Geojournal of Tourism and Geosites
ISSN 2065-0817, E-ISSN 2065-1198

Year XIX, vol. 65, no. 2, 2026, p.1039-1048
DOI 10.30892/gtg.65238-1743

# THE MACRO-LEVEL DETERMINANTS OF INBOUND CROSS-BORDER TOURISM IN YUNNAN: AN INVESTIGATION OF THE CHINA-MYANMAR BORDER REGION

**Jie YU [1], Hock Eam LIM [2*], Shamsul Bahrain B RAWI [2]**

[1] Universiti Utara Malaysia, School of Economics, Finance and Banking, College of Business, Sintok, Kedah, Malaysia; Yunnan Minzu University, International School, Chenggong District, Kunming, P.R. China; diana198754@163.com (J.Y.)
[2] Universiti Utara Malaysia, School of Economics, Finance and Banking, College of Business, Sintok, Kedah, Malaysia; lheam@uum.edu.my (H.E.L.); shamsul@uum.edu.my (S.B.B.R.)

**Citation:** Yu, J., Lim, H.E., & Rawi, S.B.B. (2026). The macro-level determinants of inbound cross-border tourism in Yunnan: An investigation of the China-Myanmar border region. *Geojournal of Tourism and Geosites*, 65(2), 1039–1048. https://doi.org/10.30892/gtg.65238-1743

**Abstract:** Inbound cross-border tourism between Myanmar and Yunnan, China, has expanded steadily over the past two decades and has become an increasingly important driver of regional economic interaction and people-to-people exchange. Despite this growth, empirical research examining the determinants of cross-border tourism demand in the China–Myanmar border region remains limited. This study aims to investigate the key macro-level factors that determine changes in inbound cross-border tourist arrivals from Myanmar to China, with particular emphasis on Burmese one-day visitors (excursionists). The study adopts a quantitative approach by integrating the push–pull framework with the gravity model to analyze cross-border tourism demand. A time series of secondary data was collected from multiple official online databases and analyzed using descriptive statistics and OLS regression techniques. The empirical findings indicate that real GDP in both the source country (Myanmar) and the destination region (Dehong, Yunnan) significantly influences cross-border visitor arrivals, suggesting that economic growth on both sides of the border plays a critical role in stimulating tourism flows. However, the results also reveal that destination infrastructure-related variables, particularly traffic road density, exert a negative effect on Burmese excursionist arrivals. This finding suggests the existence of a "crowding out effect", whereby infrastructure improvements may increasingly favor long-stay tourists at the expense of short-term cross-border visitors. The study contributes to the literature on cross-border tourism demand by providing empirical evidence from an underexplored border region and offers policy implications for enhancing regional tourism cooperation, border connectivity, and tourism-led economic development between Myanmar and China.

**Keywords:** cross-border tourism, inbound cross-border tourism, determinants of tourism, China-Myanmar region, tourism policy implications

* * * * * *

## INTRODUCTION

Cross-border tourism occurs between neighbouring countries when tourists cross national borders to engage in tourist activities within border areas designated as destinations (Park et al., 2019; Zong et al., 2020; Wang & Su, 2022; Maldonado-López et al., 2024; Pazari et al., 2025). As a significant form of international tourism, cross-border tourism plays a vital role in promoting regional socioeconomic development, stimulating border economies, and mitigating disparities between core and peripheral regions during periods of national economic growth (Timothy & Gelbman, 2023; Zhang et al., 2025).

Furthermore, thriving cross-border tourism enhances the attractiveness and popularity of tourist destinations. Cross-border tourism began to gain traction in the 1990s, primarily driven by trade demands and predominantly occurring among developed nations in Europe and North America (Tian et al., 2018). However, since the onset of the 21st century, border tourism in Asia, particularly Southeast Asia, has experienced rapid expansion, gradually narrowing the gap with its Western counterparts (Wang & Su, 2022). Currently, China's cross-border tourism is advancing rapidly. Notably, since the proposal and implementation of the "Belt and Road" initiative (hereinafter referred to as BRI) in 2013, various border ports and routes for border tourism, including those connecting China-Russia, China-Myanmar, China-Laos, China-Vietnam, and China-Mongolia, have been actively promoted. Myanmar is one of the earliest countries to establish close communication with China. The border between Myanmar and China spans approximately 2,185 kilometres, with the majority (about 1,997 kilometres) located in Yunnan Province. Border tourism between China and Myanmar commenced in 1992.

Ruili City, situated in Dehong Prefecture, was among the first cities in China to develop this sector. The tourism market possesses a solid foundation for growth and benefits from national policies such as the Ruili (China)-Muse (Myanmar) one-day package tour and the Ruili (China)-Lashio (Myanmar) three-day package tour approved by the Chinese national government. These initiatives provide rich experiences that contribute to the development of China's border tourism

* Corresponding author

industry (Ren & Fan, 2018). However, it is important to note that the Myanmar-China border represents an unstable and geopolitically sensitive region. The border checkpoints between China and Myanmar only accept an issued Cross-border Tourist Exit-Entry Permit (Border pass), which is required for individual visitors from both nations (Su & Li, 2021).

With this background, the present study examines the evolution of cross-border tourism flows from Myanmar to China. Subsequently, by integrating the push-pull framework with the gravity model, this research further analyses key macro-level factors that influence variations in cross-border tourism arrivals from Myanmar to China. The push and pull theory provides valuable insights into the influencing factors from both origin and destination perspectives. The gravity model demonstrates its validity when assessing changes in any of the determinants within the equation (Huang et al., 2019; Huang et al., 2022). Therefore, this study addresses a notable gap in existing literature by investigating both push and pull factors, as well as their interconnections, within the realm of inbound cross-border tourism, an area that prior researchers have not comprehensively documented. This paper is structured as follows: Section 2 discusses the development of cross-border tourism in Yunnan Province. Section 3 reviews previous cross-border tourism studies and presents the theoretical framework. Section 4 describes the methodology of the study. Section 5 details the data collection and description, and Section 6 discusses the key empirical results of the study. The final section provides the key findings and conclusions.

**Cross-border Tourism in Yunnan**

Yunnan is a southwestern province of China that shares borders with Vietnam, Laos, and Myanmar, encompassing a total border length of 4,061 kilometres. It is connected to Thailand and Cambodia through the Lancang-Mekong River and is adjacent to South Asian countries such as Bangladesh and India. Yunnan serves as a vital bridge connecting the Pacific Ocean to the Indian Ocean overland while facilitating connections among three major markets: South Asia, East Asia, and Southeast Asia. In recent years, with the continued implementation of the BRI, along with the establishment of cooperative mechanisms such as the Bangladesh-China-India-Myanmar Economic Corridor and the Lancang-Mekong Cultural Cooperation framework, as well as enhancements to the China-ASEAN Free Trade Area and initiatives for an Asia-Pacific Free Trade Area, Yunnan Province has effectively leveraged its unique geographical advantages.

This strategic positioning has accelerated organic linkages with neighbouring countries. Consequently, Yunnan has emerged as China's radiation centre for South Asia and Southeast Asia. Therefore, Yunnan possesses distinct geographical advantages for the development of cross-border tourism. The border region encompasses 25 counties and 110 towns across eight cities and prefectures. Due to these unique geographical advantages, cross-border tourism plays a significant role in the local economy and social development. Modern cross-border tourism in Yunnan Province began in 1991, when the government sanctioned one-day outbound tours from Ruili City in Dehong Prefecture. By 1992, the number of one-day tour visitors had already reached 150,000 (Yu, 2011).

From 1994 to 2010, cross-border tourism in Yunnan Province underwent phases characterized by market adaptation, rapid growth, and stable transition. Between 1992 and 2004, the number of inbound tourists remained relatively stable with minimal fluctuations; however, since 2005, there has been a notable increase in the number of inbound tourists visiting the province (Li & Ming, 2018; Ren & Fan, 2018).

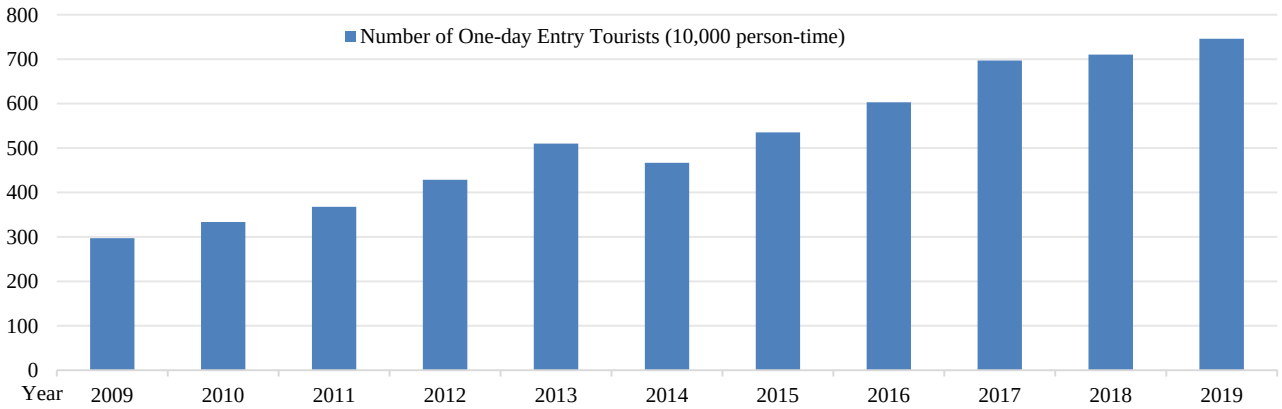


Figure 1. The Number of One-day Entry Tourists in Yunnan from 2009 to 2019 (10,000 person-time)
(Source: Yunnan Statistical Yearbook (2010-2020)

According to the Bureau of Statistics of Yunnan, there has been a notable upward trend in inbound cross-border tourism in Yunnan from 2009 to 2019 (as illustrated in Figure 1). The number of one-day entry tourists increased significantly from 2.97 million in 2009 to 7.46 million in 2019. This study specifically examines the number of one-day entry tourist arrivals, as it serves as a distinctive indicator for assessing the vitality of border tourism.

Unlike other metrics, such as overall inbound tourist volume (Timothy, 2001; Chow & Tsui, 2019; Timothy & Gelbman, 2023), that indicator is relevant for any other destination, rather than for certain regions.

Additionally, foreign exchange earnings generated by one-day entry visitors, another crucial metric for evaluating tourism development, also experienced consistent annual growth, rising from USD 172 million in 2009 to USD 607 million in 2019. These two indicators collectively demonstrate that cross-border tourism in Yunnan is progressing steadily. Although the COVID-19 pandemic had a profound impact on the tourism industry between 2020 and 2022, signs indicate

that cross-border tourism is gradually recovering in late 2023. For instance, according to news reports from China Daily (2024), inbound travel orders surged by an impressive 60 percent during the Chinese National Day holiday, a week-long celebration. Furthermore, inbound cross-border tourism exhibited faster growth compared to outbound tourism, with order volumes increasing by year-on-year rates of approximately 60 percent (China Daily, 2024).

## LITERATURE REVIEW AND THEORETICAL FRAMEWORK

The crossing of national borders characterizes cross-border tourism and is inherently linked to international tourism; therefore, it can be considered a subset of border tourism (Tian et al., 2018; Clark et al., 2025). Specifically, cross-border tourism refers to a leisure activity that transcends national boundaries, with a particular focus on border regions as primary destinations (Maldonado-López et al., 2024). It has become an integral component of the modern international tourism industry. With the rapid development of cross-border tourism, both domestic and international research literature on this topic in China has steadily grown. Existing literature has examined cross-border tourism from multiple perspectives, including its conceptual foundations, demand-supply dynamics, key influencing factors, destination management strategies, and regional cooperation mechanisms (Timothy, 2001; Chow & Tsui, 2019; Huang et al., 2022; Maldonado-López et al., 2024; Clark et al., 2025). For instance, Timothy (2001), Li & Ming (2018), Zong et al. (2020), and Timothy & Gelbman (2023) examined cross-border tourism from multiple definitional perspectives and highlighted the absence of a unified conceptual consensus, noting that the understanding of this term continues to evolve through emerging scholarship. In the present study, particular attention is given to one-day inbound visitors (excursionists), as they represent a critical yet underutilized indicator for assessing the vitality and functional intensity of border tourism.

Focusing on this group helps address a notable gap in the literature, where excursionists are seldom treated as a distinct analytical category despite their importance in border-region mobility and economic activity.

Recent studies have expanded the scope of cross-border tourism research to encompass emerging themes, including environmental sustainability, digital transformation, and health security, reflecting the growing complexity of cross-border mobility (Wang & Su, 2022). For example, Clark et al. (2025) employed a grounded theory approach to examine how cross-border tourism fosters opportunities for binational collaboration in building a peaceful environment through natural resource management in the Texas-Mexico border region. Studies by Zhang et al. (2025) have shown that digital finance enhances cross-border tourism experiences by supporting the development of digital infrastructure and improving the efficiency of information exchange. Meanwhile, Zhetiru et al. (2025) emphasized the critical role of health and safety in shaping tourism experiences and destination competitiveness, especially in the post-pandemic context, where travellers exhibit heightened sensitivity to health-related risks.

In China, since 2013, academic attention to cross-border tourism has increased markedly, with studies examining development trends, economic and social roles, existing constraints, and potential pathways for improvement. For instance, Wang & Su (2022) conducted a comprehensive review of the overall development trends and research trajectories in cross-border tourism from 1995 to 2022 and observed that the research perspective has evolved from a single-dimensional approach to a more diversified and multifaceted framework. Gao et al. (2022), from the tourism policy aspect, suggested that although challenges persist concerning the balance between openness and security at borders, cross-border tourism has consistently contributed to the advancement of national opening-up policies. Lyu (2024) highlighted that cross-border tourism and e-commerce exhibit a mutually reinforcing relationship. Multiple factors shape the demand for cross-border tourism. From a macroeconomic perspective, GDP, exchange rates, and relative prices are the primary determinants influencing tourism demand (Song et al., 2023). Regional economic development, typically measured by per capita GDP or GNP, plays a central role in driving outbound and inbound flows. A study on the China-Russia border found that real GDP in both the origin and destination positively influences Russian arrivals (Chow & Tsui, 2019). By analysing panel data from 110 countries, Huang et al. (2022) similarly showed that higher per capita GDP strengthens growth in arrivals to China and increases visitor spending. Another significant factor affecting cross-border tourism demand is the exchange rate. Go & NG (2022) demonstrated that real exchange rate fluctuations affect tourist flows asymmetrically across source countries. Relative prices are closely tied to exchange rate movements, which shape the cost of accommodation, food, and transport, thereby impacting travel expenses and destination attractiveness (Go & Ng, 2022).

From a microeconomic perspective, the most important individual-level factors influencing cross-border tourism include income, age, price or travel cost, and previous visits (first-time or repeat visits) (Apostolakis & Jaffry, 2009; Song et al., 2023). Among these, income is widely regarded as a predominant determinant of tourism demand (Tian et al., 2018; Song et al., 2023; Lyu, 2024). An empirical study by Lyn (2024) showed that household income is one of the critical economic factors for supporting tourism expenditure. Furthermore, Zhetiru et al. (2025) further confirmed that an increase in disposable income within tourist destinations often directly stimulates tourism consumption demand and leads to higher tourism expenditure.

In short, there are extensive empirical studies in cross-border tourism. However, the scientific literature on cross-border tourism remains limited for underdeveloped countries or regions, compared with regions where cross-border tourism systems are well-established, such as the European Union and the United States (Tian et al., 2018; Zong et al., 2020). Against this backdrop, this study contributes to the literature by advancing empirical understanding of cross-border tourism in underdeveloped border regions, particularly the China-Myanmar corridor.

The study aims to identify the key macro-level determinants driving changes in cross-border tourist arrivals from Myanmar to China and to develop an origin-destination analytical framework for understanding cross-border mobility. Consequently, the analysis incorporates push-pull theory to enable a systematic and empirically grounded assessment of China-Myanmar cross-border tourism. The number of one-day entry arrivals (or excursionists) serves as the core

independent variable. In accordance with the definition provided by the World Tourism Organization (UNWTO), the term "excursionist" refers to visitors whose stay lasts less than 24 hours. Therefore, the terms "one-day visitor" and "excursionist" are used interchangeably throughout this paper. The theoretical framework is as follows:

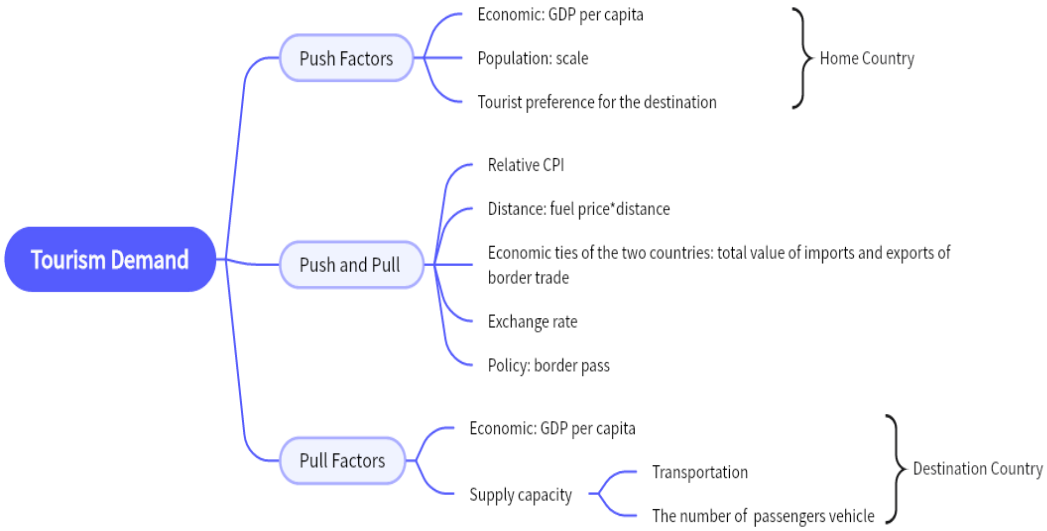


Figure 2. The Established Theoretical Framework of the Study (Source: Based on the Push and Pull theory, the author's design)

## MATERIALS AND METHODS

This study employs the push-pull theory and a modified gravity model to empirically analyse the key factors that determine inbound cross-border tourism demand between China and Myanmar at the macro level. The scale of cross-border travel from a macro perspective is measured using the number of one-day entry visitors (excursionists). According to the definition provided by the United Nations World Tourism Organization (UNWTO, 2024), Myanmar excursionists to China are defined as temporary visitors who stay in China for less than 24 hours. There are two principal reasons for selecting the number of excursionists as the independent variable. Firstly, the volume of excursionists substantially surpasses that of overnight international tourists, making it a pivotal factor in evaluating their influence on border development and fostering the sustainable growth of border regions. Secondly, the number of excursionists serves as a unique indicator of cross-border tourism, effectively reflecting the vibrancy of border tourism.

Based on the theoretical framework established, a modified gravity model is adopted in the study as a valid tool to examine the effects of factors derived from tourism (Morley et al., 2014). The gravity model adopts a log-linear form to stabilize variance and render variables more compatible with linear regression techniques, thereby enhancing the interpretability of the results. The specification of the modified gravity model by Morley et al. (2014), Huang et al. (2019), and Chow & Tsui (2019) is employed to examine Burmese excursionists visiting China, as formulated in Equation (1).

$$\ln(N_{ijt}) = \alpha + \beta_1 \ln(Y_{it}) + \beta_2 \ln(P_{it}) + \beta_3 \ln(Pref_{it}) + \beta_4 \ln(Y_{jt}) + \beta_5 \ln(Transp_{jt}) + \beta_6 \ln(Vechicle_{jt}) + \beta_7 \ln(CPI_{ijt}) + \beta_8 \ln(Trade_{ijt}) + \beta_9 \ln(ER_{ijt}) + \beta_{10} \ln(D_{ij}) + \beta_{11}(BorderPass_{ij}) + \omega_t$$

Where "ln" denotes logarithmic form, $\alpha$ denotes the constant term, and $\omega_t$ denotes the random error term. $N_{ijt}$ is the natural logarithm of the number of excursionists from source country $i$ (Myanmar) to destination $j$ (Dehong) in year $t$. $Y_{it}$ and $Y_{jt}$ are the real gross domestic product (GDP) per capita in Myanmar and Dehong, respectively. $P_{it}$ is the population of Myanmar in year $t$. $Vehicle_{jt}$ is the number of passenger vehicles at Dehong in year $t$. The reason is that the present study focuses on one-day entry travel in border areas; it uses the number of passenger vehicles instead of the number of hotels to measure a specific aspect of supply capability. $Trade_{ijt}$ is the total value of import and export from Myanmar to China, which is a proxy of the economic ties of the two countries in year $t$. As the greater the total import and export value from trade increases, the stronger the economic ties between the two countries (Aradhyula & Tronstad, 2003).

It should be mentioned that this study introduces the factor of the source country's willingness to travel to a certain destination (Dehong), which can clarify the source area's travel orientation, namely the tourists' preference for the destination. The tourists' preference for the destination reflects the ability of different destinations to attract tourists and win the tourism market share (Sun et al., 2017), therefore, a higher ratio means more market share (Song & Wang, 2022). The calculation formula of the tourists' preference for destinations is:

$$Pref_{it} = \frac{M_i/M_1}{C_i/C_1} \quad (2)$$

Where $Pref_{it}$ is the tourists' preference of the destination; $M_i$ is the number of Myanmar visitors in Yunnan; $M_1$ is the total number of foreign visitors in Yunnan; $C_i$ is the number of Burmese visitors in China; $C_1$ is the total number of foreign visitors in China. The road density of the destination represents the variable of transportation accessibility. The calculation formula adapted from Li (2006) and Chow & Tsui (2019) are used:

$$[\![Transp]\!]\_jt = R\_jt \,/\, R\_1t \quad (3)$$

Where $Transp_{jt}$ is traffic road density of the destination, $R_{jt}$ is the total length of road in Dehong, and $R_{1t}$ is the total length of road in Yunnan Province, during the period t. The $CPI_{ijt}$ is the relative value of the consumption level of Dehong to Myanmar. The calculation formula of Chow & Tsui (2019) is utilized:

$$〖CPI〗\_ijt = 〖CPI〗\_it \,/\, 〖CPI〗\_jt \quad (4)$$

Where $CPI_{ijt}$ is the relative CPI of two countries, $CPI_{jt}$ is the consumer price index of China, and $CPI_{it}$ is the consumer price index of Myanmar in year *t*. The exchange rate $ER_{ijt}$ is the amount of one unit of Myanmar currency converted into Chinese currency. The calculation formula adapted from Chow & Tsui (2019) is applied:

$$ER_{ijt} = {ER_{China,t}}/{ER_{it}} \quad (5)$$

Where $ER_{China,t}$ is the amount of one unit of Chinese currency converted into one unit of US dollar in year t; $ER_{it}$ is the amount of one unit of Myanmar currency converted into one unit of US dollar in year *t*.

The distance variable is a proxy for transport costs for the Burmese to the border destination (Dehong). Due to the fixed geographic distance, the study involves the gasoline price index. The calculation formula of Chow & Tsui (2019) is used:

$$D_{ij} = d_{ij} * p_t \quad (6)$$

Where $D_{ij}$ is the distance between country i and destination j; $d_{ij}$ is the geographic distance between the capital city (Yangon) of Myanmar and the capital city (Mang City) of Dehong Prefecture; $p_t$ is the annual gasoline price in year *t*.

For the political factor variables, the gravity model includes a dummy variable for the border pass between Myanmar and China. If there is no policy to support a one-day trip in the border region, it takes a value of 0 for the period between 2005 and 2013 and a value of 1 otherwise. The independent variables are categorized into three aspects: (1) pull factors of the destination include the level of regional economic development (GDP per capita of Dehong) and the tourism supply capacity of Dehong (traffic road density and quantity of passenger vehicles); (2) push factors of the source country include the population of Myanmar, the level of economic development (GDP per capita of Myanmar) and visitors' preference for the destination; (3) Mutual pull and push factors consist of the distance between the source country and the destination, economic ties of two countries, exchange rates, and the openness level of border pass policies.

**Data Description**

The empirical study employs a time series of secondary data collected from online databases. It considers annual observations from 2000 to 2019, which involves 20 years of data. Due to the impact of the COVID-19 pandemic, the tourism industry faced significant disruptions, resulting in missing data on international tourism for 2020-2022. The econometric estimation of the study is conducted by utilizing the statistical software Stata 17.0. The descriptive statistics of the relevant variables are shown in Table 1.

Table 1. Descriptive statistics of the original variables

| Variables | Definitions | Mean | Std. dev | Min. | Max. | Data Source |
|---|---|---|---|---|---|---|
| $N_{ijt}$ | The number of excursionists from country i (Myanmar) to destination j (Dehong) in year t (in 10000 person-time) | 153,460 | 77,555 | 75,000 | 303,310 | Yunnan Statistical Yearbook |
| $Y_{it}$ | GDP per capita of Myanmar in year t (in US dollars) | 776,167 | 485,768 | 140,800 | 1415,300 | The World Bank |
| $Y_{jt}$ | GDP per capita of Dehong in year t (in US dollars） | 1909,31 | 1410,24 | 490,68 | 5258,65 | Yunnan Statistical Yearbook |
| $P_{it}$ | Population of Myanmar in year t | 49339740 | 2285362 | 45538300 | 53040200 | The World Bank |
| $Pref_{it}$ | Burmese visitors' preference of Yunnan province in year t | 5,975 | 2,860 | 0,760 | 10,850 | Yunnan Statistical Yearbook & Chinese Tourism Industry Data base & Authors' own calculation |
| $Transp_{jt}$ | The traffic road density of Dehong in year t (in percentage %) | 3,234 | 0,199 | 2,830 | 3,460 | Authors' own calculation |
| $Vehicle_{jt}$ | The number of passenger vehicles at Dehong in year t (in thousand) | 56,84 | 52,40 | 9,20 | 168,00 | Yunnan Statistical Yearbook |
| $D_{ijt}$ | The distance is a proxy by transport costs in year t (in US dollars) | 1030,49 | 404,42 | 419,92 | 1704,62 | U.S. Energy Information Administration & Authors' own calculation |
| $CPI_{ijt}$ | The relative CPI of two countries in year t (2010 = 100) | 0,834 | 0,357 | 0,185 | 1,345 | The World Bank |
| $Trade_{ijt}$ | Myanmar's total import and export trade in China in year t （in million US dollars） | 7124,23 | 7226,94 | 621,26 | 24968,93 | Yunnan Statistical Yearbook |
| $ER_{ijt}$ | Real exchange rate between Chinese Yuan and Myanmar Kyat in year t | 71,563 | 92,081 | 0,702 | 219,719 | The World Bank |
| Border pass | Dummy variable for the border pass policy. This takes a value of 1 if the border pass is open to visitors in year t and 0 otherwise | —— | —— | —— | —— | Authors' own calculation |

## EMPIRICAL RESULTS

In order to understand the relationships between variables, detect multicollinearity, and ensure model interpretability, the study measured correlations before running an ordinary least squares (OLS) regression analysis. The results of the correlation analysis are provided in Table 2. Pearson's correlation coefficient among the main variables exhibits strong statistically significant correlations at the 1% level between the dependent variable $\ln N_{ijt}$ and independent variables: $\ln Y_{it}$, $\ln P_{it}$, $\ln Pref_{it}$, $\ln Y_{jt}$, $\ln Vechicle_{jt}$, $\ln Trade_{ijt}$, $\ln ER_{ijt}$ and $\ln D_{ijt}$. There is a moderate correlation between $\ln N_{ijt}$ and $\ln CPI_{ijt}$with a coefficient of 0.628 at the 1% level, and a weak correlation between $\ln N_{ijt}$ and $\ln Transp_{jt}$ with a coefficient of 0.541 at the 5% level.

Table 2. Correlations of the variables (Excluding the dummy variable)
Note: ** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed)

| | $\ln N_{ijt}$ | $\ln Y_{it}$ | $\ln P_{it}$ | $\ln Pref_{it}$ | $\ln Y_{jt}$ | $\ln Transp_{jt}$ | $\ln Vehicle_{it}$ | $\ln CPI_{ijt}$ | $\ln Trade_{iit}$ | $\ln ER_{ijt}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| $\ln Y_{it}$ | .784** | | | | | | | | | |
| $\ln P_{it}$ | .854** | .930** | | | | | | | | |
| $\ln Pref_{it}$ | -.854** | -.583** | -.726** | | | | | | | |
| $\ln Y_{jt}$ | .883** | .952** | .989** | -.722** | | | | | | |
| $\ln Transp_{jt}$ | .541* | .914** | .801** | -0.356 | .824** | | | | | |
| $\ln Vehicle_{it}$ | .898** | .936** | .988** | -.739** | .997** | .798** | | | | |
| $\ln CPI_{ijt}$ | .628** | .923** | .917** | -.515* | .886** | .880** | .866** | | | |
| $\ln Trade_{ijt}$ | .844** | .950** | .969** | -.628** | .981** | .831** | .977** | .886** | | |
| $\ln ER_{ijt}$ | .877** | .750** | .860** | -.660** | .878** | .591** | .897** | .644** | .876** | |
| $\ln D_{ijt}$ | -.808** | -0.415 | -.613** | .802** | -.603** | -0.207 | -.641** | -0.351 | -.562** | -.714** |

When the first estimation of Equation (1) is performed, the result demonstrates that there is a strong multicollinearity problem of the variables, with a high $R^2$= 0.985 and few significant t ratios=0.000 but high variance-inflating factors (VIF) ranged from 5.645 to 2570.004. This outcome can primarily be attributed to two reasons. First, the issue of sample size, as this study utilized a limited dataset comprising only 20 observations. Given that secondary data collected by governmental or institutional sources was employed, the sample size was beyond the control of individual researchers. For example, there is a lack of accessible information regarding the monthly or quarterly number of excursionists from Myanmar. Second, multicollinearity represents a significant regression phenomenon commonly observed in time series data.

Therefore, to address the critical issue of data scarcity and enhance model accuracy, this study transformed logarithmic independent variables into a standardized format, thereby facilitating faster model convergence. Furthermore, guided by the push-pull theory, the independent variables were systematically categorized into three subgroups: (1) pull factors of the destination (Dehong) including GDP per capita of Dehong $\ln Y_{jt}$, traffic road density $\ln Transp_{jt}$ and the quantity of passenger vehicles $\ln Vechicle_{jt}$; (2) push factors of Myanmar including the population $\ln P_{it}$, GDP per capita of Myanmar $\ln Y_{it}$ and Burmese visitors' preference for Yunnan $\ln Pref_{it}$; (3) Pull and push mutual factors are distance between the capital city (Yangon) of Myanmar and the capital city (Mang City) of Dehong Prefecture $\ln D_{ijt}$, economic ties of two countries $\ln CPI_{ijt}$ and $\ln Trade_{ijt}$, exchange rate $\ln ER_{ijt}$, and the openness level of border pass policy $Borderpass$.

Before conducting the estimation of Equation (1), the study tested all variables of interest for the unit root. The unit root results are presented in Table 3. The Augmented Dickey-Fuller (ADF) Test results demonstrate that most of the variables are free from the problem of unit root, which means that these variables are stationary. An ADF test of variables: Pull $\ln factors$, $Std \ln D_{ijt}$, $Std \ln Transp_{jt}$ and $Std \ln Trade_{ijt}$ indicates they are non-stationary at the 5% significance level. However, after taking the first difference, the ADF test indicates that the first difference of the series is stationary.

Table 3. Augmented Dickey-Fuller (ADF) Test Results for Unit Roots
Note : *, **, and *** denote the estimates at 10%, 5%, and 1% significance levels, respectively

| Variables | *p*-value and trend | First differences |
|---|---|---|
| $\ln N_{ijt}$ | 0.012**(3) | - |
| Push $\ln factors$ | 0.001***(7) | - |
| Pull $\ln factors$ | 0.611(3) | 0.096*(3) |
| Mix $\ln factors$ | 0.022**(6) | - |
| $Std \ln Pref_{it}$ | 0.616(3) | 0.145(1) |
| $Std \ln D_{ijt}$ | 0.545(3) | 0.062*(3) |
| $Std \ln Y_{it}$ | 0.018**(7) | - |
| $Std \ln P_{it}$ | 0.005***(1) | - |
| $Std \ln Y_{jt}$ | 0.160(1) | 0.364(2) |
| $Std \ln Transp_{jt}$ | 0.968(1) | 0.011**(6) |
| $Std \ln Vehicle_{jt}$ | 0.011**(1) | - |
| $Std \ln CPI_{ijt}$ | 0.009***(1) | - |
| $Std \ln Trade_{ijt}$ | 0.308(4) | 0.017**(1) |
| $Std \ln ER_{ijt}$ | 0.552(1) | 0.223(1) |

Furthermore, the study conducts OLS regressions to estimate Equation (1) using sub-grouped models (as presented in Table 4). It is worth noting that the study tests the pairwise correlation between multiple variables when grouping variables into pull factors, push factors, and mixed factors. The output shows that the variables of $Std\ln Pref_{it}$ and $Std\ln D_{ijt}$ have a negative tendency to other variables in group. Thus, these two variables were taken out of the grouped factors for regression. Owing to optimizing the estimated Equation (1), the study tested grouping variables into 5 models. Model 1 tested the grouped logarithmic push factors, pull factors, mixed factors and taken out standardized logarithmic variables: $Std\ln Pref_{it}$ and $Std\ln D_{ijt}$. Result in the column 1 show that the variable of $\ln Pref_{it}$ is negative and statistically significant at the 5% significance level. Model 2 tested 3 standardized logarithmic push factors from home country: $Std\ln Pref_{it}$ , $Std\ln Y_{it}$ and $Std\ln P_{it}$, and output in the column 2 indicated the same result as Model 1. Model 3 tested 3 standardized logarithmic pull factors from the destination: $Std\ln Y_{jt}$, $Std\ln Transp_{jt}$, and $Std\ln Vechicle_{jt}$. The output indicated that the variable of $Std\ln Transp_{jt}$ is negative and statistically significant at the 5% significance level. Model 4 tested 5 standardized logarithmic mutual factors: $Borderpass$ , $Std\ln D_{ijt}$, $Std\ln CPI_{ijt}$, $Std\ln Trade_{ijt}$ and $Std\ln ER_{ijt}$.

Table 4. OLS regressions by subgroups Note : 1. The dependent variable is the logarithm of the number of excursionists from Myanmar to Dehong; 2. *, **, and *** denote the estimates at 10%, 5%, and 1% significance levels, respectively

| Dependent variable =$\mathbf{\ln(N_{ijt})}$ | | | | | |
|---|---|---|---|---|---|
| | **Model 1** | **Model 2** | **Model 3** | **Model 4** | **Model 5** |
| Independent variables | coefficients | coefficients | coefficients | coefficients | coefficients |
| Constant | 4.781*** | 4.922*** | 4.922*** | 5.139*** | 4.922 *** |
| Push $\ln factors$ | 0.594 | | | | |
| Pull $\ln factors$ | -0.190 | | | | |
| Mix $\ln factors$ | -0.111 | | | | 0.080 |
| $Std\ln Pref_{it}$ | -0.116** | -0.263** | | | -0.070 |
| $Std\ln D_{it}$ | -0.042 | | | -0.373 *** | -0.149** |
| Border pass | 0.256 | | | -0.394 * | |
| $Std\ln Y_{it}$ | | 0.144 | | | 0.311** |
| $Std\ln P_{it}$ | | 0.082 | | | -0.593*** |
| $Std\ln Y_{jt}$ | | | 0.162 | | 0.700*** |
| $Std\ln Transp_{jt}$ | | | -0.243** | | -0.245 *** |
| $Std\ln Vehicle_{jt}$ | | | 0.460 | | |
| $Std\ln CPI_{ijt}$ | | | | -0.303 | |
| $Std\ln Trade_{ijt}$ | | | | 0.488** | |
| $Std\ln ER_{ijt}$ | | | | -0.010 | |
| $R^2$ | 0.915 | 0.855 | 0.892 | 0.917 | 0.976 |
| VIF (min-mix) | 5.03-108.51 | 2.43-11.87 | 4.43-275.31 | 6.23-20.34 | 4.45-99.23 |
| Observations | 20 | 20 | 20 | 20 | 20 |

Eventually, a modified model was selected as Model 5, with a high $R^2$= 0.976 and few significant t ratios=0.000, and a relatively low variance-inflating factor (VIF) ranged from 4.45 to 99.23. The result of Model 5 indicates that the effects of the mutual (mixed) factors and tourists' preference for Yunnan are not significant for inbound cross-border tourism in the China-Myanmar border region. In contrast, the GDP per capita of both Myanmar and Dehong has a significantly positive effect on inbound cross-border tourism in Yunnan. The coefficient estimates of $Std\ln Y_{it}$indicate that, on average, a one percent increase in the real GDP per capita of Myanmar (in standardized value) will cause a 0.311% increase in Burmese excursionists, ceteris paribus. Compared to the coefficient estimates of $Std\ln Y_{jt}$, it shows that on average, the real GDP per capita of Dehong increases by one percent, leading to a 0.7% increase in Burmese excursionists, ceteris paribus. Therefore, the effect of Dehong's economic development on Burmese one-day arrivals is obviously more important than that of Burmese economic development.

It is somewhat surprising to observe a significant negative coefficient estimate of traffic road density of Dehong ($Std\ln Transp_{jt}$) that is reported in Model 5. Quantitatively, on average, the road density (in standardized value) increases by one percent, and the number of excursionists from Myanmar (in standardized value) will reduce by 0.245%, ceteris paribus. This represents an inelastic effect of road density on the number of excursionists. This finding implies that road accessibility not only improves the whole tourism industry but also hinders cross-border tourism significantly. This could be due to the "crowding out effect" between the day trippers and tourists (more than one day visit). This is reasonable because the better road accessibility, the less time will be spent travelling to the destination. Instead of a day trip, people tend to stay longer at their destination and go to more distant county towns or tourist attractions.

Referring to the gravity method, the variable of distance ($Std\ln D_{ijt}$) is reported with the negative and statistically significant coefficient estimates in Model 5 as expected. This empirical result suggests that on average, a 1% increase in the standardized value of travel cost will reduce 0.149% of Burmese excursionists to Dehong. This finding supports the distance decay theory confirmed by (Hsu et al., 2009; Chow & Tsui, 2019; Huang et al., 2019; Tan et al., 2023). Generally, the distance between the source and destination strongly reflects transport costs and travel time. Therefore, Burmese day-trip visitors tend to favour Chinese border cities near the border.

It is worth mentioning that the variable of $Std \ln P_{it}$ is reported to be a negative and statistically significant coefficient estimate at the 1% significance level in Model 5. This coefficient estimate suggests that, on average, the population of Myanmar (in standardized value) increases by one percent, and the number of excursionists from Myanmar will decrease by 0.593%. This result is unlike previous empirical studies by Huang et al. (2019), Chow & Tsui (2019), and Morley et al. (2014), which indicate that the population growth of the home country and tourist arrivals are positively correlated.

The main reason for the negative relationship between population size and one-day visitors is likely attributable to the significant variation in Myanmar's population distribution across its states. Owing to geographical constraints, Myanmar exhibits a high population density in its central regions, whereas the eastern and western regions, which border China, have relatively low population densities (Li et al., 2023).

Additionally, regional conflicts have exerted a substantial negative influence on population distribution, prompting population displacement from conflict-prone areas to safer regions (Li et al., 2023). Notably, Kachin State and Shan State, located along the China-Myanmar border, are frequent sites of regional conflicts. Furthermore, security challenges in the region, such as transnational telecom fraud, have severely hindered the development of cross-border tourism.

## DISCUSSION AND CONCLUSION

The literature on cross-border tourism of undeveloped countries or regions is relatively scarce (Zong et al., 2020), despite the international attention that has been drawn to this topic. This study systematically reviews and examines the development of cross-border tourism in Yunnan, China, with a particular focus on the China-Myanmar border region.

By providing an analysis of inbound cross-border tourism between Myanmar and Yunnan, this research complements existing regional studies to some extent. Based on the push-pull theory and integrated with the gravity model, this study aims to understand the macroeconomic impacts of push, pull, and mutual factors influencing one-day Burmese visitors (excursionists) traveling to China. The empirical findings of this study indicate that the growing number of cross-border Burmese excursionists traveling to China is significantly influenced by the real GDP levels of both the home country (Myanmar) and the destination region (Dehong). In other words, the economic growth in the Myanmar-Dehong corridor serves as a key driver for the rapid development of cross-border tourism from Myanmar to China.

It is noteworthy that infrastructure-related factors, such as traffic road density, exerted a negative influence on the arrivals of Burmese one-day visitors to China. This finding is inconsistent with the existing body of literature (Chow & Tsui, 2019; Pazari et al., 2025). A plausible explanation lies in the "crowding out effect" between day trippers and tourists (more than one day visit). While the development of transportation infrastructure may not directly stimulate one-day travellers into long-term travellers. In addition, the number of passenger vehicles in the destination did not exhibit a significant impact on Burmese excursionists. Despite the growing number of passenger vehicles in Dehong, this factor remains peripheral to the key determinants driving the growth of cross-border tourism between Myanmar and China.

In contrast to the results of previous studies by Morley et al. (2014), Huang et al. (2019) and Chow & Tsui (2019), this study reveals that the growing population in the home country (Myanmar) has a negative impact on Burmese excursionists traveling to the destination (Dehong). It is worth noting that, in addition to the influence of uneven population distribution within the region, local security concerns such as regional conflicts and international electronic fraud, along with the level of economic development, also constrain the growth of cross-border tourism. From a geo-economic perspective, the China-Myanmar border represents one of the unstable and geopolitically sensitive areas, as it encompasses semi-autonomous districts controlled by ethnic armed organizations, while the area between Lashio and Muse is under the jurisdiction of the Burmese Armed Forces (Su & Li, 2021). Thus, law enforcement authorities in Yunnan, China, impose strict border controls to prevent unauthorized movements of individuals across the border (Timothy & Gelbman, 2023).

Despite the findings of this study indicating that the exchange rate had no significant impact on Burmese excursionists, the socio-economic analysis suggests otherwise. A high exchange rate typically increases travel costs, which could potentially reduce outbound tourism flows. According to data from the World Bank database, the average official exchange rate of the US dollar to the Myanmar Kyat rose sharply from 1:6.29 in 1999 to 1:1381.62 in 2020, with a marked depreciation of the Myanmar currency occurring after 2012. Moreover, the relatively low level of local economic development poses challenges to the advancement of the tourism industry. As reported by the China Council for the Promotion of International Trade (2019), the GDP contributions of Kachin State and Shan State accounted for only 1.9% and 5.8% of Myanmar's national GDP, respectively, ranking among the lowest in the country. Population growth tends to increase living costs, thereby reducing disposable income and subsequently diminishing people's willingness to travel (Tang, 2013).

The primary contribution of this study to cross-border tourism literature lies in its empirical investigation of key macro-level determinants influencing inbound cross-border tourism from Myanmar to Yunnan, China. The findings indicate that socio-economic factors play a pivotal role in determining the growth of cross-border Burmese excursionist flows to China. Considering the empirical results of the study, it is recommended that both the Chinese and Burmese governments should focus on more coordination and cooperation in their economic development and tourism policies to stimulate cross-border tourism demand further. Specifically, these entities should develop and implement policies and initiatives aimed at facilitating the seamless movement of visitors across the border, as cross-border tourism has the potential to flourish and generate significant economic benefits for cities and towns along the Myanmar-China border.

Moreover, given that China is actively advancing the BRI and enhancing economic and infrastructure construction, such as establishing pilot free trade zones and building high-speed rail and airport infrastructure, there are significant opportunities for promoting cross-border tourism. On the one hand, to attract more one-day visitors (excursionists), the destination region (Dehong) should introduce a wider range of tourism products and activities.

For example, it could improve the infrastructure and service system for border shopping, including restaurants, and organize cultural tourism events, such as the China-Myanmar Baobo Carnival and the Jingpo International Munao Zongge Cultural Festival. It was confirmed that expanding a destination's cultural resources contributes to enhancing the traveller experience and supports long-term sustainable tourism development (Pazari et al., 2025). On the other hand, it is expected that those major transport infrastructure projects will attract more long-stay tourists from Myanmar to visit neighbouring Chinese cities and other Chinese destinations in the future.

Therefore, the governments of both countries should deepen their cooperation in the development and construction of cross-border transportation infrastructure (e.g., the China-Myanmar high-speed railway) to facilitate increased flows of passengers, visitors, and trade across the border. Lastly, to foster a secure tourism environment, it is essential for both the Chinese and Burmese governments to enhance communication and consultation. This collaboration should aim to establish an appropriate framework for promoting cross-border tourism while ensuring security. For instance, efforts could focus on continuously refining and systematically organizing cross-border tourism activities for both nations. Additionally, exploring more convenient border pass or visa policies, such as permitting citizens holding service passports to cross the border via designated checkpoints, could further facilitate travel.

The potential limitations of this study are as follows: Firstly, the study utilized only 20 years of annual secondary data. Consequently, future research could incorporate quarterly or monthly data to provide a broader range of observations. Secondly, consistent with previous studies by Woyo & Slabbert (2019), the findings indicate significant variations in the tested factors regarding the cross-border visitor flows, which suggests that the measurement of cross-border tourism is more difficult than anticipated by researchers. Therefore, more sophisticated approaches or techniques should be employed to estimate the determining factors of cross-border tourism. Finally, this study concentrated on macro-level determinants of cross-border Tourism. Future research could extend its scope to explore the impacts of micro-level determinants on cross-border tourism, thereby contributing to a more comprehensive analysis of the overall influences.

**Author Contributions:** Conceptualization, J.Y. and S.B.B.R.; methodology, J.Y. and H.E.L.; software, J.Y. and H.E.L.; validation, J.Y. and H.E.L. and S.B.B.R.; formal analysis, J.Y. and H.E.L.; investigation, J.Y.; data curation, J.Y. and H.E.L.; writing - original draft preparation, J.Y.; writing - review and editing, J.Y. and H.E.L. and S.B.B.R.; visualization, J.Y. and H.E.L.; supervision, H.E.L. and S.B.B.R.; project administration, J.Y. and H.E.L. and S.B.B.R. All authors have read and agreed to the published version of the manuscript.

**Funding:** Not applicable.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** The data presented in this study may be obtained on request from the corresponding author.

**Acknowledgements:** The research undertaken was made possible by the equal scientific involvement of all the authors concerned.

**Conflicts of Interest:** The authors declare no conflict of interest.

## REFERENCES

Apostolakis, A., & Jaffry, S. (2009). Examining expenditure patterns of British tourists to Greece. *International Journal of Tourism Policy, 2*(3), 187-205. https://doi.org/10.1504/IJTP.2009.024552

Aradhyula, S., & Tronstad, R. (2003). Does tourism promote cross-border trade? *American Journal of Agricultural Economics, 85*(3), 569-579. https://doi.org/10.1111/1467-8276.00456

Bureau of Statistics of Yunnan. (2020). *Yunnan Statistical Yearbook*. Retrieved from Bureau of Statistics of Yunnan. https://stats.yn.gov.cn/list22.aspx

CEInet Industry Database. (2024, 4). *Chinese Tourism Industry Database*. Retrieved from CEInet Industry Database. https://ceidata.cei.cn/cyk/

China Daily. (2024). *Inbound travel orders surge 60% for National Day holiday*. Retrieved from Chinadaily. https://www.chinadaily.com.cn/a/202409/26/WS66f4f4b0a310f1265a1c4fed.html

Chow, C., & Tsui, W. (2019). Cross-border tourism: Case study of inbound Russian visitor arrivals to China. *International Journal of Tourism Research, 21(5),* 693-711. https://doi.org/10.1002/jtr.2297

Clark, C., Pilgreen, D., & Timothy, D. (2025). Cross-border tourism as an agent of environmental peacebuilding. *Journal of Sustainable Tourism*, 1-26. https://doi.org/10.1080/09669582.2025.2536274

Gao, J., Ryan, C., Zhang, C., & Cui, J. (2022). The evolution of Chinese border tourism policies: An intergovernmental perspective on border tourism in Xishuangbanna. *Asia Pacific Journal of Tourism Research, 27*(2), 157-172. https://doi.org/10.1080/10941665.2021.2020313

Go, Y. H., & Ng, C. F. (2022). The role of real exchange rates in the relationship between tourist arrival and economic growth: an asymmetric perspective from Malaysia. *Advances in Pacific Basin Business, Economics and Finance, 10*, 173-191. https://doi.org/10.1108/S2514-465020220000010009

Hsu, T. K., Tsai, Y. F., & Wu, H. H. (2009). The preference analysis for tourist choice of destination: A case study of Taiwan. *Tourism Management, 30（2）*, 288-297. https://doi.org/10.1016/j.tourman.2008.07.011

Huang, R., Xie, C. W., & Lai, F. F. (2022). Impact of the "Belt and Road" Initiative on the Tourism Development of Destination Countries along the Route: A Empirical Test Based on Gravity Model and Difference-in-Difference Method. *Geography and Geo-Information Science, 38(4)*, 120-129. https://doi.org/10.3969/j.issn.1672-0504.2022.04.017

Huang, X. Y., Han, Y. J., Gong, X. H., & Liu, X. H. (2019). Does the belt and road initiative stimulate China's inbound tourist market? An empirial study using the gravity model with a DID method. *Tourism Economics*, 1-25. https://doi.org/10.1177/1354816619867577

Li, J., Wan, Z., Qiao, R., Li, Y., & Hu, J. (2023). The influencing factors of provincial population distribution in Myanmar. *World Regional Studies, 32*(9), 55-66. https://doi.org/10.3969/j.issn.1004-9479.2023.09.2021955

Li, T., & Ming, Q. (2018). Process,Problems and Countermeasures of Border Tourism Development in Yunnan. *Journal of Leshan Normal University, 33*(12), 51-57. https://doi.org/10.16069/j.cnki.51-1610/g4.2018.12.011

Li, Z. G. (2006). *Tourism Economics: Models and Methods.* China Travel & Tourism Press, Beijing, China.

Lyu, J. (2024). China cross-border e-commerce comprehensive pilot zone and urban residents' tourism consumption: empirical study based on CHFS data. *Finance Research Letters, 64*, 105396. https://doi.org/10.1016/j.frl.2024.105396

Maldonado-López, B., Ledesma-Chaves, P., & Gil-Cordero, E. (2024). Cross-border destination image for sustainable tourism development in peripheral areas. *Journal of Travel & Tourism Marketing, 41*(4), 614-639. https://doi.org/10.1080/10548408.2024.2319864

Morley, C., Rossello, J., & Santana-Gallego, M. (2014). Gravity models for tourism demand: theory and use. *Annals of tourism research, 48*, 1-10. https://doi.org/10.1016/j.annals.2014.05.008

Park, J., Musa, G., Moghavvem, S., & Thirumoorthi, T. (2019). Travel motivation among cross border tourists: Case study of Langkawi. *Tourism Management Perspectives, 31*, 63-71. https://doi.org/10.1016/j.tmp.2019.03.004

Pazari, F., Avdia, B., & Mamoci, E. (2025). Cultural heritage and experiential tourism: Opportunities and challenges in Greece-Albania cross-border area (Berat, Gjirokastra and Ioannina). *Geojournal of Tourism and Geosites, 61*(3), 1656-1667. https://doi.org/10.30892/gtg.61324-1534

Ren, L., & Fan, Y. J. (2018). Research of International Cooperation on Cross-border Traveling in Yunnan Province Following the Strategic Concept of The Belt and Road Initiative-A Case Study of Sino-Burmese Tourism Circle. *Fortune Today, 18(2)*. https://doi.org/CNKI:SUN:JRCF.0.2018-18-028

Song, H., Qiu, R., & Park, J. (2023). Progress in tourism demand research: Theory and empirics. *Tourism Management, 94*, 104655. https://doi.org/10.1016/j.tourman.2022.104655

Song, Y., & Wang, X. (2022). A Study on the Impact of Air Pollution on Inbound Tourism in Chengdu Based on Gravity Model. *Journal of Chengdu University (Social Sciences), 03*, 30-39 (in Chinese). Retrieved from. https://link.cnki.net/urlid/51.1064.C.20220526.1236.014

Su, X., & Li, C. (2021). Bordering dynamics and the geopolitics of cross-border tourism between China and Myanmar. *Political Geography, 86*, 102-372. https://doi.org/10.1016/j.polgeo.2021.102372

Sun, Y., Ma, H., & Chan, E. (2017). A model to measure tourist preference toward scenic spots based on social media data: A case of Dapeng in China. *Sustainability, 10*(1), 43. https://doi.org/10.3390/su10010043

Tan, P., Ismail, H., & Syed Jaafar, R. (2023). A comparative review: Distance decay in urban and rural tourism. *Anatolia, 34*(4), 476-493. https://doi.org/10.1080/13032917.2022.2051057

Tang, C. (2013). Temporal Granger Causality and the Dynamics Relationship Between Real Tourism Receipts, Real Income and Real Exchange Rates in Malaysia. *International Journal of Tourism Research, 15*(3). https://doi.org/10.1002/jtr.1869

The World Bank. (2024, 4). *DataBank*. Retrieved from World Bank Group. https://databank.worldbank.org/

Tian, L., Wu , X., & Wang, J. (2018). International research progress and implications of cross-border cooperation in tourism. *Tourism Tribune, 33*(7), 52-62. http://www.lyxk.com.cn/EN/Y2018/V33/I7/52#

Timothy, D. J. (2001). *Tourism and political boundaries.* New York: Routledge.

Timothy, D., & Gelbman, A. (2023). Understanding Borders and Tourism: Complex Relationships and Evolving Patterns. In *Handbook of Borders and Tourism* (pp. 1-14). London:Taylor & Francis. https://doi.org/10.4324/9781003038993

U.S. Energy Information Administration. (2024, 2). *Petroleum & Other Liquids*. Retrieved from U.S. Energy Information Administration. https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EER_EPMRU_PF4_Y35NY_DPG&f=A

Wang, J., & Su, J. (2022). Research progress and enlightenment of border tourism: Taking SSCI papers as an example. *Journal of Chinese Ecotourism, 12*(3), 399-415. https://doi.org/10.12342/zgstly.20220017

Woyo, E., & Slabbert, E. (2019). Cross-border destination marketing of attractions between borders: the case of Victoria Falls. *Journal of Hospitality and Tourism Insights, 2*(2), 145-165. https://doi.org/10.1108/JHTI-10-2018-0073

Yu, H. (2011). Development of China's border tourism. *Knowledge Economy, 5*, 134 (in Chinese). https://doi.org/10.15880/j.cnki.zsjj.2011.05.122

Zhang, J., Cao, J., & Li, Z. (2025). The role of digital inclusive finance in promoting cross-border tourism: Evidence under the maritime community with a shared future framework. *International Review of Economics & Finance*, 104420. https://doi.org/10.1016/j.iref.2025.104420

Zhetiru, A., Frias, A., & Moldagaliyeva, A. (2025). Economic competitiveness in the tourism sector: an evaluation of global tourist preferences. *Geojournal of Tourism and Geosites, 62*(4), 2021-2031. https://doi.org/10.30892/gtg.62402-1568

Zong, W., Yu, J., Zhang, H., & Zhang, C. (2020). Cross-border Tourism Cooperation in The Context of China-Myanmar Economic Corridor: The Case of the Dehong. *Korea and World Review, 2*(2), 129-160. https://db.koreascholar.com/Article/Detail/404066

Article history: Received: 14.10.2025 Revised: 29.01.2026 Accepted: 27.04.2026 Available online: 05.06.2026