefits to low-income people. Njoya and Seetaram[23] indicate that tourism development can be an engine of poverty alleviation in Kenya. Tung and Kien Cuong[15] employs data from 61 Vietnamese provinces in 2010 - 2018, proving that high tourism revenue decreases the poverty rate. Similarly, Anderson[24] confirm that cultural tourism has contributed significantly to improving the livelihoods of people experiencing poverty in rural Kilimanjaro. Folarin and Adeniyi[25] found that tourism development significantly reduces poverty in 38 countries in sub-Saharan Africa. Kim, et al.[26] analyzed the impact of tourism on poverty in 69 developing countries from 1995 - 2012. The results of the study indicate that the least developed countries will benefit from the tourism industry in terms of poverty reduction.

Secondly, some other studies find out that tourism does not affect poverty reduction. Croes[10] discovers that tourism has no influence on alleviating poverty in Costa Rica. Mahadevan and Suardi[27] utilize the Computable General Equilibrium (CGE) model to demonstrate that tourism growth in Indonesia does not lead to poverty reduction. Scheyvens and Russell[28] reveal that tourism growth in Fuji does not affect poverty there. Wattanakuljarus and Coxhead[12] analyze the impact of the domestic tourism boom on the Thai economy, showed that tourism expansion is not a pro-poor change at this country. On the other hand, Blake[11] reveal that the lowest-income households are not the primary beneficiaries of tourism in Brazil.

2.2. Hypothesis development

The TLG hypothesis posits a positive relationship between tourism and poverty reduction. However, it is crucial to acknowledge that the impact can vary depending on the unique characteristics of tourism development and the existing poverty

levels in different regions. The literature presents two perspectives regarding how tourism influences poverty, which is positive or neutral. Tourism has played a significant role in Vietnam's economy, generating employment opportunities and helping impoverished individuals stabilize and improve their incomes, ultimately reducing poverty. Vietnam shares similarities with regions like Panama, Kenya, and Sub-Saharan Africa, where tourism has positively impacted poverty reduction. These regions have utilized tourism to create jobs, develop infrastructure, and empower local communities. By implementing sustainable practices and preserving cultural heritage, they have successfully improved living standards and reduced poverty. Vietnam, in line with these regions, has harnessed the power of tourism to stimulate economic growth and alleviate poverty. Based on these arguments, we propose the following hypothesis:

Hypothesis: Tourism positively impacts poverty alleviation.

3. RESEARCH METHODS

3.1. Data

The data utilized in this research paper consists of three primary variables: the Poverty rate, Tourism revenue, and the Percentage of trained workers over 15 years old. This data was collected from all 63 provinces in Vietnam and obtained from the official website of the General Statistics Office of Vietnam (http://www.gso.gov.vn). The data spans the period from 2010 to 2021. Additionally, the dataset has been subjected to a winsorization procedure at the 1% and 99% percentiles to remove any outliers and enhance the overall robustness of the data.

3.2. Variables

3.2.1. Dependent variable

The main dependent variable in this study is the poverty rate (PORATE). It represents the proportion of individuals within a specific age group whose income falls below the poverty line. The poverty line is defined as half of the median household income of the total population. This variable serves as a means to assess and analyze the impact of total tourism revenue.

3.2.2. Independent variable

Total revenue from tourism and travel (TORE) refers to the financial income generated by a travel agency by creating a package or non-package tour program to cater to both local and international tourists.[10,24,29] This revenue encompasses services such as providing travelers with tourism information, guidance, planning assistance, and facilitating bookings through collaboration with travel agents. In this study, the natural logarithm of the total tourism revenue is represented as Ln(TORE), allowing for a logarithmic data transformation for analytical purposes acording to the previous studies of Croes[10] and Kim, et al.[26]

3.2.3. Control variables

The variable EDULAB represents the percentage of trained workers over 15 years old. EDULAB is used to control the effect of education on the tourism – poverty alleviation.[3,30] It is calculated by dividing the total number of workers who meet specific criteria by the workforce. These criteria include having a job in the field of economics and having received professional, technical, or vocational training from a recognized educational institution, resulting in the attainment of a diploma or certificate at various levels such as vocational elementary school, vocational intermediate school, college, university, or post-graduate degrees (master's, doctorate, or equivalent). EDULAB evaluates the proportion of the workforce with formal training and qualifications in economics.

Table 1. The variables.

Variables	Formula
PORATE	Poverty rate
TORE	total tourism and travel revenue
LN(TORE)	Natural logarithm of total tourism and travel revenue
EDULAB	Percentage of trained workers over 15 years old

https://doi.org/10.52111/qnjs.2023.17601

3.3. Research model

Research model: The research model proposed in this study utilizes dynamic panel data, building upon the research conducted by Sequeira and Maçãs Nunes[31] and Scheyvens and Russell[28]

$$PORATE_t = \beta_0 + \beta_1 PORATE_{t-1} + \beta_2 Ln(TORE)_t + \beta_3 EDULAB_t + \varepsilon_t \quad (1)$$

This paper utilizes various estimation methods, including Ordinary Least Squares (OLS), Fixed Effects (FE), Random Effects (RE), and Generalized Method of Moments (GMM). The OLS approach may produce inaccurate estimates due to the correlation between independent variables and individual entity characteristics. As a result, the study employs FE estimation to mitigate the effects of correlation and variance. However, it is essential to note the limitations of the fixed effects model when dealing with dynamic panel data, as it can introduce biases in the estimates due to endogenous phenomena.[32] The study considers applying Differential GMM[33] and system GMM[34] methods to address this issue. Nevertheless, if the correlation coefficient of the lagged variable is significant and the study period is short, the Differential GMM approach may yield poor estimates. Consequently, in this study, the authors opt for the GMM System estimation method to effectively address concerns related to endogeneity.

4. EMPIRICAL RESEARCH

4.1. Descriptive statistics

Table 2 shows that the average poverty rate in Vietnamese provinces is 0.059, with the highest value recorded at 0.386 and the lowest at 0. The mean value of LN(TORE), representing the natural logarithm of total tourism revenue, is 23.815, with the lowest value recorded at 16.811 and the highest at 30.581. Furthermore, the average value of EDULAB indicates that the proportion of educated workers in the labor force in Vietnam is 17.6%. The highest value for EDULAB is 0.440, while the lowest is 0.070.

Table 2. Descriptive statistics.

	OBS	MEAN	SD	MIN	MAX
PORATE	743	0.059	0.084	0	0.386
LN(TORE)	659	23.815	2.202	16.811	30.581
EDULAB	742	0.176	0.070	0.063	0.440

4.2. Correlation analysis

According to the correlation analysis in Table 3, the Pearson correlation coefficients indicate the associations between the variables under investigation. The findings reveal a negative correlation between TORE and PORATE, suggesting that increasing tourism revenue is linked to reducing the poverty rate in Vietnamese provinces. Furthermore, both EDULAB and LN(TORE) exhibit negative correlations with PORATE, indicating that a higher proportion of educated workers and greater levels of tourism revenue are associated with decreased poverty.

Table 3. Pearson analysis.

	PORATE	TORE	LN(TORE)	EDULAB
PORATE	1			
TORE	-0.080**	1		
LN(TORE)	-0.286***	0.545***	1	
EDULAB	-0.298***	0.243***	0.404***	1

****, **, * : 1%, 5%, 10% significant level*

4.3. Regression analysis

Table 4 presents the regression results from the initial model, employing three estimation methods: Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE) without year dummies. The OLS estimation reveals a statistically significant negative relationship between tourism revenue and the poverty rate at the 5% significance level. Similarly, both the FE and RE models demonstrate a negative impact of tourism revenue on poverty rates, albeit with varying levels of statistical significance. To determine the most appropriate model, a Hausman test is conducted. The results of the Hausman test, indicating a p-value below 0.05,

suggest that the FE model is preferable over the RE model for this study.

Table 4. Impact of tourism on poverty rate: without year dummies.

Dependent Variables	**PORATE**		
Method	**OLS**	**FE**	**RE**
L1.PORATE	**0.653***** (0.030)	**0.472***** (0.031)	**0.653***** (0.030)
LN(TORE)	**-0.003**** (0.001)	**-0.025***** (0.003)	**-0.003**** (0.001)
EDULAB	**-0.096***** (0.035)	**-0.844***** (0.072)	**-0.096***** (0.035)
Const	**0.094***** (0.026)	**0.783***** (0.072)	**0.094***** (0.026)
Year dummies	**NO**	**NO**	**NO**
R-squared	**0.5093**	**0.5565**	**0.4209**
Hausman (Chi^2)		322.65	
p-value		0.000	

***, **, * : 1%, 5%, 10% significant level

The analysis of the effects of tourism on poverty, conducted through the application of the Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE) models with the inclusion of year dummies, is presented in Table 5. The findings indicate that tourism revenue positively impacts the poverty rate within the FE model while exhibiting a negative influence in both the OLS and RE models. Furthermore, the results from the three models demonstrate that the variable EDULAB positively affects the poverty rate, although this relationship lacks statistical significance.

Table 5. Impact of tourism on poverty rate: with year dummies.

Dependent Variables	**PORATE**		
Method	**OLS**	**FE**	**RE**
L1.PORATE	**0.658***** (0.028)	**0.473***** (0.034)	**0.658***** (0.028)
LN(TORE)	**-0.004***** (0.001)	**0.034***** (0.003)	**-0.004***** (0.001)
EDULAB	**0.016** (0.026)	**0.118** (0.085)	**0.016** (0.026)
Const	**0.205***** (0.019)	**0.783***** (0.072)	**0.205***** (0.019)
Year dummies	YES	YES	YES
R-squared	**0.771**	**0.754**	**0.741**
Hausman (Chi^2)		94.01	
p-value		0.000	

***, **, * : 1%, 5%, 10% significant level

The GMM system estimation addresses endogeneity concerns in the research model. Both the one-step and two-step GMM system estimations provide further support for the research hypothesis, indicating a positive effect of tourism revenue on poverty alleviation. In order to assess the validity of the GMM model, diagnostic tests such as the Arellano-Bond test for autocorrelation and the Hansen test for over-identification are conducted. The AR (2) test results indicate no evidence of autocorrelation in the model, while the Hansen test confirms the overall validity of the model.

Table 6. Impact of tourism on poverty rate: GMM system estimation.

Dependent Variables	**PORATE**	
Method	**GMMSYS-1step**	**GMMSYS-2step**
L1.PORATE	**0.430***** (0.072)	**0.433***** (0.070)
LN(TORE)	**-0.042**** (0.017)	**-0.042**** (0.017)
EDULAB	**-0.428** (0.026)	**-0.424** (0.312)
Year dummies	YES	YES
AR(2)	**0.38**	**0.439**
Hansen	**0.035**	**0.035**

***, **, * : 1%, 5%, 10% significant level

https://doi.org/10.52111/qnjs.2023.17601

4.4. Robustness tests

To ascertain the robustness and reliability of our conclusions, we conducted a sensitivity analysis by substituting the primary dependent variable, tourism revenue, with an alternative proxy, TORATE. TORATE is defined as the ratio between tourism revenue and the total retail sales of goods and services. This approach allows us to evaluate whether the observed relationship between tourism revenue and poverty rates holds when using an alternative measure. Remarkably, the regression results obtained from the three models consistently support our initial findings, providing further evidence that an increase in tourism revenue is associated with a significant reduction in the poverty rate in Vietnam. This convergence of results across different specifications strengthens the validity of our conclusions. It enhances confidence in the positive impact of tourism on poverty alleviation in the context of Vietnam.

Table 7. Robustness test.

Dependent Variables	**PORATE**		
Method	**OLS**	**FE**	**RE**
L1.PORATE	**0.542***** (0.027)	**0.325***** (0.036)	**0.542***** (0.027)
TORATE	**-0.056*** (0.032)	**-0.127**** (0.053)	**-0.056*** (0.032)
EDULAB	**-0.060***** (0.027)	**0.183**** (0.090)	**-0.060**** (0.027)
Const	**-0.053** (0.008)	**-0.047***** (0.014)	**-0.053***** (0.008)
Year dummies	YES	YES	YES
R-squared	**0.6884**	**0.6673**	**0.6456**
Hausman (Chi^2)		86.52	
p-value		0.000	

***, **, * : 1%, 5%, 10% significant level

5. CONCLUSIONS

According to the research findings, tourism has had a favorable effect on reducing poverty in Vietnam from 2010 to 2021. Firstly, the study confirms the TLG hypothesis of poverty alleviation through tourism in Vietnam. Secondly, these findings align with similar conclusions drawn in the previous studies. Thirdly, the study may be one of the first to provide robust evidence of tourism's benefits by employing the panel data approach in Vietnam. More particularly, the study extends the prior studies in two aspects. First, we use better econometric estimations to reduce endogeneity (GMM) with longer time frame (2010 - 2021). Second, we choose logarithm variables instead of the actual value in which is more covenient in transforming a highly skewed value into normalized data.

The findings of this study underscore the significance of tourism. Notably, it provides a substantial quantity of job prospects and simultaneously improves their employment conditions. The employment opportunities through tourism activities increase and improve in terms of healthier, safer, and more pleasant working conditions. Furthermore, the growth in personal and household earnings resulting from tourism can increase the government's tax revenue, thereby enhancing its capability to invest in infrastructure, healthcare, education, and other essential services beneficial to people experiencing poverty.

Moreover, developing tourism to alleviate poverty requires a close collaboration among multiple stakeholders. It should be a cooperation between tourism companies and tourists but also among government, local communities, and tourists. All stakeholders should work towards the shared objectives of poverty reduction and sustainable tourism development.

Consequently, the study provides an insightful direction to policymakers for poverty reduction, especially in regions grappling with the high poverty rate and exhibiting considerable potential in developing tourism. Instead of emphasizing generic economic policies to foster overall economic growth, policymakers should pay greater attention to tourism's role in poverty alleviation efforts.

REFERENCES

1. United Nation ECE. *Standards for the Sustainable Development Goals*, UN, Switzerland, 2019.
2. B. Sofronov. The development of the travel and tourism industry in the world, *Annals of Spiru Haret University: Economic Series*, **2018**, *18*(4), 123-137.
3. K. Kennedy & D. A. Dornan. An overview: Tourism non-governmental organizations and poverty reduction in developing countries, *Asia Pacific Journal of Tourism Research*, **2009**, *14*(2), 183-200.
4. World Tourism Organization. *Tourism and poverty alleviation: recommendations for action*, UNWTO, Madrid, 2004.
5. P. Phu, V. Anh, N. Tran, P. Van & P. Duyen. Contribution of community tourism to poverty alleviation in Vietnam: a case study, *Asia-Pacific Journal of Rural Development*, **2011**, *21*(1), 65-83.
6. S. L. Snyman. The role of tourism employment in poverty reduction and community perceptions of conservation and tourism in southern Africa, *Journal of Sustainable Tourism*, **2012**, *20*(3), 395-416.
7. M. Saayman, R. Rossouw & W. Krugell. The impact of tourism on poverty in South Africa, *Development Southern Africa*, **2012**, *29*(3), 462-487.
8. L. Tung. The tourism-led growth hypothesis in transition economies? Empirical evidence from a panel data analysis, *GeoJournal of Tourism and Geosites*, **2021**, *38*(4), 1076-1082.
9. C. Ashley & J. Mitchell. *Tourism and poverty reduction: Pathways to prosperity*, Taylor & Francis, 2009.
10. R. Croes. The role of tourism in poverty reduction: An empirical assessment, *Tourism Economics*, **2014**, *20*(2), 207-226.
11. A. Blake. Tourism and income distribution in East Africa, *International Journal of Tourism Research*, **2008**, *10*(6), 511-524.
12. A. Wattanakuljarus & I. Coxhead. Is tourism-based development good for the poor? A general equilibrium analysis for Thailand, *Journal of Policy Modeling*, **2008**, *30*(6), 929-955.
13. J. Hummel & R. V. D. Duim. Tourism and development at work: 15 years of tourism and poverty reduction within the SNV Netherlands Development Organisation, *Journal of Sustainable Tourism*, **2012**, *20*(3), 319-338.
14. General Statistics Office. *Results of the Viet Nam household living standards survey 2021*, Statistical Publishing House, Ha Noi, Vietnam, 2021.
15. L. Tung & L. K. Cuong. Impact of tourism on poverty reduction: Evidence from an emerging tourism market, *Montenegrin Journal of Economics*, **2020**, *16*(3), 47-57.
16. M. Hitchcock, T. Nguyen & S. Wesner. Handicraft heritage and development in Hai Duong, Vietnam, *Heritage Tourism in Southeast Asia*, **2010**, 221-235.
17. N. Vu & M. Sato. Tourism development and amenity migration in Hill Stations: The case study of Sapa in Vietnam, *Tourism Creation Research*, **2010**, *7*, 1-16.
18. T. H. Tuan. Tourism impacts of poverty alleviation on ethnic households in An Giang province, Vietnam, *International Journal of Professional Business Review*, **2022**, *7*(4), 1-22.
19. V. D. Truong. Tourism policy development in Vietnam: A pro-poor perspective, *Journal of Policy Research in Tourism, Leisure and Events*, **2013**, *5*(1), 28-45.
20. V. D. Truong, C. M. Hall & T. Garry. Tourism and poverty alleviation: Perceptions and experiences of poor people in Sapa, Vietnam, *Journal of Sustainable Tourism*, **2014**, *22*(7), 1071-1089.
21. A. Satria, M. A. Yogia & M. D. Wedayanti. *Strategy of tourism and culture office in development of cultural heritage at kuantan singingi regency*, The 1st International Conference on Economics Engineering and Social Science 2020, Bekasi, Indonesia, 2021.

https://doi.org/10.52111/qnjs.2023.17601

22. I. Klytchnikova & P. Dorosh. *Tourism sector in Panama: Regional economic impacts and the potential to benefit the poor*, Natural Resources Forum, 2013.

23. E. T. Njoya & N. Seetaram. Tourism contribution to poverty alleviation in Kenya: A dynamic computable general equilibrium analysis, *Journal of Travel Research*, **2018**, *57*(4), 513-524.

24. W. Anderson. Cultural tourism and poverty alleviation in rural Kilimanjaro, Tanzania, *Journal of Tourism and Cultural Change*, **2015**, *13*(3), 208-224.

25. O. Folarin & O. Adeniyi. Does tourism reduce poverty in sub-Saharan African countries?, *Journal of Travel Research*, **2020**, *59*(1), 140-155.

26. N. Kim, H. Song & J. H. Pyun. The relationship among tourism, poverty, and economic development in developing countries: A panel data regression analysis, *Tourism Economics*, **2016**, *22*(6), 1174-1190.

27. R. Mahadevan & S. Suardi. Panel evidence on the impact of tourism growth on poverty, poverty gap and income inequality, *Current Issues in Tourism*, **2019**, *22*(3), 253-264.

28. R. Scheyvens & M. Russell. Tourism and poverty alleviation in Fiji: Comparing the impacts of small-and large-scale tourism enterprises, *Journal of Sustainable Tourism*, **2012**, *20*(3), 417-436.

29. J. Butcher. Volunteer tourism may not be as good as it seems, *Tourism Recreation Research*, **2011**, *36*(1), 75-76.

30. D. R. M. Muñoz, R. D. M. Muñoz & F. J. G. Pérez. The impacts of tourism on poverty alleviation: An integrated research framework, *Journal of Sustainable Tourism*, **2016**, *24*(2), 270-298.

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

32. S. Nickell. Biases in dynamic models with fixed effects, *Econometrica: Journal of the Econometric Society*, **1981**, 1417-1426.

33. M. Arellano & S. Bond. Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations, *The Review of Economic Studies*, **1991**, *58*(2), 277-297.

34. M. Arellano & O. Bover. Another look at the instrumental variable estimation of error-components models, *Journal of Econometrics*, **1995**, *68*(1), 29-51.