FDI and Trade Openness in the Tourism Market in Asian Emerging Market Economies

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Abstract:
FDI and trade openness are considered development tools in all sectors, and the tourism sector is no exception. We examine the impact of inward FDI and trade openness on tourism in selected Asian emerging markets using panel data from the Autoregressive Distributed Lag of the Pooled Mean Group model and examine the direction of the causality of inward foreign direct investment and trade openness on tourism using the Granger causality test for the period 1996-2019. In our research model, we employed the number of tourists' arrivals as the dependent variable and inward foreign direct investment and trade openness as the main independent variables. The control variables are as follows: GDP growth rate, inflation, mobile telephone subscriptions, and the global financial crisis of 2008. According to the pooled mean group ARDL estimation results, inward FDI, trade openness, GDP growth rate, inflation, and mobile telephone subscription variables had long-run significance in explaining tourism, whereas the global financial crisis dummy variable did not explain tourism arrivals. In the short run, an increase in the GDP growth coefficient attracted more international tourists to Asian EMEs, whereas an increase in inflation reduced tourism arrivals. The study found that there is a unidirectional relationship between FDI inflows and tourism arrivals, with the causality flowing from tourism to FDI. Furthermore, the results of the causality test implied that there were bidirectional connections between tourism and trade openness in Asian emerging markets. The study suggests that emerging economies should also promote short-term policies to increase international tourism by increasing trade openness and foreign direct investment.

Keywords: Emerging Asian economies, Foreign Direct Investment, Tourism, Trade Openness

1. Introduction

Tourism is crucial to the economic development of many countries around the world. "In recent years, it has become one of the most dynamic areas of the global economy, with goals such as maintaining economic growth and diversifying social communities" [1]. Tourism and travel have expanded steadily over time, and the sector has become one of the world's biggest sectors of the economy [2]. Global tourist arrivals in 2019 totaled 1.5 billion, representing a 4% increase over 2018. Prior to the COVID-19 pandemic, it contributed 10.4 percent of global GDP [3]. International travel has grown in popularity over the last decade. Many people travel to new or different geographical areas for individual, business, or work reasons [4].

The expansion of the tourism industry benefits the host location in many ways. Tourism is a major source of revenue for the world's most visited countries, and it has a significant impact on the global economy [5], [6]. "It generates revenue, brings in foreign currency, and contributes to the diversification of the local economy by creating new job opportunities for locals" [7].

Many countries are trying to increase the number of foreign visitors for a number of reasons, such as encouraging international currency inflows to the host nation and being more environmentally conscious than many manufacturing sectors [8]. It is because the expansion of the tourism industry has accelerated the growth of other related businesses. Tourists choose a destination based on a variety of factors, including the destination country's economic development, geographic diversity, culture and heritage, infrastructure facilities, cost of living, internal security, health sector quality, communication technology, etc. In many regions, the importance of the tourism sector for regional development has grown significantly. The Asia-Pacific region saw a 5% increase in international tourist arrivals in 2019. The region's tourism

incomings totaled 443 billion USD in 2019, accounting for 30% of the global total. The progress of the Asia-Pacific region as a tourist destination region can also be seen in their global tourist earnings. In 2019, the region's tourism receipts totaled USD 443 billion, accounting for 30% of the global total [4].

The progress of the Asia-Pacific region as a tourist destination region can also be seen in its global tourist earnings. In 2019, the region's tourism receipts totaled USD 443 billion, accounting for 30% of the global total. According to the World Tourism Ranking, in both 2019 and 2018, Thailand ranked 8th with 39.8 million international tourist arrivals and 38.2 million international tourist arrivals worldwide. Thailand, Malaysia, Vietnam, Singapore, India, and South Korea were among the top destination countries. Each country received more than 15 million international tourists in 2019 and 2018. The tourism sector is the third source of international capital [9]. It accounted for 13.7 percent of all foreign exchange in 2019. In Asian EMEs, the tourism market is rapidly expanding.

FDI and trade openness are viewed as development tools in all sectors, including tourism. Most investors expect that Asia will continue to lead the world in terms of foreign direct investment. FDI is a critical driver of economic development by providing the necessary capital, transferring knowledge, and building infrastructure in the host countries. In particular, it has the potential to create job opportunities, increase productivity, and improve the national economy's competitiveness through the transfer of skills and technologies, as well as expand infrastructure facilities by contributing to the long-term economic development of developing countries around the world [10].

At the same time, directly and indirectly, FDI provides a stable foundation for the growth of the tourism sector in economies. FDI is one method by which countries can promote tourism. FDI encourages tourism demand in many ways. Foreign investors can support a nation's growth by developing infrastructure such as airports, roads, and hotels [11].

FDI is a significant factor in expanding tourism activities in destinations by supplying the essential investment and information or knowledge transfer to establish, improve, and develop infrastructure facilities in host countries [12], [13]. In the nations where they are present, FDI also contributes to the share of skills, product knowledge, and techniques in those countries [14]. Foreign companies' investments in human-based capital development in terms of training workers are critical for tourism development. Many foreign investors pay special attention to the development and provision of tourism-related infrastructure and services [15]. Many foreign investors place great importance on the expansion and provision of tourism-related infrastructure. They provide tourism-related services such as transportation, tour operators, travel agencies, and car rental [5]. FDI provides capital and transfers knowledge to develop the tourism sector in many ways, and it has a great impact on the success of tourist activities in many countries. Furthermore, trade agreements and trade policies have a substantial effect on tourism. They provide tourism-related services such as transportation, tour operators, travel agencies, and car rental [5]. FDI provides capital and transfers knowledge to develop the tourism sector in many ways, and it has a great impact on the success of tourist activities in many countries. Furthermore, trade agreements and trade policies have a substantial effect on tourism.

International trade is related to the service sector, including international tourism, and it benefits by decreasing operation expenses, promoting the tourism sector, and increasing consumer awareness in other nations, all of which encourages global tourism demand [16].

Few studies have been conducted to find the influence of trade openness and FDI inflows on the tourism market in emerging markets, as stated in the previous studies. No study has used recent data and sophisticated econometric methods to observe the association between FDI and trade openness on international tourist arrivals in Asian EMEs.

As a result, the study helps to understand the link between FDI and the international tourism market and also trade openness and international tourism in the Asian EMEs. Considering this, the main hypothesis was developed as follows:

Hypothesis 1: FDI, and trade openness have a positive influence on international tourism in Asian emerging markets.

Hypothesis 2: The causality runs from trade openness to international tourism in Asian emerging markets and the causality runs from FDI to international tourism in Asian emerging markets. In the first part, the introduction of the research, the research question, the aim, and the gap in the research were discussed. In the second part, we provided an overview of the literature review. In the third part, we will discuss the methodology we used in the study. In the fourth part, econometric models are estimated from the data and the results are

discussed.

Finally, the conclusion of the work and policy recommendations will be presented.

2. Literature Review

According to previous research, a variety of potential variables are significant determinants of international tourist attractions. We focused on the main FDI and trade openness variables, as well as their effects on tourism demand. Furthermore, we investigate the effects of control variables on tourism demand. Numerous single-country and panel studies have been conducted to determine tourist attraction demand factors. In this section, we present studies that explain the potential determinants of tourism demand. Reference [17] examined the effects of various macroeconomic factors on inbound tourism employing ASEAN economies. The independent variables in the model were net FDI inflows, the real exchange rate, inflation, and trade openness. The study spanned the years from 1995 to 2013. According to the findings of Poisson's generalized regression model, Inflows of net FDI positively affect international inbound tourism. Furthermore, the results confirmed that the rise in inflation and the real exchange variables discourage international tourism, whereas the increase in trade openness variables attracts more foreign tourist demand.

Reference [18] discovered that governments in less developing countries try to attract FDI by promoting more international tourism.

Reference [19] used Poisson regression to examine the drivers of international tourism demand in Africa from 1995 to 2015. Net FDI inflows have been identified as an important factor in African international tourism. It means that as the government increases FDI in the region, more tourists will come and explore Africa's inherent riches and opportunities. They also discovered a link between trade openness and tourism demand in African countries. The result suggests that greater trade openness is associated with increased international tourist arrivals and that a higher per capita income in the destination country is associated with increased tourist arrivals. According to the research results of the Poisson panel data analysis, tourists prefer to visit more developed African countries. Domestic prices, as measured by the consumer price index, have no significant impact on tourism demand in Africa. However, as predicted by the theory, it has a negative impact. The number of fixed and mobile telecommunications services was used to assess communication infrastructure. According to the results, variables related to telecommunications infrastructure were discovered to be one of the key drivers of international tourism demand and positive drivers of international tourism.

In addition, the findings revealed that the real exchange rate, political stability, and the absence of violence were all important factors in African international tourism. Domestic prices and transportation costs, on the other hand, were not significant motivators for people to travel to Africa. Reference [20] investigated the association between the tourism market and FDI in Pakistan from 1979 to 2017. The findings revealed Pakistan has a causal relationship between tourism and FDI. The causality runs from tourism to inward FDI inflows.

Reference [21] explored the relationship between African tourism and FDI in the tourism. According to the research results, tourism has a strong positive relationship with FDI. To attract more international tourists to the African region, the majority of foreign investors are focused on creating jobs and investing in the hospitality sector. Some authors also looked into the factors influencing tourism demand in the Eastern Caribbean Currency Union.FDI had a beneficial impact on the number of inbound tourists. Economic developments in origin countries, as well as price considerations and external shocks, were demonstrated to be the main elements of tourism improvement, as was the number of airlines helping a country, which was also confirmed to be a significant factor in international tourism demand [22]. Reference [23] discovered the consequences of FDI influence on economic growth in selected European nations from 1995 to 2014. According to the testing results, no causality exists between the tourist industry and FDI in all countries, with only Estonia and Bulgaria proving causality between FDI and the tourist industry.

Using the period from 1970 to 2005, the link between international tourism demand and net FDI inflows into Turkey was examined. According to the findings of the VEC model, the cause is driven by international tourism and an increase in net FDI inflows [24].

Reference [15], studied the influence of FDI on tourism sector growth in a small island economy, which included 17 small islands as the sample during 1995–2018. For this purpose, the panel VEC model was employed. The results indicated that the variable of economic growth encourages tourist arrivals to small island economies in the long run.

Reference [6], indicated that an increase in tourists visiting Iran with respect to FDI is increasing. Reference [25], studied the link between tourism demand and FDI between 1995 and 2015. The

results found a one-way causal relationship between sample country variables that runs from tourism to FDI. It implies that tourism allows countries to expand their FDI.

To explore the association between foreign trade and demand from the international tourism sector, used data from 207 countries that have links with Thailand. This research included three variables for the value of international trade. Model 1 included the total volume of bilateral trade between Thailand and the traveler's country of origin, while Models 2 and 3 divided global trade into international trade values such as imports and exports. As a result, Thailand's openness and import levels resulted in a significantly positive increase in the number of foreign tourist arrivals, while the factor of Thailand's export value did not affect the rate of foreign tourist arrivals. They also used a figure of GDP per capita to represent the income level of tourists visiting Thailand. According to the results of their study, an increase in the nation's per capita income level has managed to increase the number of tourists to Thailand [16].

Using the GMM method, reference [26] they studied the effect of trade on international tourism in several developing countries. The research results indicated that trade openness is a key factor that has a favorable impact on the tourism market in selected countries from 1999 to 2015. Other factors, namely per capita income, the real effective exchange rate, and economic stability, affect tourism growth in both countries.

Reference [27] showed that trade openness tended to increase tourism demand in ASEAN nations. The more open trade policies are, the greater the market access of domestic products and the challenges to domestic industries' competitiveness against foreign products. Therefore, trade openness had a positive influence on tourism demand in Asian countries. However, the labor variable had an expected sign, but it was not able to explain the variation in tourism demand in ASEAN countries.

Reference [28], discovered a positive relationship between trade and tourism arrivals. It indicated that as trade openness increased, tourism preferred to visit. Furthermore, the findings indicated that as GDP increased, it had an impact on improving and increasing the production of the host country and directly encouraged tourism arrivals. Furthermore, the results showed that when the consumer price index rises, a nation's living standards go up, and foreign tourist arrivals move up. This result is theoretically different.

Reference [29] estimated the dynamic panel demand models in Portugal for the period 1995-2006. The results proved that trading partners were the most important factor in boosting Portugal's tourism industry. Furthermore, the results revealed that the exchange rate negatively influences tourism demand while the consumer price index positively influences tourism demand in Asian countries.

Reference [30] examined the determinants of international tourism flows to Egypt during the period 1990-2008. In the research, trade openness was calculated as the overall amount of imports and exports between Egypt and the source nation, generalized by the GDP of Egypt. In the research, trade openness was calculated as the overall amount of imports and exports between Egypt and the source nation, generalized by the GDP of Egypt. The results revealed that increased trade openness led to attracting more international tourists to Egypt. As a result, increasing the comparative cost of living discourages tourists from visiting Egypt. They found that an increase in the population of the destination attracted more foreigners. It shows that a larger population in the destination country attracts a larger number of international tourists.

Reference [31] employed a panel dataset of 218 countries, covering the period from 1995 to 2012. The results indicate that an increase in the global per capita GDP variable tended to increase tourism demand and that it is the most important determinant when explaining international tourism arrivals. It indicated that when the country's income improves, more citizens will be able to afford to travel; and by showing that the country's economy is good, the government could have more budgets for building tourist destinations and facilities. Therefore, they concluded that tourism demand assumes a direct positive relationship with income. The results of this study showed that price, exchange rate, and the Gulf War were all important factors in determining international tourist visits to Spain.

Reference [22] used a dynamic GMM to explore the asymmetric responses in the tourism functional form in Turkey. An upturn in the GDP of the source countries will increase the number of visitors. Information, communication, and technology are driving tourism demand in Turkey. The results suggested that technological infrastructure favorably influences tourism in Turkey and suggested that technology infrastructure be managed to improve in order to attract more international travelers to Turkey. Both increase trade openness and human resources and improve Turkey's tourist industry.

Reference [32] examined the macroeconomic factors influencing the tourism revenue impacted by tourist arrivals and tourism receipts in the top ten most visited Asian Pacific countries. They

concluded that the expansion of the economy in a country's GDP led to a growth in tourist arrivals into Asian Pacific countries. After investigating the impact of the consumer price index on tourism demand in Asian Pacific countries, it was concluded that an increase in the consumer price index has led to attracting more foreign visitors to Asian Pacific countries. The author stated that an increase in money supply and government spending on infrastructure would lead to inflation, and that kind of inflation would positively influence tourism demand in the region. In addition, the exchange rate and political stability have had a long-term relationship with tourism.

Reference [33], observed the factors of tourism sector demand in OECD countries by employing a gravity model. According to the results, the GDP of the origin and destination countries positively affected tourism demand, and the population of the destination country negatively affected international tourist flows. However, this result is consistent with the previous results. The results indicated that exchange rates and bilateral trade also have an impact on tourism demand in OECD countries.

Reference [34] used the panel VAR approach from 1995 to 2009 to test the long-run relations between the variables of tourism and economic growth in developing economies. According to these results, the government was committed to promoting and providing tourism opportunities through the expansion of countries' economies to develop the tourism industry. Moreover, as the economies of developing countries grow, the development of tourism infrastructure and facilities as a tourism industry can positively affect tourism demand.

Reference [8] used cross-sectional data analysis to study the growth of international tourism in Malaysia. They tried to determine how rising consumer prices in Malaysia played a role in increasing the number of foreign visitors. They predicted that some developing countries, such as Malaysia, would have a high consumer price index because the authorities would spend a lot of money on a development plan to improve living standards and promote world tourism. In addition, population growth has affected an increasing number of tourists, and the distance can reduce tourism.

Reference [35] found that the variable consumer price index has a positive sign, but is insignificant in explaining tourism demand in OIC countries, which means that tourism demand is not sensitive to fluctuations in tourism.

Reference [36] examined the factors that affect tourism in the African region by employing a panel data econometric analysis. The results of the panel, two-stage least square test, and GMM show that an increase in the consumer price index discourages the number of arrivals. However, the results of the least square test confirm that the consumer price index is statistically insignificant in African countries. He also estimated the role of communication technology in driving tourism demand. The number of available telephone lines was employed as the infrastructure factor. The results showed that infrastructure was positively related to tourist arrivals. It has been implied that as more and more infrastructure facilities are provided on the continent, tourists will prefer to come and explore the opportunities. Reference [37] analyzed the asymmetric links between inflation and tourism demand function in Pakistan's economy. They implied that when the inflation rate increased, the cost of production increased and tourist arrivals decreased, so tourists preferred not to visit such destinations when inflation decreased. When they could find lower living and transportation costs, they preferred to visit such destinations. In addition, the results implied that long-term asymmetrical association between exchange rates variable, oil prices variable, and tourism demand.

Reference [38] examined the accessibility and influence of a destination country's telecommunication pattern and its progress on tourism growth in small island nations (1992-2017). The estimated results showed that telecommunications have contributed positively to tourism development.

Reference [39] investigated the effects of the human development index and its elements on international tourist arrivals in Iran from 1967 to 2007. They have used the ARDL model to check the long-term connection. As a result, they concluded that life expectancy had a positive impact on tourism, implying that the high life expectancy, as an element of good health facilities, was directed to attract a number of tourists to Iran.

Reference [18] have examined the factors that influenced foreign tourist arrivals in SEA. They have included life expectancy as one of the variables of human development at the destination in the model. As for the results, they revealed that an increase in life expectancy attracts more international tourists.

Reference [40] examined the effects of cultural standards on international tourism flows by employing a gravity model in 81 original countries and 32 destination countries. The results highlighted that an increase in population size brings more tourism arrivals.

Reference [41] also found that the high population of the destination country has a positive influence on international tourists' arrivals. It shows that a larger population in the destination country attracts a larger number of international tourists.

Many researchers investigated the determinants of global tourism demand function by employing a large number of variables in a single or cross-country study. According to the related studies, the impact of FDI and trade openness on tourism can be analyzed using some of the most appropriate control variables, such as economic development of tourists' destination countries, the cost of living in the tourist destination, the availability and contribution of the destination's telecommunication structure as a proxy for infrastructural availability and development, the health system, and the population of the destination country as a proxy for the availability of labor force. In the study, we mainly discussed the influence of FDI and trade openness on international tourism demand in Asian EMEs, using the some appropriate control variables.

The rationale for the important variables used in this study is given below, based on existing theoretical and empirical studies: FDI represents one of the channels through which countries can promote tourism. Many economies are trying to look for foreign investors to provide all the capital required to support the expansion of the tourism sector [42]. As we highlighted, FDI positively affects tourism demand. foreign investors can assist a nation in attracting tourists by working to improve tourist sites and continuing to develop and establish travel and accommodation infrastructure such as airports and hotel chains [39].

Trade openness also has a positive impact on tourism. Many countries attract more international tourists by making their economies more open and implementing a number of progressive policies. The economic development of tourists' origin countries and the economic development of tourists' destination countries have been examined in much research by using different variables, such as GDP, GNI, GDP per capita, and economic growth. Numerous studies have demonstrated how a country's high economic growth can positively influence the number of tourists who visit that country.

The growth in the common prices of commodities will raise the cost of living in tourist destinations. Due to the high inflation in the destination country, the number of people who come to travel is reduced. Therefore, high inflation discourages foreign travelers. However, some studies have revealed that the increase in the consumer price index positively affects tourism arrivals.

The number of available telephone lines was employed as the infrastructure factor. Infrastructure is positively related to tourist arrivals and is significant; as more and more infrastructure facilities are provided on the continent, tourists are eager to come and explore the opportunities.

3. Methodology
3.1 Research design, data, and sources
The purpose of this research is to test the influence of FDI and trade openness on international tourism demand in Asian EMEs from 1996 to 2019. EMEs are classified in different ways. [1] Many scholars have included emerging countries in their studies as a result of these indexes representing diverse countries.

We selected the following EMEs in Asia to analyze the effects of FDI and trade openness on tourism: Bangladesh, Philippines, India, Malaysia, Singapore, Sri Lanka, Thailand, South Korea, and Vietnam. Subsequently, we omitted some emerging Asian countries from our common sample due to the unavailability of data, such as Pakistan, from our sample.

The following econometrics model can be specified as equation 1:

$$TOU = f (FDI, TOP, GDP, INF, TEL, GLOBAL) \quad (1)$$

Equation 1 can be rewritten as the panel data form of equation (2):

$$LTOU_{i,t} = \alpha_0 + \alpha_1 FDI_{i,t} + \alpha_2 TOP_{i,t} + \alpha_3 GDP_{i,t} + \alpha_4 INF_{i,t} + \alpha_5 TEL_{i,t} + \alpha_6 GLOBAL_{i,t} + \varepsilon_{i,t} \quad (2)$$

Table 1 provides clarification of the dependent and independent variables.

Table 1: Explanation of the variables

Code	Description	Measurement
LTOU	Log of International Tourists' Arrivals	Number of Tourists'
FDI	Foreign Direct Investment Net Inflows	Percentage value of GDP
TOP	Trade Openness	(Export + Imports)/ GDP
GDP	GDP Growth Rate	Annual (%)
INF	Inflation Rate	Inflation, GDP Deflator (Annual %)
TEL	Mobile Cellular Subscriptions	Mobile Subscription Per 100 People
GLOBAL	Global Financial Crisis	Dummy Variable 2008

Source: Authors based on WDI database (2021).

LTOU variable refers to the dependent variable for the model, and it is measured by a log transformation of the number of international

tourists' arrivals (TOU). The WDI (2021) provided data for variables such as international tourist arrivals, net FDI inflows (percent of GDP), trade openness, GDP growth rate, inflation, and mobile phone subscriptions in the destination countries. "GLOBAL" variables represent financial crisis dummy variables. For the worldwide financial emergency of 2008, the dummy has a value of 1, and otherwise has a value of 0.

3.2 Estimation methods

This section details the estimation techniques that we employed. A correlation analysis is run to avoid the problem of multicollinearity in panel data analysis. Then we tested the various types of cross-sectional dependency tests. This allows you to select the appropriate drive root analysis to check that the variables are stationary. The Breusch-Pagan Lagrange Multiplier Test (BP_{LM}), the Pesaran Scaled Lagrange Multiplier Test (PS_{LM}), the Feng and Kao Bias-corrected Scaled Lagrange Multiplier Test (BP_{LM}), and the Pesaran Cross-Sectional Dependence Test (P_{CD}) were the cross-sectional dependency tests used for the study.

Use the unit root test analysis to determine the stationarity after determining the cross-section dependency. The study uses Levin, Lin, and Chu (LLC) and Im, Pesaran, and Shin (IPS) unit root tests to demonstrate the existence of unit root tests as a first-generation unit root test. To select the appropriate lags, we use the Schwarz (SC) criterion with constant and trending terms. The Augmented Dickey-Fuller Cross-Section Test (ADC) was used as a second-generation unit root test.

Check stationarity is needed because, in order to estimate an ARDL panel model, the variables in the regression should be integrated to I (0) or I (I) because the ARDL bounds testing approach fails to produce reliable results when there are integrated I (2) variables. ARDL modeling produces consistent and efficient estimators because it solves endogeneity problems by integrating lag length in both endogenous and exogenous variables (Lakhoua 2020).

The Pedroni and Kao cointegration tests are used in the next phase of the study to look for evidence of long-term cointegration between FDI inflows and explanatory variables. Depending on the function of the F-statistics values, we decide whether there is long-run cointegration exists or not. The pooled mean group ARDL model was then used to recognize the effects of trade openness and other potential drivers of FDI inflows.

After checking the long-term association between the analyzed variables, analysts can use causation tests to explore the causal relationship between variables. Therefore, the Dumitrescu-Hurlin test is used in the model to verify causality.

4. Results and discussion

4.1 Descriptive Analysis

Descriptive statistic estimation is used to represent the basic properties of the data set. It is a tool for expressing a data set in a clear manner. It helps in understanding the data set's basic data.

A descriptive statistic Table 2 displays the nature of variables. The mean values and median values of the variables express the data set's average range. The study's maximum and minimum values show the entire scope of the data set. The standard deviation shows how data can differ from its true average value. According to descriptive statistics, all of the variables have positive mean values.

Table 2: Descriptive statistics analysis

	LTOU	FDI	TOP	GDP	TEL	INF
Mean	15.20	4.14	121.12	5.19	69.00	4.60
Median	15.59	1.87	86.63	5.45	73.83	3.81
Maximum	17.50	28.60	437.33	14.53	186.16	22.80
Minimum	11.55	0.03	21.93	-7.63	0.003	-5.99
Std. Dev.	1.48	5.89	1.58	2.78	5.34	4.19

Source: In the researchers' calculation, E-Views 10.

Table 3 displays the correlation results. According to the correlation analysis results, none of the correlation statistics are equal to or greater than 0.80. It indicates that the explanatory variables do not have a linear relationship.

Table 3: Correlation analysis

Variable	LTOU	FDI	TOP	GDP	INF	TEL
LTOU	1.000					
FDI	0.320	1.000				
TOP	0.478	0.653	1.000			
GDP	0.134	0.069	0.040	1.000		
INF	-0.443	-0.201	-0.297	0.145	1.000	
TEL	0.559	0.279	0.323	0.057	-0.319	1.000

Source: In the researchers' calculation, E-Views 10.

4.2 Cross-sectional dependence tests and unit root tests

The results of the cross-dependency tests, BP_{LM}, PS_{LM}, BCS_{LM}, and P_{CD}, are presented in Table 4. The results confirmed that LTOU, GDP, INF, and

TEL variables have cross-sectional dependency while FDI and TOP do not have a cross-sectional dependency in some tests.

Table 4: Cross-sectional dependency tests

Test	LTOU	FDI	TOP	GDP	INF	TEL
BP_{LM}	591.4 (0.00)	49.8 (0.06)	400.1 (0.00)	135.8 (0.00)	128.3 (0.00)	764.3 (0.00)
PS_{LM}	65.5 (0.00)	1.13 (0.10)	43.0 (0.00)	11.8 (0.00)	10.9 (0.00)	85.8 (0.00)
BCS_{LM}	65.3 (0.00)	1.43 (0.15)	42.7 (0.00)	11.6 (0.00)	10.7 (0.00)	85.6 (0.00)
P_{CD}	21.2 (0.00)	0.15 (0.88)	1.2 (0.22)	8.5 (0.00)	9.0 (0.00)	27.6 (0.00)

Note: The P values of the corresponding statistics are in parentheses.
Source: Researchers' calculation using E-Views 10 statistical software.

We use SC to determine the lag length to test the stationary properties of the variables. After selecting the optimal lag, we used the unit root analysis. The model variables are mixed stationary, Table 5 as shown by the results of the first generation unit root tests, namely LLC and IPS. The variables LTOU, TOP, and TEL have unit roots at the level, unlike the variables EDU, GDP, and INF. When the variables are stationary at I (0), I (1), or mixed stationery, the ARDL panel technique can be used. In addition, in order to use the ARDL technique, the requirement must be met if none of the variables are in I (2).

Table 5: Unit Root tests (First-generation)

Variable	Level		1st Difference		Order
	LLC	IPS	LLC	IPS	
LTOU	-1.186 (0.118)	-0.023 (0.409)	-9.671 (0.000)***	-9.801 (0.000)***	I(I)
FDI	-7.440 (0.000)***	-7.803 (0.000)***	-12.946 (0.000)***	-13.102 (0.000)***	I(0), I(I)
TOP	-0.002 (0.499)	1.319 (0.906)	-9.966 (0.000)***	-10.362 (0.000)***	I(I)
GDP	-8.783 (0.000)***	-8.554 (0.000)***	-16.346 (0.000)***	-16.827 (0.000)***	I(0), I(I)
INF	-10.729 (0.000)***	-9.645 (0.000)***	-15.713 (0.000)***	-16.740 (0.000)***	I(0), I(I0
TEL	-0.835 (0.202)	0.148 (0.559)	-4.086 (0.000)***	-3.094 (0.000)***	I(I)

Note: The corresponding statistics' P values are in parentheses. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.
Source: Researchers' calculation using E-Views 10 statistical software.

In addition, as a second-generation unit root test, we used the CADF test. The results of the second-generation unit root tests are shown in Table 6. The variables FDI, GDP, INF, and TEL are stationary at the level (I (0)), while the variables LTOU and TOP are stationary at the first difference (I (0)).

Table 6: Unit Root tests (Second-generation)

Vari.	Level		1st Difference		Order
	t	P-value	t	P-value	
LTOU	-1.477	0.996	-2.817	0.051*	I(I)
FDI	-3.607	0.000***	-4.105	0.000***	I(0), I(I)
TOP	-1.888	0.913	-2.864	0.037**	I(I)
GDP	-2.772	0.068*	-4.217	0.000***	I(0),I(I)
INF	-3.538	0.000***	-4.650	0.000***	I(0),I(I)
TEL	-3.050	0.009***	-3.323	0.001***	I(0),I(I)

Note: The corresponding statistics' P values are in parentheses. ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.
Source: Researchers' calculation using Stata 13 statistical software.

4.3 Cointegration Tests

According to Pedroni's test (Table 7), four of the seven base stations are statistically significant at 5%, and the results of Kao integration are also significant at 5%, as cointegration variables (Table 8).

Table 7: Pedroni correlation analysis

Pedroni test		
	Panel	Group
v-Statistic	-0.4220	
rho-Statistic	2.1382	3.4848
PP-Statistic	-2.4678***	-1.5364**
ADF-Statistic	-2.8688***	-1.7601**

Note: ***, **denote statistically significant values at the levels of 1%, 5% respectively.
Source: Researchers' calculation using E-Views 10.

Table 8: Kao correlation analysis

Kao cointegration test	
Augmented Dickey–Fuller (SC)	t-Statistics value
	-20477**
Residual Variance	0.0218
HAC Variance	0.0242

Note: ***, **denote statistically significant values at the levels of 1%, 5% respectively.
Source: Researchers' calculation using E-Views 10.

4.4 Pooled mean group ARDL estimated results

After ensuring that the variables were stationary, the ARDL model was used to examine how FDI, and trade openness and potential control variables impact tourism demand. Table 9 shows the pooled mean group ARDL results for the long-and short-term coefficients.

Table 9: Pooled mean group ARDL estimated results

Panel A		
Variable name	Coefficient value	Probability
FDI	0.0528	0.0380**
TOP	0.0193	0.0000***
GDP	0.0385	0.0005***
INF	0.0312	0.0014***

TEL	0.0167	0.0000***
GLOBAL	-0.1085	0.1177
Panel B		
Variable name	*Coefficient value*	*Probability value*
COINTEQ01	-0.1525	0.0035***
D(FDI)	-0.0257	0.4835
D(TOP)	0.0007	0.6395
D(GDP)	0.0099	0.0474**
D(INF)	-0.0059	0.0177**
D(TEL)	-0.0024	0.4430
D(GLOBAL)	0.0709	0.3954
C	1.8688	0.0034***

Note: ***, **, and * denote statistical significance at 1%, 5%, and 10%, respectively.
Source: Researchers' calculation using E-Views 10.

Table 9, panel A, shows the long-run estimated results of the variables. According to the results, Foreign direct investment (FDI), trade openness (TOP), GDP growth rate (GDP), inflation (INF), and mobile telephone subscription (TEL) variables all have long-run significance in explaining the dependent variable (LTOU).

The coefficient of the variable FDI inflow (percentage of GDP) was found to have a statistically significant positive relationship with the number of international tourist arrivals (LTOU). This result shows that an increase in FDI inflow per unit is associated, on average, with a 2.52% increase in tourism demand (LTOU).

This is confirmed by saying that if a country is able to increase FDI inflows, it may also increase international tourist arrivals. This is the relationship we expect based on the previous research and findings. This outcome is consistent with the findings of [6], [15], [17], [21], [22], [39].

The coefficient of the trade openness variable (TOP) was found to have a statistically significant positive effect on the number of arriving international tourists (LTOU). According to this result (LTOU), a one unit increase in trade openness is accompanied by a 1.93% increase in tourism demand. This outcome is consistent with the findings of [16], [17], [19], [26]–[30].

The GDP growth coefficient (GDP) variable was found to have a positive and statistically significant relationship with the number of arriving international tourists (LTOU). According to this result, an increase in GDP per unit corresponds to a 3.85% increase in tourism demand (LTOU). This outcome is consistent with the findings of [15], [19], [32]–[34].

The inflation variable (INF) was identified to have a significantly positive relationship with the number of international tourists arriving (LTOU) in Asian EMEs. This finding suggests that a 3.11 percent increase in tourism demand (LTOU) corresponds to

a unit increase in the INF. This finding theoretically gives a vice relationship.

The coefficient of the mobile telephone subscription variable (TEL) has the correct positive coefficient. This result implies that an increase in mobile subscriptions is accompanied by an increase in tourism demand (LTOU) by 1.67%. This result is in line with the studies of (Adeola et al., 2018; Seetanah, 2019; Tsounta, 2008). Global financial crisis (GLOBAL) dummy variable has a negative sign as expected in the theory however, it does not has a significant relationship with the amount of international tourists arriving (LTOU).

The results of the error correction term and the estimated and short-term coefficient are shown in Table 9 panel B. The error correction term (ECM term) is negative and statistically significant at the 1% level. It indicates that this year 15.25% of last year's imbalance has been corrected.

The GDP and INF coefficients were found to have a statistically significant relationship with the number of international tourists arriving (LTOU) in the short-run estimates. Other variables are not significant at any significant level. However, the main independent variables of FDI inflows (FDI) and trade openness (TO) variables are not statistically significant in the short run.

4.5 Granger causality test

The results of the Dumitrescu-Hurlin Granger causality test are shown in Table 10. Throughout the period, emerging Asian countries appeared to have a one-way causal relationship between FDI inflows and tourism. It also showed that the causality goes from tourism to foreign direct investment. It has been found that tourism enables countries to increase their FDI in these countries [20], [25]. Moreover, there is a two-way causal relationship between tourism and commercial openness.

Table 10: Dumitrescu-Hurlin Test

Null Hypothesis	*W-Stat*	*Zbar-Stat*	*Prob.*
FDI does not Granger cause LTOU	1.3646	0.4440	0.657
LTOU does not Granger cause FDI	3.3569	3.9345	0.000***
TOP does not Granger cause LTOU	2.7335	2.8424	0.005***
LTOU does not Granger cause TOP	4.3661	5.7028	0.000***

Note: *** indicate statistical significance at the 1%.
Source: Researchers' calculation using EViews 10 statistical software.

5. Conclusion and policy recommendations

Global tourism has developed fast and reached highest levels at the end of 2019. It helps various

destinations sustain economic development. The pooled mean group ARDL model was used to examine the influence of FDI and trade openness in Asian EMEs. Panel data includes nine emerging Asian countries and time spans 23 years (1996-2019). In the model, we used the variable "arrivals of international tourists" as the dependent variable and the inward FDI and trade openness as our main independent variables. The other independent variables were: GDP growth rate, inflation, mobile telephone subscriptions, and global financial crisis 2008.

Based on the Pooled Mean Group ARDL estimation results, inward FDI, trade openness, GDP growth rate, inflation and, mobile telephone subscription variables showed long-run significance in explaining tourism, while global financial crisis dummy variable did not explain the variation in tourism. In the short-run estimates, the coefficients of the GDP growth (GDP) and inflation (INF) were found to have a statistically significant relationship with the numbers of international tourists' arrivals (LTOU), while other variables were not significant at any significant level.

We can conclude that FDI inflows and trade openness are essential elements as development tools in the tourism sector. The results indicate a one-way Granger causality between FDI inflows and tourism arrivals and the causality goes from tourism to FDI, and that there is bidirectional causality between trade openness and tourism in the case of Asian emerging markets. Finally, based on the results, we draw some policy implications. The study suggests that Asian emerging countries should promote international tourism by attracting more FDI related to the tourism sector and expanding trade openness. Examples include improving the investment climate through flexible trade and FDI policies, providing a better environment to increase tourism-related FDI incentives such as grants or low-interest loans, tariff releases, tax break, tax holidas, public funding system, and guaranteed investments. Furthermore, the instituting of an investment promotion, reducing investment restrictions, protecting markets, intellectual property rights, having a relatively flexible workforce, etc. Consequently, more FDI will increase the tourism sector in the future.

The main limitation of this study is that it omits some variables. Since the tourism data of many countries are only available from 1996, we used only 23 periods of data for this study. With a few observations and many regressors with lagged value increases, the number of parameters to be estimated decreased, which led to error messages of an insufficient number of observation or near singular matrix and data unavailability in some countries included in the sample. It is one of the reasons, why we excluded some of the most crucial factors, such as carbon dioxide emissions, exchange rate, etc. Due to a lack of data, some emerging Asian countries were also omitted from the analysis. We also left China out because of the bias in the data.

Furthermore, our analysis does not include the pandemic period, which is 2020-2021. In the sample countries we excluded Pakistan also because of the data unavailability. In the study, we included variables related to economic and social factors such as inward foreign direct investment, trade openness, GDP growth, inflation, mobile telephone subscriptions, and global financial crisis dummy variable. In the future, we propose including governance variables such as corruption control, regulatory quality, political stability, the absence of violence or terrorism, etc. An increase in the quality of governance responsible for making a country an attractive tourist destination is a necessity.

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