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Research Article

DO EXTERNAL FACTORS AFFECT THE LEVEL OF TOURIST VISITS

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Abstract
This study investigates the influence of external factors on tourist visits to ASEAN-6 countries (Indonesia, Thailand, Singapore, Malaysia, Vietnam, and the Philippines), renowned for their global appeal as tourist destinations. Employing a fixed effect panel data regression model, the research utilizes annual World Bank data from 2004 to 2020 to analyze the effects of political stability, inflation, airport availability, traffic accident rates, and currency exchange rates on tourist arrivals. The results reveal that political stability significantly increases tourist visits, as it enhances perceptions of safety and reliability. Inflation, conversely, negatively impacts tourism by reducing affordability. Surprisingly, airport availability has a negative effect, possibly due to stringent inspections that may discourage travelers. Traffic accident rates show a positive correlation, likely reflecting increased tourist activity in well-connected urban areas. Meanwhile, currency exchange rates exhibit no significant influence. The findings underscore the importance of addressing these external factors to improve the tourism sector in ASEAN-6 countries. Governments are encouraged to enhance regional cooperation, develop cross-border travel packages, and invest in public facilities to create a more tourist-friendly environment. However, the study acknowledges its limitations, such as excluding variables related to pandemics and environmental concerns, which are increasingly relevant in the tourism industry. Future research should incorporate these aspects to provide more comprehensive policy recommendations and support sustainable tourism growth.

Keywords: ASEAN-6, Economic Growth, Tourism.

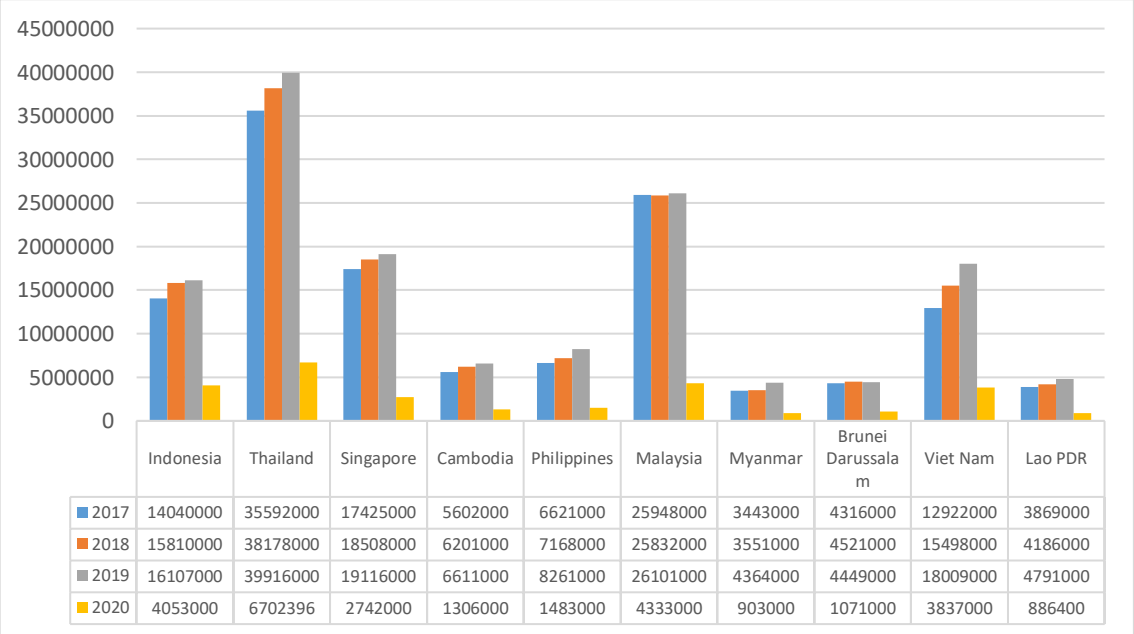
INTRODUCTION

Tourism is a critical economic sector pivotal to the growth and development of nations worldwide (Rasool et al., 2021). Additionally, it significantly contributes to a country's economic growth (Gonzo, 2023; Fitriana, & Waswa, 2023; Wahab et al., 2023). Research conducted by Ekonomou and Halkos (2023) further emphasizes the substantial impact of the tourism sector in fostering economic growth (Arslanturk et al., 2011; Antonakakis et al., 2015; Maudia et al., 2024). Travelers choose tourism primarily for various reasons. One of the main attractions is the opportunity for cultural exploration and experiencing the beauty of destinations the tourism sector offers. As Rasool et al. (2021) highlight, tourism plays a crucial role in showcasing a country's culture and natural beauty

to the world. Furthermore, the accessibility and expanding infrastructure of tourism are significant factors. Gonzo (2023) emphasizes the tourism sector's contribution to economic growth, supporting the development of adequate facilities and transportation options for tourists. Meanwhile, Wahab et al. (2023) underscore the diversity of tourist experiences, including recreational and sports activities available within the tourism sector. These factors collectively attract tourists to choose tourism as their preferred travel option while positively impacting a country's economic growth. This aligns with findings by Aslan (2014, 2016), who explored similar patterns in Mediterranean countries. Additionally, location and motivation are pivotal factors in influencing tourists' choices, as highlighted by (Putriningsih et al., 2023; Miharja et al., 2024; Saputra et al., 2024), who explored these aspects in the context of Nusa Penida.

Countries across the ASEAN region have become increasingly popular tourist destinations in recent years due to their rich cultural appeal, stunning natural beauty, and diverse experiences. ASEAN has become highly desirable for travelers seeking unique cultural insights and scenic landscapes. For instance, Heriqbaldi et al. (2023) emphasize tourism's pivotal role in showcasing local cultures within ASEAN destinations to the global audience, while Ekonomou and Halkos (2023) highlight the direct contribution of the tourism sector to the Gross Domestic Product (GDP) of regional countries. Moreover, ASEAN's economic growth potential and the continuous development of tourism infrastructure have bolstered its competitiveness in the global tourism market, as Mohamed et al. (2020) and Phakdee-Auksorn et al. (2023) noted. This illustrates ASEAN's success in creating an attractive tourist environment and positively impacting regional economies. With its increasing allure, ASEAN is poised to remain a preferred destination for global travelers (Heriqbaldi et al., 2023; Endra, & Villaflor, 2024; Risnawati et al., 2024). Southeast Asian countries such as Indonesia, Thailand, Singapore, Malaysia, Vietnam, and the Philippines have long been favored by tourists seeking natural beauty, rich cultural experiences, and warm hospitality. Research by Lee et al. (2021) also supports this, emphasizing political stability's role in promoting tourism within ASEAN.

Numerous studies have been conducted to elucidate the role and impact of tourism in ASEAN countries. Researchers have explored various facets of tourism, including its economic contribution, cultural significance, and environmental effects. For instance, Rasool et al. (2021) highlighted tourism's role in showcasing local cultures across ASEAN destinations to global audiences. Ekonomou and Halkos (2023) provided insights into tourism's direct contribution to ASEAN countries' Gross Domestic Product (GDP). Additionally, Gössling et al. (2020) investigated the environmental impact of tourism in the region. These studies collectively enhance our understanding of how tourism influences ASEAN countries comprehensively, encompassing economic, cultural, and ecological dimensions. Research by Becken et al. (2017), Carneiro et al. (2024), and Ciarlantini et al. (2023) highlights the complex relationship between air quality and tourism demand.



	Indonesia	Thailand	Singapore	Cambodia	Philippines	Malaysia	Myanmar	Brunei Darussalam	Viet Nam	Lao PDR
2017	14040000	35592000	17425000	5602000	6621000	25948000	3443000	4316000	12922000	3869000
2018	15810000	38178000	18508000	6201000	7168000	25832000	3551000	4521000	15498000	4186000
2019	16107000	39916000	19116000	6611000	8261000	26101000	4364000	4449000	18009000	4791000
2020	4053000	6702396	2742000	1306000	1483000	4333000	903000	1071000	3837000	886400

Figure 1 Data on tourist arrivals to ASEAN countries

Based on 2020 tourist visit data, three ASEAN countries showed notable stability despite the challenges of the COVID-19 pandemic. Thailand recorded 6,702,396 visits, followed by Malaysia, with 4,333,000 visitors, and Indonesia with 4,053,000 tourists (Worldbank, 2021). The pandemic significantly decreased tourist numbers globally (Heriqbaldi et al., 2023; Hyskaj et al., 2024; Zakiyah et al., 2024). Therefore, gaining a deeper understanding of the factors influencing tourist arrivals can aid ASEAN countries in better planning and managing their tourism sectors effectively (Dombey, 2004; Gössling et al., 2020). The choice of tourist destinations is primarily influenced by perceived attractiveness and quality, as Shafiai et al. (2021) highlighted. The tourism sector's development is shaped by internal and external factors. Internal factors, including the quality of tourism infrastructure, promotional efforts, and governmental policies and regulations significantly impact regional tourism (Saragih et al., 2024); Hall & Page, 2014). Conversely, external factors such as global economic fluctuations, climate change, immigration policies, technological advancements, and international travel trends also play crucial roles in shaping the tourism sector. These factors collectively influence tourists' decisions and contribute to the dynamics of the tourism industry. Climate's impact on tourism has also been extensively studied, as shown by Goh (2012; Hanoum et al., 2024; Wulandari et al., 2024).

Currency exchange rates are a crucial external factor that significantly impacts tourist arrivals, as (Athari et al., 2021; Munthomimah et al., 2022; Taurusi et al., 2024) noted. The exchange rate of the destination country's currency directly affects tourists' purchasing power, thereby influencing the number of visits (Triyasmina et al., 2022; Xue et al., 2023). Fluctuations in exchange rates also impact the pricing of tourism products and services in the destination country, thereby affecting tourist attractiveness (Dincer et al., 2015). Numerous studies, including those by Antonakakis et al., (2015b, 2015a), Arslanturk et al. (2011), Aslan (2014, 2016), Shahzad et al. (2017) and (Purna et al., 2021) have demonstrated the significant influence of currency exchange rates on tourist visits. These findings underscore that fluctuations in exchange rates can affect tourism growth considerably. This is consistent with findings by Dincer et al. (2015) and Athari et al. (2021). Political stability factors also play a role in determining tourist destinations. Political tensions, armed conflicts, and the threat of terrorism can affect the perceived safety of a destination (Demir et al., 2019). In addition, in relevant research by Balli et al. (2019), Demir and Gozgor (2018), Ghosh (2022), and Lee et al. (2021), the impact of geopolitical factors on the tourism industry is also examined. It is of concern how to look at the government's role in handling potential conflicts due to unstable geopolitics.

Inflation plays a role in determining tourists' decision to travel. In a study by Gong and Chen (2023), economic uncertainty and inflation rates harm sustainable tourism. In addition, research by Xue et al. (2023) mentioned that inflation has a significant and positive relationship with the sustainability of tourism development. Airport availability has a central role in shaping tourist visit patterns. Research by Haini et al. (2023) shows that airport availability positively correlates with tourist arrivals. By providing direct and efficient access, airports create a platform that allows a region to compete globally in attracting international tourists. Therefore, airport availability enhances tourist mobility and plays a strategic role in shaping positive perceptions and, ultimately, increasing potential tourist arrivals to a destination. Additionally, innovative approaches in tourism, such as enhanced experimental design, can significantly influence tourist behavior and preferences, further underlining the importance of modern infrastructure in tourism (Xue et al., 2023; Gong & Chen, 2023; Purnomo et al., 2024).

In addition, high-traffic accidents can raise concerns regarding travel safety, especially for tourists who choose to explore the destination by private vehicle or public transportation. Research by (Lee et al., 2021) shows that low traffic accident rates positively correlate with traveler satisfaction and create a more positive perception of the destination. Low traffic accident rates can give tourists confidence that the destination has a safe and orderly transportation system. In line with this, a study by Yadewani et al. (2024) highlights how effective government policies can enhance the perception of safety and the overall satisfaction of tourists. Meanwhile, Wang et al. (2023) discuss the broader implications of air pollution disclosure on tourist behavior.

This study will examine the influence of the aforementioned factors on tourist visits to ASEAN-6 countries (Indonesia, Thailand, Singapore, Malaysia, Vietnam, and the Philippines), which has not been done before. With a deeper understanding of these factors, governments and tourism stakeholders in the six countries can take more appropriate actions to increase the number of tourist arrivals and promote a sustainable tourism industry. Those six countries were chosen because of their high number of tourists comparing the ASEAN countries and their good economic stability.

RESEARCH METHOD

Panel data combines elements of time series and cross-section data. Panel data analysis allows the exploration of inter-temporal and inter-individual characteristics in various variables. The panel data method is an approach used to conduct empirical studies with a focus on data dynamics. The advantages of using panel data include integrating information from cross-section data and time series data (Gujarati & Porter, 2012; Wooldridge, 2015).

The research method applied in this study is regression analysis, which explores the factors influencing tourist arrivals in ASEAN-6 countries (Indonesia, Thailand, Singapore, Malaysia, Vietnam, and the Philippines) from 2004-2020. Data on tourist arrivals and independent variables, such as exchange rate (REX), political stability (POL), inflation (INF), airport availability (AP), and traffic accident rate (TRAF), were collected from the World Bank. The dependent variable in this study is the number of tourist arrivals to each country. In contrast, the independent variables involve economic, environmental, and health indicators.

$$Y\,it = \alpha + \beta_1 X_1 it + \beta_2 X_2 it + \beta_3 X_3 it + \beta_4 X_4 it + \beta_5 X_5 it + e$$

Description:
Y = Number of tourist visits
α = Constant
β (1...5) = Regression coefficient on each independent variable
$X1_=$ Exchange rate (REX)
x_2 = Political stability (POL)
x_3 = Inflation (INF)
x_4 = Airport availability (AP)
x_5 = Traffic accident rate (TRAF)
i = Country
t = Time
e = Error term

According to Gujarati and Porter (2012), several testing steps need to be performed in choosing the most appropriate model between Fixed Effect, Common Effect, and Random Effect to be applied in research using panel data regression analysis. This process involves the Chow test and the Hausman Test. The Chow test plays a role in determining the most optimal model, be it the Fixed Effect or Random Effect model, to estimate research using panel data regression analysis. On the other hand, the Hausman Test is a statistical test integrated into panel data regression, serving to choose between the use of Fixed Effect or Random Effect in studies that use analysis methods to estimate panel data regression.

RESULTS AND DISCUSSION

Table 1 shows three models: the Common Effect Model, the Fixed Effect Model, and the Random Effect Model. The next step is to evaluate which model among the three is optimal for the panel data test. To determine this, a data specification test is carried out, which involves two tests, namely the Hausman test and the Chow test.

Table 1. Model Estimation Results

Variable	Model		
	Common Effect	Fixed Effect	Random Effect
C	15.26997	15.92528	14.86089
Standard Error	0.804834	0.606699	0.737961
Probability	0.0000	0.000	0.0000
REX	-0.010127	-0.003415	-0.006161
Standard Error	0.007798	0.006341	0.007179
Probability	0.1971	0.5917	0.3929
POL	0.218377	0.272599	0.225069
Standard Error	0.081316	0.072325	0.077116

Variable	Model		
	Common Effect	Fixed Effect	Random Effect
Probability	0.0085	0.0003	0.0044
INF	0.008476	-0.011135	0.006281
Standard Error	0.002632	0.004943	0.002302
Probability	0.0017	0.0270	0.0076
AP	-0.032352	-0.026087	-0.030408
Standard Error	0.009494	0.008283	0.008961
Probability	0.0010	0.0023	0.0010
TRAF	0.172836	0.245684	0.192386
Standard Error	0.048496	0.040798	0.044738
Probability	0.0006	0.0000	0.0000
R^2	0.286075	0.677948	0.250315
F-Statistic	7.693571	8.019387	6.410770
Prob (F-Stat)	0.000004	0.000000	0.000035
Durbin-Watson stat	0.281924	0.087698	0.438711

Table 2. Chow Test

Effects Test	Statistic	d.f.	Prob.
Period F	6.489517	(16,80)	0.0000

Table 2 shows an F probability of 0.0000, lower than the alpha value. Therefore, $_{H0}$ is rejected, and $_{H1}$ is accepted, indicating that the most appropriate model based on these results is the fixed effect model. The next step is to conduct the Hausman test.

Table 3. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Period random	31.538844	5	0.0000

Table 3 shows that the significance value is 0.0000. Therefore, we reject $_{H0}$ and accept $_{H1}$, indicating that the fixed effect model is more optimal than the random effect model.

Table 4 T-test Results

Variable	Coefficient	t-Statistic	Prob.
REX	-0.003415	-0.538509	0.5917
POL	0.272599	3.769075	0.0003
INF	-0.011135	-2.252771	0.0270
AP	-0.026087	-3.149472	0.0023
LOG(TRAF)	0.245684	6.022037	0.0000
C	15.92528	26.24908	0.0000

Table 4 shows that the probability value of the political stability variable is 0.0003, the inflation variable is 0.0270, the airport availability variable is 0.0023, and the traffic accident rate is 0.0000, indicating that these variables influence the number of tourist visits.

Table 5. Heteroscedasticity test

Variable	Coefficient	t-Statistic	Prob.
REX	-0.022255	-1.060191	0.2922
POL	-0.228638	-1.074793	0.2857
INF	0.011183	0.687999	0.4934
AP	-0.145106	-5.800821	0.0000
LOG(TRAF)	0.409338	3.292856	0.0015
C	-3.263306	-1.454366	0.1498

Table 5 shows that all variables do not have heteroscedasticity problems because the value of each variable is higher than alpha.

Table 6. Multicollinearity test

	TOUR	REX	POL	INF	AP	TRAF
TOUR	1.000	0.038	0.155	0.184	-0.23	-0.045
REX	0.038	1.000	0.134	0.521	-0.123	-0.221
POL	0.155	0.134	1.000	0.096	-0.472	-0.243
INF	0.184	0.521	0.096	1.000	0.176	0.141
AP	-0.234	-0.123	-0.472	0.176	1.000	0.827
TRAF	-0.045	-0.221	-0.243	0.141	0.827	1.000

Table 6 shows that the independent variables are below 0.85, indicating that the data in this study does not occur in multicollinearity. The political stability variable significantly affects the number of tourist visits, as indicated by a probability value of 0.0003. This finding aligns with the expectation that stable political environments attract more tourists. Political stability can enhance the perception of safety and security, which are critical for tourists when choosing a destination. The positive coefficient (0.272599) suggests that a 1% increase in political stability could lead to a 0.272% increase in tourist visits. This result supports the notion that countries aiming to boost tourism should strive to maintain or improve political stability.

The inflation variable significantly negatively affects the number of tourist visits, with a probability value of 0.0270. This finding is consistent with economic theory and previous research by Gong and Chen (2023) and Xue et al. (2023), which indicate that higher inflation reduces the purchasing power of tourists, making a destination more expensive and less attractive. A 1% increase in inflation is associated with a -0.011135 decrease in tourist visits. Policymakers should be aware of the adverse effects of inflation on tourism and consider measures to control inflation to sustain tourism growth.

With every increase in airport availability (AP) by 1%, there is a decrease of -0.026087 in the number of tourist visits. This phenomenon may occur due to the tight inspection carried out by a country, so tourists choose to postpone their trip or select another country's destination. This result contrasts with research conducted by Haini et al. (2023), which suggested that improved airport availability typically enhances tourist arrivals. One potential explanation for this discrepancy could be the implementation of stringent security and customs procedures, which, while intended to ensure safety, might inadvertently create an unwelcoming environment for travellers. Long waiting times, extensive security checks, and complex procedures can deter tourists, making them opt for destinations with more efficient and user-friendly airport experiences. This highlights the importance of balancing security measures with convenience to attract and retain tourists.

The level of traffic accidents (TRAF) significantly affects the number of tourist visits. This shows that if there is an increase in the number of traffic accidents by 1%, there will be an increase in the number of tourist visits by 0.245684. This result is not in line with research conducted by Lee et al. (2021), which generally found a negative correlation between traffic accidents and tourism. However, the positive relationship observed in this study could be indicative of several contextual factors. For instance, higher traffic accident rates might correlate with larger urban areas, regions with high traffic volumes, and major tourist hubs. In these locations, tourists might rely more on public transportation, taxis, or ride-sharing services, which can be perceived as safer and more convenient. This result suggests that despite the risks, the overall appeal of a destination with robust public transport and numerous attractions can outweigh the perceived dangers, leading to increased tourist visits. Moreover, it underscores the need for improved traffic management and safety measures to further enhance the tourist experience. Meanwhile, Wang et al. (2023) discuss the broader implications of air pollution disclosure on tourist behavior.

CONCLUSION

Based on the regression analysis results, it can be concluded that political stability variables affect the number of tourist visits. Inflation significantly affects the number of tourist visits, indicating

that an increase in inflation reduces the number of tourist visits. Airport availability has a negative influence on the number of tourist visits. This phenomenon may occur due to the tight inspection carried out by a country, so tourists choose to postpone their trip or select another country's destination. The level of traffic accidents significantly influences the number of tourist visits. The phenomenon in this study shows that tourists prefer public transportation for convenience. These externalities in term of tourism, have affected the number of tourist in ASEAN-6 countries. We can see that people tend to find the place with the least inconvenience, so they can have a good time while venturing in the destination country. Therefore, this research has a high standing position in prevailing those effects and helping the government to realize the needs of tourists especially for some countries which dependent on their tourism to get national income. Policy suggestions that can be considered to improve the tourism sector in ASEAN-6 countries are encouraging regional cooperation among ASEAN-6 countries, which can increase collaboration and promote joint tourism destinations, creating attractive cross-border travel packages. Nevertheless, the government should consider the stability of their own country to attract more tourists as well as preparing all necessities for tourists in term of public facilities to make them easier in accessing all attractions in the country. However, this research has not consider the possibility of another externality such as the spread of pandemic, the condition of the saturation, and other externalities regarding health and environmental cases. Thus, the future research can add some variables in those terms to enhance the possible policy recommendation to improve the tourism sector.

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AUTHOR CONTRIBUTIONS

Conceptualisation, W.M., and D.S.D.; Methodology, W.M. and D.S.D.; Investigation, W.M. and D.S.D.; Analysis, W.M., D.S.D., and F.P.P; Original draft preparation, W.M., and D.S.D.; Review and editing, W.M., D.S.D., and F.P.P; Visualization, W.M. All authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

The author(s) declare no conflict of interest.

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