Does financial inclusion promote tourism development in advanced and emerging economies?

Shi, Yongfen; Swamy, Vighneswara; Paramati, Sudharshan Reddy

Published in:
Applied Economics Letters

DOI:
10.1080/13504851.2020.1761521

Publication date:
2021

Document Version
Peer reviewed version

Does financial inclusion promote tourism development in advanced and emerging economies?

Yongfen Shi
School of Business,
Hong Kong Baptist University, Hong Kong

Vighneswara Swamy
IBS-Hyderabad,
ICFAI Foundation for Higher Education, Hyderabad, India.

Sudharshan Reddy Paramati*
School of Business, University of Dundee,
Dundee, the United Kingdom, DD1 4HN
*s.paramati@dundee.ac.uk

This is an Accepted Manuscript of an article published by Taylor & Francis in *Applied Economics Letters* on 15 May 2020, available online: https://doi.org/10.1080/13504851.2020.1761521.

Does financial inclusion promote tourism development in advanced and emerging economies?

Abstract

This research paper is the first of its kind to consider the financial inclusion, which is constructed using the depth, access and efficiency of the financial institutions and markets, and various aspects of tourism development such as business tourism spending, direct tourism contribution, domestic tourism spending, total internal tourism expenses, leisure tourism spending and total tourism contribution. Given the growing importance of financial inclusion in the recent time, this paper is designed to investigate the role of financial inclusion on various dimensions of tourism development across the panels of 24 advanced and 21 emerging economies around the world, using yearly data from 1995 to 2016. Given the presence of cross-sectional dependence in the data series, we employ Augmented Mean Group (AMG) estimator as it is a robust technique to handle this issue in the estimation. The evidences show that financial inclusion has a significant positive impact on various aspects of tourism development across the panels. The results also suggest that the impact is more in emerging economies than that of advanced economies. Hence, this paper offers numerous policy and practical suggestions for sustainable tourism management.

JEL Classification: G21; N20; Z32

Keywords: Financial inclusion; tourism development; AMG estimator; advanced-emerging economies

1. Introduction

Tourism has emerged, of late, as a driver of economic growth for many economies as it generates 10.04% (i.e. USD 8.8 trillion) of global GDP in 2018, besides supporting one out of ten jobs (i.e., around 319 million jobs) worldwide (WTTC, 2019a[1]). In 2018, global tourism has reached export earnings of USD 1.7 trillion (i.e., generally USD 5 billion per day). Global travel and tourism account for almost 29% of the global services exports and, about 7% of the global exports of goods and services. Through the ages, tourism which was encouraged mostly as a practice of religious pilgrimage has evolved as an economic activity generating jobs, improving income distribution and contributing to economic growth[2]. Tourism[3] is employment-intensive and has diverse linkages with other sectors of the economy.

Sustainable tourism is firmly positioned in the 2030 Agenda, and it has been included as targets in Sustainable Development Goals (UNWTO, 2019). The tourism sector has a fair gender dimension as well. Across the G20 countries, the female share in tourism jobs is about 46.4% compared to the 43.3% of total employment in the economy; suggesting that a growing tourism sector promotes female employment. Growing female employment is crucial in reducing poverty, sustaining economic growth and enhancing women empowerment and independence (WTTC, 2019b). As Swamy (2014) shows that

[1] WTTC 2019 https://www.wttc.org/ https://www.wttc.org/economic-impact/
In 2018, tourism sector achieved a 3.9% growth compared to the global GDP growth of 3.2%. In the last five years, one out of five new jobs in the world is generated by tourism sector.

[2] Several empirical studies (e.g., Paramati, Alam and Chen, 2017; Alam and Paramati, 2016) document that the tourism sector plays an important role in promoting economic growth and improving income distribution.

[3] Tourism is defined as a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors (which may be either tourists or excursionists; residents or non-residents) and tourism has to do with their activities, some of which imply tourism expenditure (UNWTO, 2008).

financial inclusion[4] with a gender dimension has a significant positive effect on the poor households, tourism industry with a gender dimension greatly contributes to economic upliftment of poor households around the tourist destinations. For sustainable tourism development, financial inclusion has a greater role to play. However, the extant empirical literature does not provide any study that focuses on the dynamics of financial inclusion and tourism development.

For sustainable tourism development, particularly in emerging economies, there is a need for greater focus on access to finance for the tourism-related small and medium enterprises (SMEs), and individuals, as it provides the much-needed capital for SMEs and access to mobile payments and transfers for the individuals. Access to finance in the tourism sector plays a crucial role in providing both backward and forward linkages for the low and middle-income tourism SMEs to connect with global value chains in the tourism industry.

Financial inclusion enables the tourism enterprises and entrepreneurs to access formal finance and strengthen their required capital for tourism ventures. Access to finance has a direct nexus with that of innovation and promotes economic growth through the increase in productivity (Ayyagari, Demirguc-Kunt, and Maksimovic, 2007). In emerging countries where bank-based financial systems are prominent, bank-based financial inclusion greatly facilitates financial inclusion and helps speedier economic development through inclusive growth (Swamy, 2010). However, Swamy and Tulasimala (2011) show

[4] World Bank (2008) defines financial inclusion as a broad access to financial services implies an absence of price and non-price barriers in the use of financial services; it is difficult to define and measure because access has many dimensions. Accesses to financial services such as deposit, credit, payments, insurance are the indicators of financial inclusion.

that financial inclusion through the microfinance models reduces the cost of financial intermediation for the borrowers leading to faster economic development. Tourism contributes to poverty reduction in developing countries, and more particularly in the least developed countries when access to finance is well established for the individuals and SMEs involved in the tourism sector (WTO, 2005).

In the recent decade, mobile payments have gained ground throughout the world. As mobile has become an indivisible part of an individual's everyday life, it has also been increasingly embedded in an individual's travel experiences. Financial inclusion provides the much-needed access to mobile payments for the tourists to pay for their travel-related products and services with ease and convenience (WTTC, 2019c).

Increased access to finance for tourism SMEs, besides improving the business climate enhances the competitiveness of the tourism sector. Timely access to finance for the tourism SMEs helps them thrive and prosper their businesses by introducing newer and tourist-friendly products and services. Easy capital helps the tourism SMEs efficiently manage and easily expand their operations, hire, and train their human capital, and diversify their bouquet of products and services. Financial inclusion can foster tourism SMEs in generating new jobs to local individuals around tourist destinations (WTTC, 2019d). For sustainable tourism development in any country, it is essential to provide access to finance with ease and adequacy.

In this study, we hypothesize that financial inclusion index, involving indicators of access, depth and efficiency of financial institutions and markets has a significant positive effect on tourism as the access to financial institutions and markets removes the credit and

liquidity constraints for the tourism stakeholders, which enable them to procure tourism-related products and services at affordable prices.

To the best of our knowledge, there is no empirical study that has investigated the impact of financial inclusion on tourism development across the advanced and emerging economies. Though, there were some empirical studies (e.g. Paramati, Alam and Lau, 2018; Alam and Paramati, 2017), which included trade openness and economic growth variables in their modeling to explain their impact on tourism development. Given this research / knowledge gap, it motivates us to empirically investigate the effect of financial inclusion on tourism development across the panels of advanced and emerging economies. This study has four novelties: (i) we use a financial inclusion index, which was constructed using the information on the depth, access, and efficiency of the financial institutions and markets; (ii) we measure tourism development in six parameters viz., business tourism spending, direct tourism contribution, domestic tourism spending, total internal tourism expenses, leisure tourism spending and, total tourism contribution; (iii) we not only estimate our model on the full sample countries but we also classify our sample countries into two groups such as 24 major advanced and, 21 emerging economies around the world; this classification will help us to know whether the impact of financial inclusion on tourism development is same or varies across advanced and emerging economies; finally (iv) we use Augmented Mean Group (AMG) estimator approach as it is a robust technique to handle the issues related to the presence of cross-sectional dependence in the data series and also takes into account of heterogeneous slope coefficients in the estimation process. Given all of that, this research paper makes an important contribution to the tourism

literature, particularly by providing empirical evidence on the role of financial inclusion on tourism development.

The remainder of this paper is organized as follows. Section 2 briefs the data measurement and empirical model setting. Section 3 discusses the findings. Finally, Section 4 is the conclusion of the paper.

2. Data measurement and empirical setting

In this paper, we use yearly data from 1995 to 2016 on 45 countries around the world[5]. More specifically, we consider 24 advanced and 21 emerging market and middle – income economies around the world. Specifically, the selected sample countries cover four regions such as Asia Pacific, Europe, Middle East and Central Asia, and Western Hemisphere[6]. The classification of the sample countries into advanced and emerging market economies were based on the International Monetary Fund (IMF). Similarly, the selection of the sample period and countries were based on the availability of data.

The variables of the study are measured as follows: we measure the tourism development in six aspects such as business tourism spending (TBS), direct tourism contribution (TDC), domestic tourism spending (TDS), total internal tourism expenses (TTIC), leisure tourism spending (TLS) and total tourism contribution (TTC). All of these

[5] The classification of the sample countries into advanced and emerging economies is based on the IMF classification. It is important to note that some of the advanced and emerging economies are excluded from the sample due to unavailability of data.

[6] 24 advanced economies are: Australia, Belgium, Canada, Cyprus, Denmark, Estonia, Finland, France, Germany, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Malta, the Netherlands, Norway, Singapore, Spain, Switzerland, United Kingdom and United States, and 21 emerging market and middle – income economies namely Algeria, Argentina, Belarus, Brazil, China, Colombia, Dominican Republic, Hungary, India, Iran, Mexico, Morocco, Peru, the Philippines, Poland, Romania, Russian Federation, Thailand, Turkey, Ukraine and Uruguay.

tourism variables are measured in million US$. Likewise, the financial inclusion (FI) index is constructed using the information on the depth, access, and efficiency of the financial institutions and markets. The study also accounts other three important determinants of tourism development such as GDP per capita income (PI) in constant 2010 US$; trade globalization (TRDGB) index, which is measured using the information on total trade in goods and services, and trade partner diversity (exports and imports) and finally, financial globalization (FINLGB) index, which is constructed using information on foreign direct investment, portfolio investment, international debt, international reserves and international income payments. The data on tourism development indicators (TBS, TDC, TDS, TTIC, TLS, and TTC) were collected from the World Travel and Tourism Council (WTTC), while data on FI and PI is sourced from the IMF and World Development Indicators (WDI), respectively. Finally, the data on TRDGB and FINLGB were sourced from the KOF globalization index database (Dreher, 2006; Gygli, et al., 2019). In the estimation, we use the log conversion data.

The main purpose of this research paper is to empirically investigate the role of financial inclusion on various dimensions of tourism development. For this reason, we develop the following empirical model:

$$TD_{it} = f\,(PI_{it}, TRDGB_{it}, FINLGB_{it}, FI_{it}, v_i) \qquad (1)$$

where TD, PI, TRDGB, FINLGB, and FI represent tourism development (TBS, TDC, TDS, TTIC, TLS, and TTC), per capita income, trade globalization, financial globalization, and financial inclusion, respectively. The individual fixed country effects are denoted by v_i, sample period and countries are indicated by t and i, respectively.

3. Findings and discussion

To achieve the study objective, we need to identify the appropriate panel econometric methodology. The recent literature highlights the issue of cross-sectional dependence in the panel data series and it is therefore important to address this issue in the analyses (e.g., Paramati and Roca, 2019; Paramati et al., 2018; Paramati, Apergis and Ummalla, 2017). Hence, we begin our investigation by employing cross-sectional dependence (CD) test of Pesaran (2004). The results of CD test in **Table 1** reject the null hypothesis of cross-sectional independence at the 1% significance level. Given the presence of cross-sectional dependence in the data set, we employ a second generation panel unit root test, as it takes into account of CD, such as the cross-sectionally augmented IPS (CIPS) test of Pesaran (2007). The CIPS test results from **Table 2** reveal that all the selected variables are integrated of order I (1), meaning that none of the variable is stationary at the level data, while they all are stationary in their first order differences.

[Insert Table 1 here]

[Insert Table 2 here]

Given the above evidences on cross-sectional dependence and unit root, we apply a robust technique, in the presence of cross-sectional dependence, to estimate long-run parameters of tourism development indicators. More specifically, we employ augmented mean group (AMG) estimator that is recommended by Eberhardt and Bond (2009) and Eberhardt and Teal (2010). The significance of this method is that it not only takes into

account of cross-sectional dependence but also heterogeneous slope coefficients in the estimation. It therefore provides more reliable estimates as compared with other techniques.

The long-run estimates from the AMG estimator are displayed in **Table 3**. It displays the results on full sample, advanced and emerging economies. The results of full sample imply that the increase in financial inclusion has a significant positive impact on all measures of tourism development. Specifically, the impact of financial inclusion on tourism development varies, across these models, from 0.215 to 0.268. It means that a 1% increase in financial inclusion can positively affect tourism development by about 0.215% to 0.268%. Likewise, the results show that both per capita income and trade globalization positively contribute to tourism development in these economies. We further divide our full sample countries into 24 advanced and 21 emerging economies (it also includes middle-income economies) to have a better understanding of the nexus between financial inclusion and tourism development across these economies. The results of advanced economies reveal that the rise in financial inclusion also positively contributes to tourism development. The nature of impact from financial inclusion to tourism development is positive across the parameters but statistically significant only in the case of TDC, TTIC, and TTC, where the impact varies from 0.190 to 0.278.

[Insert Table 3 here]

Similarly, the evidences on emerging economies suggest that financial inclusion drives tourism development. It is important to highlight that the effect of financial inclusion on tourism development is much more affective in emerging economies than those of the advanced economies. Specifically, a 1% rise in financial inclusion can increase tourism

development by 0.220% to 0.406%. The other results also indicate that both per capita income and trade globalization further raises tourism development. These results suggest that financial inclusion is a significant factor that positively contributes to various aspects of tourism development across the advanced and emerging economies.

For the robustness purpose, we again re-estimate our models by replacing the financial inclusion variable with financial institutions' depth (FID) indicator, and results are displayed in **Table 4**.[7] The results on the full sample and advanced economies show that the financial institution depth indicator is also having a positive, in most cases, effect on tourism development but not statistically significant. However, the results on emerging economies show that the financial indicator positively contributes to tourism development and statistically significant in most cases. Likewise, the results on per capita income and trade also show a similar impact as reported previously. Overall, our estimates across these alternative financial indicators suggest that financial inclusion has a substantial positive impact on the growth of tourism across the advanced and emerging economies.

[Insert Table 4 here]

Finally, we also estimate the models by making use of growth rates of all the selected variables in the model. The results, based on growth rates, are displayed in **Table 5**. The results on full sample show that the growth in financial inclusion positively contributes for tourism development, across measurements, and statistically significant, with the exception of tourism leisure spending. The impact of financial inclusion on

[7] The financial institution depth index is constructed using the data on bank credit to the private sector in percentage of GDP, pension fund assets to GDP, Mutual fund assets to GDP and Insurance premiums, life and non-life to GDP. The data was sourced from the IMF.

tourism development of advanced and emerging economies is also positive but statistically significant only in emerging economies. Similarly, the growth in per capita income and internationalization of trade continue to positively contribute for tourism development across the economies. However, the growth in financial globalization mostly has a negative and insignificant impact on tourism development across the economies. Given these findings, we can conclude that the impact of financial inclusion on tourism development remain same whether you consider the variables in level or growth forms.

[Insert Table 5 here]

4. Conclusion with policy suggestions

The empirical results from the AMG estimator suggested that financial inclusion has a substantial positive impact on various aspects of tourism development across the advanced and emerging economies. It further indicated that financial inclusion played a much bigger role in the tourism development of the emerging economies than that of advanced economies. Given this evidence, we provide the following implications for the policy and practice. We argue that financial inclusion can affect tourism development through '*consumption effect*' and '*income effect*'. For instance, the growth of financial inclusion assists individuals to access its products and services much more easily such as savings, borrowings, payments, transactions, etc. The financial inclusion also reduces both borrowing and transaction costs. Hence, the easy access to financial products and services can help individuals to borrow and save much easily. As a result of that, it improves the consumption power (known as the '*consumption effect*') of the individual and may have a positive impact on their recreational spending.

Likewise, another possible argument is that the growth of financial inclusion can also assist the business community to borrow money more easily due to reduced financial constraints and borrowing cost. As a result of that, the more capital is invested in the economy, which might create more employment opportunities and thus raises income levels (known as 'income effect') in society. As income grows, the individuals tend to spend their money on recreational activities. Therefore, financial inclusion, through both the *consumption effec*t and *income effect* can positively contribute to tourism development. This is particularly the case in emerging economies, where both financial inclusion and tourism development are significantly expanding in recent time. Given these arguments, we suggest the policymakers of those economies to implement much more effective financial inclusion policies such as expanding financial products and services' availability to all sections and regions of the society. This process will further assist their economies to have more effective utilization of financial resources and also provides an opportunity to expand their tourism market and economies. Hence, this research paper adds important knowledge to the tourism literature, particularly on the nexus between financial inclusion and tourism development.

References

Alam, M. S., & Paramati, S. R. (2016). The impact of tourism on income inequality in developing economies: Does Kuznets curve hypothesis exist?. *Annals of Tourism Research, 61*, 111-126.

Alam, M. S., & Paramati, S. R. (2017). The dynamic role of tourism investment on tourism development and CO2 emissions. *Annals of Tourism Research, 66,* 213-215.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Firm innovation in emerging markets: the role of finance, governance, and competition. *Journal of Financial and Quantitative Analysis, 46*(6), 1545-1580.

Dreher, A. (2006): Does Globalization Affect Growth? Evidence from a new Index of Globalization, *Applied Economics 38*, 10: 1091-1110

Eberhardt, M., & Bond, S. (2009). Cross-section dependence in nonstationary panel models: A novel estimator. MPRA Paper 17692, University Library of Munich.

Eberhardt, M., & Teal, F. (2010). Productivity Analysis in Global Manufacturing Production. Accessed from https://ora.ox.ac.uk/objects/uuid:ea831625-9014-40ec-abc5-516ecfbd2118/download_file?file_format=pdf&safe_filename=paper515.pdf&type_of_work=Working+paper

Gygli, S., Haelg, F., Potrafke, N., & Sturm, J. E. (2019). The KOF globalisation index-revisited. *Review of International Organizations, 14(3), 543-574.*

Paramati, S. R., Alam, M. S., & Chen, C. F. (2017). The effects of tourism on economic growth and CO2 emissions: a comparison between developed and developing economies. *Journal of Travel Research,* 56(6), 712-724.

Paramati, S. R., Alam, M. S., & Lau, C. K. M. (2018). The effect of tourism investment on tourism development and CO2 emissions: empirical evidence from the EU nations. *Journal of Sustainable Tourism, 26*(9), 1587-1607.

Paramati, S. R., Apergis, N., & Ummalla, M. (2017). Financing clean energy projects through domestic and foreign capital: The role of political cooperation among the EU, the G20 and OECD countries. *Energy Economics, 61,* 62-71.

Paramati, S. R., Bhattacharya, M., Ozturk, I., & Zakari, A. (2018). Determinants of energy demand in African frontier market economies: An empirical investigation. *Energy, 148,* 123-133.

Paramati, S. R., & Roca, E. (2019). Does tourism drive house prices in the OECD economies? Evidence from augmented mean group estimator. *Tourism Management,* 74, 392-395.

Pesaran, M. H. (2004). General diagnostic tests for cross section dependence in panels.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross- section dependence. Journal of applied econometrics, 22 (2), 265-312.

Swamy, V. (2014). Financial Inclusion, Gender Dimension, and Economic Impact on Poor Households. *World Development,* 56 (4), 1–15.

Swamy, V., & Tulasimala, B.K. (2011). Financial Intermediaries and Economic Development: Evidence on Transaction Costs of Borrowing by the Poor, *International Journal of Banking and Finance*, 8 (3), 54-72.

Swamy, V. (2010). Bank-Based Financial Intermediation for Financial Inclusion and Inclusive Growth. *Banks and Bank Systems*, 1 (4), 63-73

United Nations World Tourism Organization (UNTWO), (2008). Understanding tourism: Basic glossary. Retrieved from http://media.unwto.org/en/content/understanding-tourism-basic-glossary

United Nations World Tourism Organization (UNTWO), (2019). Tourism and the SDGs. Extracted from http://icr.unwto.org/content/tourism-and-sdgs

World Tourism Organization (WTO) (2005). Tourism, Microfinance and Poverty Alleviation (English version), UNWTO, Madrid, DOI: https://doi.org/10.18111/9789284408085

World Travel & Tourism Council (WTTC), (2019a). Travel and Tourism: Economic Impact 2019 Extracted from https://www.wttc.org/economic-impact/

World Travel & Tourism Council (WTTC), (2019b). Travel & Tourism: Driving Women's

Success. World Travel & Tourism Council. March 2019. Extracted from https://www.wttc.org/economic-impact/social-impact/driving-womens-success/
World Travel & Tourism Council (WTTC), (2019c). Mobile Payments in Travel & Tourism: Unlocking the Potential. World Travel & Tourism Council. March 2019. Extracted from https://www.wttc.org/publications/2019/mobile-payments-in-travel-tourism/
World Travel & Tourism Council (WTTC), (2019d). Travel & Tourism: Generating Jobs for Youth, World Travel & Tourism Council. January 2019. Extracted from https://www.wttc.org/economic-impact/social-impact/generating-jobs-for-youth/

Table 1: Testing cross-sectional dependence

	Full sample				Advanced economies				Emerging economies			
Variable	CD-test	p-value	corr	abs(corr)	CD-test	p-value	corr	abs(corr)	CD-test	p-value	corr	abs(corr)
TBS	64.530***	0.000	0.437	0.543	37.000***	0.000	0.475	0.492	31.800***	0.000	0.468	0.684
TDC	70.570***	0.000	0.478	0.590	37.040***	0.000	0.475	0.547	40.340***	0.000	0.594	0.697
TDS	55.830***	0.000	0.378	0.593	20.860***	0.000	0.268	0.516	46.400***	0.000	0.683	0.701
TTIC	63.540***	0.000	0.431	0.553	29.110***	0.000	0.374	0.481	44.370***	0.000	0.653	0.693
TLS	49.660***	0.000	0.337	0.535	21.340***	0.000	0.274	0.461	39.480***	0.000	0.581	0.640
TTC	66.180***	0.000	0.448	0.587	33.930***	0.000	0.435	0.519	39.160***	0.000	0.576	0.725
PI	127.000***	0.000	0.861	0.863	67.850***	0.000	0.871	0.871	61.980***	0.000	0.912	0.912
TRDGB	43.490***	0.000	0.295	0.563	26.240***	0.000	0.337	0.585	18.300***	0.000	0.269	0.538
FINLGB	93.900***	0.000	0.636	0.748	68.990***	0.000	0.885	0.885	26.580***	0.000	0.391	0.638
FD	78.770***	0.000	0.534	0.570	48.440***	0.000	0.622	0.628	39.570***	0.000	0.582	0.625

Note: *** implies the rejection of the null hypothesis of a cross-sectional independence at the 1% significance level.

Table 2: Investigating order of integration of the variables

	Zt-bar	p-value	Zt-bar	p-value	Zt-bar	p-value	Zt-bar	p-value	Zt-bar	p-value	Zt-bar	p-value
	Full sample		Advanced economies		Emerging economies		Full sample		Advanced economies		Emerging economies	
	Level						First difference					
TBS	2.055	0.980	2.369	0.991	-0.084	0.467	-5.663***	0.000	-3.192***	0.001	-4.425***	0.000
TDC	2.988	0.999	2.276	0.989	0.952	0.830	-9.147***	0.000	-9.649***	0.000	-3.355***	0.000
TDS	1.697	0.955	1.904	0.972	-0.577	0.282	-4.344***	0.000	-2.759***	0.003	-3.484***	0.000
TTIC	3.074	0.999	2.711	0.997	1.922	0.973	-6.724***	0.000	-3.943***	0.000	-3.880***	0.000
TLS	0.811	0.791	-0.537	0.296	3.217	0.999	-5.341***	0.000	-4.059***	0.000	-1.865**	0.031
TTC	2.060	0.980	1.374	0.915	-0.407	0.342	-7.582***	0.000	-10.955***	0.000	-2.435***	0.007
PI	0.506	0.694	-0.548	0.292	2.660	0.996	-4.180***	0.000	-4.679***	0.000	-5.228***	0.000
TRDGB	-1.263	0.103	0.639	0.739	-0.918	0.179	-5.021***	0.000	-3.758***	0.000	-5.338***	0.000
FINLGB	-0.989	0.161	1.284	0.900	0.034	0.514	-7.650***	0.000	-7.242***	0.000	-3.694***	0.000
FD	5.142	1.000	1.435	0.924	0.867	0.807	-9.059***	0.000	-5.465***	0.000	-9.489***	0.000

Note: ** and *** implies the rejection of the null hypothesis of a unit root at the 5% and 1% significance levels, respectively.

Table 3: Long-run estimates of tourism development indicators using Augmented Mean Group estimator

	TBS		TDC		TDS		TTIC		TLS		TTC	
	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values
Full sample												
Constant	3.304	0.179	0.184	0.915	3.720**	0.046	2.562	0.104	0.506	0.772	0.500	0.784
PI	0.476**	0.033	0.827***	0.000	0.632***	0.007	0.731***	0.000	0.911***	0.000	1.016***	0.000
TRDGB	0.610***	0.007	0.369***	0.009	-0.077	0.698	0.337***	0.004	0.249*	0.062	-0.053	0.846
FINLGB	-0.639	0.185	-0.244	0.249	-0.096	0.549	-0.342	0.122	-0.205	0.329	-0.050	0.803
FI	0.247**	0.044	0.268***	0.000	0.215***	0.008	0.265***	0.000	0.258***	0.001	0.232***	0.005
Advanced economies												
Constant	5.469	0.174	1.488	0.570	4.824*	0.080	1.573	0.467	-1.362	0.572	3.252	0.215
PI	0.378	0.294	0.628***	0.002	0.461	0.202	0.780***	0.001	1.035***	0.000	0.782***	0.000
TRDGB	0.441	0.244	0.259	0.148	-0.195	0.504	0.272	0.116	0.171	0.370	-0.562	0.187
FINLGB	-0.828	0.298	-0.182	0.582	0.116	0.657	-0.282	0.378	-0.123	0.667	0.186	0.599
FI	0.209	0.114	0.278***	0.004	0.076	0.525	0.190**	0.031	0.162	0.103	0.195*	0.083
Emerging economies												
Constant	-1.323	0.485	-1.639	0.426	1.665	0.363	1.337	0.509	0.260	0.911	-2.382	0.257
PI	0.690***	0.001	0.929***	0.000	0.847***	0.000	0.730***	0.000	0.843***	0.000	1.126***	0.000
TRDGB	0.573*	0.075	0.413*	0.055	-0.002	0.988	0.311*	0.053	0.279**	0.040	0.413	0.137
FINLGB	0.059	0.750	0.001	0.995	-0.162	0.256	-0.034	0.839	-0.006	0.978	-0.026	0.858
FI	0.170	0.439	0.339***	0.001	0.220**	0.035	0.303***	0.007	0.295**	0.019	0.406***	0.000

Notes: ***, ** and * indicate the significance levels at the 1%, 5% and 10%, respectively.

Table 4: Robustness check – long-run estimates of tourism development indicators using Augmented Mean Group estimator

	TBS		TDC		TDS		TTIC		TLS		TTC	
	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values
Full sample												
Constant	3.028	0.259	0.594	0.750	3.206*	0.065	2.940*	0.077	1.247	0.521	1.784	0.397
PI	0.660***	0.005	0.814***	0.000	0.630***	0.002	0.730***	0.000	0.855***	0.000	0.967***	0.000
TRDGB	0.521**	0.038	0.353**	0.043	-0.063	0.748	0.340**	0.012	0.279**	0.047	-0.023	0.943
FINLGB	-0.682	0.285	-0.142	0.567	0.082	0.619	-0.290	0.234	-0.169	0.448	-0.131	0.585
FID	0.042	0.771	0.104	0.270	0.123	0.107	0.098	0.155	0.110	0.154	0.101	0.410
Advanced economies												
Constant	6.529	0.126	1.798	0.510	3.205	0.228	1.080	0.653	-2.097	0.434	3.944	0.207
PI	0.620*	0.073	0.797***	0.000	0.508*	0.088	0.914***	0.000	1.104***	0.000	0.936***	0.000
TRDGB	0.314	0.354	0.147	0.369	-0.128	0.676	0.251	0.154	0.204	0.278	-0.640	0.172
FINLGB	-1.118	0.303	-0.193	0.652	0.336	0.190	-0.260	0.527	-0.058	0.858	0.020	0.959
FID	-0.186	0.333	-0.100	0.456	0.039	0.740	-0.030	0.777	0.053	0.658	-0.096	0.594
Emerging economies												
Constant	-2.073	0.446	-1.015	0.679	2.785	0.179	2.525	0.267	2.063	0.454	-0.827	0.731
PI	0.793**	0.013	0.843***	0.001	0.769***	0.000	0.636***	0.003	0.697**	0.013	0.962***	0.000
TRDGB	0.594	0.152	0.554*	0.074	0.003	0.986	0.396*	0.063	0.346**	0.043	0.574	0.149
FINLGB	0.020	0.936	-0.040	0.832	-0.162	0.341	-0.102	0.562	-0.082	0.713	-0.143	0.417
FID	0.222	0.307	0.340***	0.002	0.131	0.170	0.209***	0.008	0.163*	0.091	0.397***	0.000

Notes: ***, ** and * indicate the significance levels at the 1%, 5% and 10%, respectively.

Table 5: Estimates of tourism indicators using growth rates

	TBS		TDC		TDS		TTIC		TLS		TTC	
	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values	Coefficient	p-values
Full sample												
Constant	4.881***	0.005	13.369***	0.000	4.075***	0.000	7.210***	0.000	9.701***	0.000	7.734***	0.000
PI	0.202	0.529	0.524***	0.001	0.698***	0.000	0.686***	0.000	0.912***	0.000	0.753***	0.000
TRDGB	0.501*	0.091	0.565**	0.016	-0.042	0.771	0.412***	0.003	0.490***	0.000	0.258*	0.097
FINLGB	-0.550*	0.097	-0.322*	0.059	-0.328*	0.092	-0.224	0.115	-0.190	0.156	-0.190	0.137
FI	0.441***	0.007	0.269*	0.092	0.153***	0.002	0.149***	0.001	0.061	0.323	0.289*	0.062
Advanced economies												
Constant	6.606***	0.000	6.178***	0.000	3.608***	0.000	7.174***	0.000	10.800***	0.000	3.168***	0.000
PI	0.239	0.230	0.398**	0.041	0.705***	0.000	0.656***	0.000	0.805***	0.000	0.607***	0.003
TRDGB	0.488	0.207	1.004**	0.015	-0.112	0.636	0.456*	0.091	0.519**	0.038	0.332	0.269
FINLGB	-0.489	0.215	-0.573**	0.036	-0.357	0.250	-0.205	0.354	-0.214	0.391	-0.159	0.429
FI	0.153	0.156	0.361	0.196	0.058	0.324	0.079	0.154	-0.018	0.802	0.369	0.184
Emerging economies												
Constant	2.249	0.540	20.574***	0.000	4.381***	0.000	6.705***	0.000	8.183***	0.000	12.256***	0.000
PI	0.378	0.566	0.646***	0.005	0.777***	0.000	0.753***	0.001	0.999***	0.001	0.854***	0.001
TRDGB	0.313	0.529	0.122	0.323	-0.023	0.842	0.299***	0.000	0.435***	0.000	0.137	0.248
FINLGB	0.072	0.797	0.085	0.666	-0.167	0.213	-0.112	0.305	-0.193	0.101	-0.080	0.529
FI	0.724**	0.021	0.193***	0.007	0.248***	0.001	0.232***	0.001	0.107	0.318	0.260***	0.003

Notes: ***, ** and * indicate the significance levels at the 1%, 5% and 10%, respectively.