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The Asymmetric Relationship Between Tourism and Economic Growth: A Panel Quantile ARDL Analysis

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Abstract: This study analyses the intricate connection between tourism and economic growth, emphasising significant gaps in existing literature. The study utilises a comprehensive framework encompassing tourism-led economic growth (TLEG) and economy-driven tourism growth (EDTG), highlighting the bidirectional dynamics at play. This study utilises a panel quantile ARDL regression model to analyse regional disparities and varying levels of economic and tourism development. Results demonstrate that European nations with robust tourism sectors exhibit more significant recoveries, whereas Asia–Pacific countries face heightened pressure to leverage tourism for economic stabilisation. This study demonstrates the heightened sensitivity of GDP to tourism in economic downturns, emphasising the sector's critical role in sustaining growth during difficult periods. Long-term implications favour a strategic focus on structural factors over cyclical ones, promoting innovation, infrastructure development, and investment in human capital. This study recommends economic policies that utilise tourism's strengths, enhance resilience, and promote diversification to achieve sustainable prosperity during economic challenges.

Keywords: tourism-led economic growth (TLEG); economy-driven tourism growth (EDTG); panel quantile ARDL regression; regional asymmetries

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1. Introduction

In the past century, the tourism sector has experienced significant and sustained growth, establishing itself as one of the fastest-growing economic sectors worldwide. According to the World Travel and Tourism Council (WTTC, 2023), the tourism sector contributed 10.4% of the global GDP in 2019, just before the COVID-19 pandemic hit the globe. Even after the pandemic, the tourism sector has shown strong signs of recovery, now accounting for approximately 9.2% of global GDP and amounting to just over USD 9.9 trillion in 2021 and further increasing to nearly 10% in 2022 (WTTC, 2023). This marks a 23.2% increase from 2022 and is only 4.1% below the 2019 peak. This essential role is evident in other primary economic sectors. To mention, accounting for 7% of global exports, tourism is ranked as the third-largest export sector globally, after fuels and chemicals (International Monetary Fund [IMF], 2023). Further, in terms of employment, it supports approximately 1 in 10 jobs globally. The sector also added 27 million jobs in 2023, reflecting a 9.1% increase compared to 2022 and bringing employment figures to just 1.4% below 2019 levels (UNWTO, 2023). On top of that, the sector is considered as a major source of foreign currency, with tourist arrivals generating USD 1.4 trillion in exports in 2019.

Armed with this knowledge, a substantial body of literature recognises the economic and social benefits of the tourism sector. The research conducted by Balaguer and Cantavella-Jorda (2002) provides a thorough empirical examination of the critical role of the tourism sector in facilitating economic growth. Their argument is founded on the export-led growth hypothesis, where the tourism-led growth hypothesis posits that tourism can significantly drive long-term economic growth. It suggests that tourism generates foreign exchange, which can be utilised to import capital goods necessary for production, thereby fostering economic development (McKinnon, 1964). This influx of capital through tourism earnings allows countries to import more than they export, particularly in the form of capital goods or essential inputs for various sectors. Consequently, the benefits of tourism extend beyond tourist regions, contributing to a more equitable distribution of wealth across the country and enhancing overall economic development (e.g., Ansari, 2024; Hung & Hieu, 2022). Recent investigations consistently corroborate this hypothesis. For example, Alcalá-Ordóñez et al. (2024) conducted a comprehensive review examining trends and determining if the main conclusions remain consistent or if the scientific literature has changed significantly (see also, Alcalá-Ordóñez & Segarra, 2023).

Meanwhile, local economic growth likely promotes tourism development by recruiting business travellers and enhancing physical and human resources, including infrastructure, healthcare, and education (Martins et al., 2017; Eugenio-Martin et al., 2008). The causal relationship inherent in the economy-driven tourism growth (EDTG) theory has been empirically validated in multiple studies (e.g., Martins et al., 2017; Cortes-Jimenez et al., 2011; Payne & Mervar, 2010; Oh, 2005).

The current body of research on the relationship between tourism and economic activity centres around four empirical hypotheses (Brida et al., 2016; Pablo-Romero & Molina, 2013). The first two hypotheses suggest a causal relationship between the variables, indicating a unidirectional causality from tourism to economic growth, as posited by the TLG hypothesis which asserts that the growth of the tourism sector propels overall economic growth (Balaguer & Cantavella-Jorda, 2002). The economic-driven tourism growth (EDTG) hypothesis posits that economic growth is a catalyst for tourism development (Oh, 2005). The third hypothesis suggests the presence of bidirectional causality. Economic growth stimulates tourism, and conversely, a growing tourism sector contributes to economic expansion, resulting in a complex interplay (Dritsakis, 2004). The fourth hypothesis indicates a non-causal relationship between tourism and economic growth (Katircioglu, 2009).

The existing literature indicates that the connection between tourism and economic growth appears not only to differ across various periods, but a regional disparity in tourism and economic growth can be seen within the same country. For example, Harb and Bassil (2021) analysed 102 NUTS1 regions across 27 European countries, revealing significant variations in tourism's impact on regional economic growth. Similarly, Timothy and Tosun (2003) focused on Turkey, examining how intensive coastal tourism affects rural development and exposing economic inequalities between tourism-rich and less-developed areas. Kervankiran and Eteman (2023) further investigated this issue in Turkey, concluding that the economic benefits of tourism are not evenly distributed across regions. Additionally, Li et al. (2016) studied regional income inequality in China, illustrating that the effects of tourism on economic growth differ based on regional economic conditions.

Some countries witness ongoing economic advantages stemming from the expansion of tourism; nonetheless, it can also produce adverse consequences. Further, numerous studies have highlighted that the connection between tourism and economic growth demonstrates significant asymmetry over time, especially as nations grow and develop. At the outset, tourism acted as a crucial driver for economic convergence, particularly in Mediterranean countries such as Spain, Italy, Turkey, and Greece, from the 1960s onwards

(Leontidou, 1995; Corkill, 1998; Gunduz & Hatemi-J, 2005; Cortes-Jimenez & Pulina, 2010). In recent decades, this dynamic has changed as countries that depend heavily on tourism are seeing reduced economic growth compared to more advanced economies. The decrease can be linked to the emergence of new, more efficient sectors, like the digital industries, which eclipse conventional tourism. Moreover, the robustness of a nation's tourism industry and its capacity to endure economic disruptions significantly influence immediate growth results (Haller et al., 2020). Grasping this asymmetry is crucial as it highlights the necessity of adjusting to evolving economic cycles and broadening beyond tourism to ensure sustained long-term growth.

Given all that has been mentioned so far, one may suppose that the economic impact of the tourism sector is highly variable and influenced by specific temporal and geographical contexts, necessitating ongoing assessment of its effects. The COVID-19 pandemic has emerged as a significant shock to the industry, prompting urgent attention due to its immediate negative consequences and the potential long-term shifts in consumer preferences. Recent studies suggest that these changes, if persistent, could fundamentally transform the traditional tourism market (Seraphin & Dosquet, 2020; Renaud, 2020; Khozaei et al., 2022).

Despite much empirical research demonstrating the relationship between tourism and economic growth, considerable doubt remains over the validity of these studies, along with several issues being raised. Firstly, the majority of the existing research predominantly relies on assessments within individual countries. The former lacks clarity in contrasting developed economies with strong tourism industries. Secondly, most of the literature assumes uniform effects across all observations and adopts conventional symmetric models (e.g., Granger causality, VAR, ARDL, and their panel counterparts). These symmetric models overlooked variations at different levels of economic or tourism performance. Further, the use of symmetric models typically assumes homogeneity in the effect at short-term and long-term dynamics, limiting understanding of how tourism and economic growth interact over different time horizons. Finally, the literature tests the four dominant empirical hypotheses. Yet, their interactions and cumulative effects are rarely examined. The studies also examine only one theory, making it difficult to understand the complicated tourism–economic growth dynamics. An integrative approach may reveal complex relationships that this singular focus may miss.

Drawing upon the forementioned boundaries, this study attempts to contribute to a deeper understanding of the relationship between tourism and economic growth in the following way. Firstly, analysing not only the leading economies in Europe and the Asia–Pacific but also global tourism frontrunners enriches our awareness of the various elements influencing the tourism–economy relationship, hence providing practical guidance for policymakers in developed tourism markets. Developed economies are indeed less examined in this perspective than developing nations, where tourism is frequently regarded as a driver for growth. This research addresses the deficiency by examining how developed economies with established tourism sectors sustain growth and competitiveness. Evaluating these high-performing economies helps policymakers in establishing benchmarks for sustainable tourist development and identifies exemplary practices that other regions might replicate.

Secondly, this study advances previous research by elucidating the bidirectional dynamics and offering a comprehensive understanding through the evaluation of two hypotheses: tourism-led economic growth (TLEG) and economy-driven tourism growth (EDTG). This article enhances the understanding of the reciprocal relationship between tourism and economic growth, clarifying the distinct effects involved. It also proposes specific strategies for economies that priorities the expansion of tourism instead of leveraging existing economic assets to enhance tourism.

Finally, from an econometrics perspective, this analysis will employ a panel quantile ARDL regression model to comprehensively examine the asymmetries and heterogeneities across economic and tourism development levels. In this vein, accounting for asymmetries sheds light on how the tourism–economic growth nexus varies across quantiles (e.g., low-growth vs. high-growth economies). This is especially relevant for understanding nuanced effects in developed markets, where tourism's impact may differ based on the baseline economic or tourism development levels. Further, adopting this approach permits us to assess the dynamics in the relationship between tourism and economic growth over different time horizons (short-term vs. long-term). On the one hand, short-term impacts might reflect immediate boosts from tourism activities, such as employment generation, foreign exchange earnings, or temporary surges in domestic spending. On the other, long-term impacts could involve structural changes, such as improved infrastructure, diversification of the economy, or sustained growth through brand-building of destinations. Through this, this study seeks to deliver an in-depth comprehension of the complex interplay between economic and tourism development levels.

Our empirical results provide evidence about the complex interplay between tourism and economic growth, highlighting tourism's role as a stabilising force during economic downturns while diminishing in significance during periods of growth. Utilising a panel quantile ARDL regression model, the analysis accounts for regional disparities, revealing that European nations benefit from robust tourism sectors and diverse economies, facilitating resilient recovery. In contrast, Asia–Pacific countries face challenges in leveraging tourism for economic stabilisation. The findings indicate increased elasticity between GDP and tourism during economic declines, underscoring tourism's critical role in supporting growth. This study advocates for a strategic shift towards structural enhancements, emphasising innovation, infrastructure development, and human capital investment. Policymakers are urged to integrate tourism into broader economic strategies, focusing on long-term stability factors such as political stability and trade openness to foster resilience and diversification for sustainable economic growth.

The remaining parts of the paper are structured as follows: Section 2 presents a review of the existing literature concerning the relationship between tourism and economic growth. Section 3 delves into the empirical methodology. Section 4 introduces the data set and presents a preliminary analysis. Section 5 presents and analyses the empirical findings derived from the panel quantile ARDL regression model, while concluding remarks are provided in Section 5.

2. Literature Review on Tourism-Growth Nexus

The tourism sector is believed, as a smokeless sector, to meet the relaxation and consumption needs for groups around the world. Each country constructs regulations for immigration, investments, and tourism services to develop the tourism sector, to enhance job creation, and provide economic development. Existing literature confirms the long-term effect of tourism on economic growth, known as the hypothesis of tourism-led growth. It would work as an engine for growth through job creation, foreign exchange creation, and GDP growth (Alhowaish, 2016). Also, economic growth positively influences tourism development as it boosts tourism activities through developing infrastructures and facilities, such as hotels, transportation, restaurants, communication and information technology, and several entertainment services.

Research on the tourism-led growth hypothesis (TLGH), also generally referred to the growth hypothesis, confirms that the development of tourism causes economic growth. Thus, economic growth can be increased if policymakers boost economic policies that enhance tourism development (Sokhanvar et al., 2018).

Ansari (2024) and Singh and Alam (2024) argued that the tourism sector is expanding to become a crucial sector with strong guarantees of growth locally and countrywide. Furthermore, Kyara et al. (2021) reveal that the tourism sector is growing globally and promotes just over 10% of the gross domestic product (GDP) and nearly 10% of the total employment, which is nearly 330 million jobs. The tourism growth rate is believed to be higher than the global economic growth rate, verifying the gradually greater involvement of the tourism sector in the economy. The sector of tourism not only alleviates poverty, creates jobs, and enhances foreign exchange, it also boosts indigenous goods and services, and economic development.

A study by Singh and Alam (2024) indicate that the development of tourism will boost economic growth, hence the economy desires to distribute resources to the tourism sector to invest in boosting income for employees, and enhance opportunities associated with economic sectors. They also show that investment in the tourism sector has a bidirectional linkage with economic growth as it which enhances growth and growth enhances investment in tourism. They also advocate that foreign tourists have a positive effect on economic growth. Consequently, the study supports the long-run growth hypothesis of tourism for economic growth, and, thus, policymakers need to support enterprises to invest in the tourism sector to develop the economy.

Moreover, Kyara et al. (2021) used the VAR model to investigate the relationship between tourism development and economic growth in Tanzania during the period of 1989–2018. They found that there is a unidirectional causality from tourism development to economic growth. Thay also concluded that policymakers need to focus on strategies to boost sustainable development as a feasible force of economic growth.

Motivated by the question of whether tourism is pro-growth in the case of Sao Tome, Ribeiro and Wang (2020) carried out a study to investigate the relationship between tourism and economic growth using annual time-series data on GDP, foreign direct investment, real exchange rate, and tourism receipts over the period of 1997–2018. They found that tourism receipts have a positive effect on economic growth. To analyse the linkage between the tourism and growth in the case of Kenya, Kibara et al. (2012) employed annual time-series data on GDP, the volume of trade, and a few tourist arrivals for the period of 1983–2010. The causality test and ARDL bounds testing based on ECM indicated that there is a positive relationship between tourism and economic growth.

The reverse hypothesis (economic-driven tourism growth hypothesis (EDTH)) has also been investigated. Payne and Mervar (2010) investigated the influences of economic growth on tourism growth in the case of Croatia using quarterly time-series data on real GDP, international tourism revenues, and real exchange rates over the period of 2000–2008. They used Toda–Yamamoto long-term causality tests and found that real GDP has a positive effect on international tourism revenues and real exchange rates. Consequently, the results support the economic-driven tourism growth hypothesis. Moreover, Oh (2005) investigated the relationship between economic growth and tourism growth in the Korean economy using quarterly time-series data during the period of 1975–2001. The study used VAR model, and the results indicated that the economic-driven tourism growth hypothesis (EDTH) is reflected in the Korean economy.

Bilen et al. (2017) examined the linkage between economic growth and tourism development in 12 Mediterranean countries using panel Granger causality tests during the period of 1995–2012. The results show that there is a bidirectional relationship between economic growth and tourism development. In the same period, Fahimi et al. (2018) investigated the causality relationship between economic growth and tourism in microstates during the period of 1995–2015. The study indicates that there is a bidirectional relationship between growth and tourism. Moreover, Dritsakis (2004) investigated the relationship

between tourism and economic growth in Greece during the period of 1960–2000, by using the multivariate auto regressive (VAR) model and Granger causality tests. The study shows that there is a bidirectional relationship between tourism and economic growth. Also, the results show that there is a strong causal linkage between international tourism and economic growth, and simply causal linkages between economic growth and international tourism.

In the same way, Sokhanvar et al. (2018) tested the causal linkage between economic growth and tourism in emerging market economies during the period of 1995–2014. The study used Granger causality analysis across countries to observe the causal linkage between international tourism and economic growth. The results show that only Chile has a bidirectional relationship between international tourism and growth. A unidirectional causality from international tourism to growth was found in the Philippines, Mexico, and Brazil, whilst reverse linkage was detected for Malaysia, India, China, Peru, and Indonesia, and finally, no causality was found for seven emerging market countries.

In terms of the non-causal relationship between tourism and economic growth, some studies supported this assumption, such as Katircioglu (2009), and Kasimati (2016). Kasimati (2016) examined the relationship between tourism and economic growth in the case of Greece by using Granger causality tests during the period of 1960–2010. The study indicated that there is no relationship between tourism and economic growth in Greece. Moreover, Katircioglu (2009) investigated the role of tourism on economic growth in Turkey during the period of 1960–2006 by applying the Johansen approach and bounds test for cointegration. The results show that tourism has no effect on economic growth in Turkey.

2.1. Economic Framework

Economic growth and tourism can also be affected by other indicators such as foreign exchange, fixed capital formation, trade openness, political stability, and human development. This section discusses the relationship between these indicators and tourism and economic growth.

2.1.1. Fixed Capital Formation

The literature documents a positive relationship between investment and economic growth (Levine & Renelt, 1992; Mankiw et al., 1992; De Long & Summers, 1992). According to Keynes, introducing new investments will stimulate the aggregate demand in the economy. Romer (1990) demonstrated that investing in human and fixed capital induces innovation and sustains economic growth in the long-term. Furthermore, the growth model of Solow (1956) highlighted that capital accumulation is a key driver of short-term economic growth.

In terms of tourism, fixed capital formation is important for enhancing the tourism environment. For instance, investing in infrastructure such as transportation enhances accessibility, as argued by Ritchie and Crouch (2003). In this regard, investment in transportation facilitates journeys to the attractions and reduces costs for visitors which will improve their tourism experience (Goeldner & Ritchie, 2011). Furthermore, Zhou et al. (2017) found that building investments has a positive and significant impact on tourism revenues in China.

2.1.2. Trade Openness

Trade openness enhances economic growth through enabling countries to exploit their comparative advantage. Furthermore, Keho (2017) found a positive and significant relationship between trade openness and economic growth in the short and the long run. Using Chinese data, Kong et al. (2021) demonstrated that trade openness improves economic growth quality in both the short and the long run. However, using data from five

South Asian countries a negative and significant relationship between trade openness and economic growth was found (Rahman et al., 2020).

Regarding the impact of trade openness on tourism, Okafor et al. (2023) suggest that considering income levels as a moderating variable, trade openness promotes tourism flows in countries with low-income levels; however, this relationship is insignificant in high-income level countries. Moreover, in a cross-country analysis, Khalid et al. (2022) found that regional trade agreements have a positive and significant impact on tourism flows.

2.1.3. Exchange Rates

Bouzahzah and El Menyari (2013) stress the importance of exchange rates as a measure of the external competitiveness of the economy. They suggest that currency overvaluation can be harmful to the economy because of its adverse impact on exports and the competitiveness of importing industries as compared to foreign firms. They also argue that when the currency is overvalued, it is anticipated that the government will attempt to defend the currency and adopt tight monetary and fiscal policies, maybe through currency devaluation, which may lead to an economic recession, reduced foreign direct investment, and capital flight. These effects make exchange rates an important indicator when studying economic trends (Apergis & Payne, 2012; Tang, 2013; Trang et al., 2014; Ribeiro & Wang, 2020).

Regarding the impact of exchange rates on tourism, Martin and Witt (1988) propose that exchange rates affect the tourists' destination choice, suggesting that tourists favour destinations with a weaker currency over those with strong currency due to affordability reasons. Thus, countries with strong currencies face marketing challenges to overcome high prices and attempt to convince potential tourists by considering value over cost (Quadri & Zheng, 2010). However, using data from Italy, Quadri and Zheng (2010) found that exchange rates have no impact on international arrivals.

2.1.4. Human Development

Using the human development index, Appiah et al. (2019) concluded that human development is an important driver for economic growth. Furthermore, Ramirez et al. (1997) argued that focusing on human development should be given priority over economic growth despite the importance of the latter. In addition, Suri et al. (2011) stated that human development is a crucial input to economic growth.

Human development and tourism are positively related according to Rivera (2017). Moreover, investing in healthcare, education, and social stability will lead to sustainable tourism growth. These findings are further asserted by Hakim et al. (2021) as they found that education and healthcare can encourage tourism inflows. Biagi et al. (2017) suggested that countries with a high human development index experience higher international tourist inflows.

2.1.5. Political Stability

Political stability is a crucial determinant in tourists' decision-making. Fundamentally, tourists prefer to visit safe regions as they put safety as a priority (Özcan & Özmen, 2016; Wamboye et al., 2020). In a study about Mediterranean countries, Bayar and Yener (2019) documented that political stability enhances tourism demand in the long run. A similar result was found by Çetin et al. (2023). Finally, in a study on three Middle Eastern countries (namely, Jordan, Egypt, and Lebanon), Basu and Marg (2010) found that tourism inflows in these countries are negatively affected due to political instability including terrorist actions.

The vast majority of economic literature emphasises the importance of political stability for economic growth. For instance, Cervantes and Villaseñor (2015) stress the importance of political stability for economic activity, investors' trust, and planning. Using European

union data, Corovei and Socol (2019) found a positive and significant impact for political stability in economic growth.

3. Empirical Methodology

This research evaluates the bidirectional dynamics between tourism and economic growth through two hypotheses: tourism-led economic growth (TLEG) and economy-driven tourism growth (EDTG). It elucidates their implications and offers recommendations for economies that prioritise tourism expansion. This study analyses the relationship within developed economies, concentrating on high-performing tourism destinations in Europe and the Asia–Pacific region. This study employs a panel quantile ARDL regression model to analyse asymmetries and heterogeneities in economic and tourism development levels, evaluating both short- and long-term effects across different quantiles of the variable's conditional distributions.

The literature commonly models the relationship between tourism and economic growth under symmetry assumptions, utilising historical data of a single country. Conventional models that depend on symmetry assumptions may assess effects exclusively at the midpoint of the variables, potentially compromising the policy-oriented outcomes of the study. A search of the literature revealed few studies which suggest that the relationship between tourism and economic growth exhibits significant asymmetry over time, particularly as nations develop. Initially, tourism served as a vital driver for economic convergence, especially in Mediterranean countries like Spain, Italy, Turkey, and Greece from the 1960s (Leontidou, 1995; Corkill, 1998; Gunduz & Hatemi-J, 2005; Cortes-Jimenez & Pulina, 2010). However, in recent decades, countries reliant on tourism have experienced slower economic growth compared to more advanced economies, attributed to the rise in more efficient sectors such as the digital industry. Additionally, the strength of a nation's tourism sector and its ability to withstand economic disruptions significantly affect immediate growth outcomes (Haller et al., 2020). Understanding this asymmetry is essential for adapting.

Based on the aforementioned literature, we developed the functional model below to test the economy-driven tourism growth (EDTG)[1], controlling for other variables, which is as follows:

$$Tor = f(\mathrm{GDP}, \mathrm{FC}, \mathrm{TO}, \mathrm{ER}, \mathrm{HD}, \mathrm{PI}) \tag{1}$$

Equation (1) specifies that tourism (*Tor*) is dependent on economic growth (GDP), fixed capital (FC), trade openness (TO), exchange rate (ER), development of human capital (HD), and political stability (PI).

It was presumed that the variables were related in a linear way. Subscripting the country indicator (i) and the time indicator (t) into Equation (1) yields the following:

$$Tor_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 FC_{it} + \beta_3 TO_{it} + \beta_4 ER_{it} + \beta_5 HD_{it} + \beta_6 PI_{it} + \mu_{it} \tag{2}$$

The P-QARDL regression model is a modification of the ARDL approach, utilising a quantile regression framework. The investigation began with a panel autoregressive distributed lag (ARDL) regression analysis, which is as follows:

$$\begin{gathered} Tor_{it} = \alpha + \sum_{i=1}^{P} \varphi_i Tor_{t-i} + \sum_{i=1}^{q_1} \gamma_i GDP_{t-i} + \sum_{i=1}^{q_2} \delta_i FC_{t-i} + \sum_{i=1}^{q_3} \theta_i TO_{t-i} + \\ \sum_{i=1}^{q_4} \vartheta_i ER_{t-i} + \sum_{i=1}^{q_5} \rho_i HD_{t-i} + \sum_{i=1}^{q_6} \sigma_i PI_{t-i} + \mu_{it} \end{gathered} \tag{3}$$

where the disturbance term is denoted as μ_{it}, while the lag orders p and q_i for all $i = 1, 2, \ldots, 6$, are chosen according to the BIC information criteria.

Cho et al. (2015) describe the panel QARDL model as the following:

$$QTor_{it} = \alpha(\tau) + \sum_{i=1}^{P} \varphi_i(\tau) Tor_{t-i} + \sum_{i=1}^{q_1} \gamma_i(\tau) GDP_{t-i} + \sum_{i=1}^{q_2} \delta_i(\tau) FC_{t-i} + \sum_{i=1}^{q_3} \theta_i(\tau) TO_{t-i} + \sum_{i=1}^{q_4} \vartheta_i(\tau) ER_{t-i} + \sum_{i=1}^{q_5} \rho_i(\tau) HD_{t-i} + \sum_{i=1}^{q_6} \sigma_i(\tau) PI_{t-i} + \mu_{it}(\tau) \quad (4)$$

The formula for $\mu_{it}(\tau)$ is as follows: $\mu_{it}(\tau) = Tor_{it} - QTor_{it}\left(\frac{\tau}{F_{t-1}}\right)$. It is important to acknowledge that the explanatory variables in the model generate the smallest possible σ-field, which is denoted as F_{t-1}. The expression $QTor_{it}\left(\frac{\tau}{F_{t-1}}\right)$ represents the τth quantile of Tor_{it} t in relation to F_{t-1}.

The short-term dynamics can be articulated as:

$$QTor_{it} = \alpha(\tau) + \sum_{i=1}^{q_1-1} \zeta_{GDP_i}(\tau)\, \Delta GDP_{t-1} + \eta_{GDP_i}(\tau) GDP_t + \sum_{i=1}^{q_2-1} \zeta_{Tor_i}(\tau)\, \Delta Tor_{t-1} + \eta_{Tor_i}(\tau) Tor_t + \sum_{i=1}^{q_3-1} \zeta_{FC_i}(\tau)\, \Delta FC_{t-1} + \eta_{FC_i}(\tau) FC_t + \sum_{i=1}^{q_4-1} \zeta_{TO_i}(\tau)\, \Delta TO_{t-1} + \eta_{TO_i}(\tau) TO_t + \sum_{i=1}^{q_5-1} \zeta_{ER_i}(\tau)\, \Delta ER_{t-1} + \eta_{ER_i}(\tau) ER_t + \sum_{i=1}^{q_6-1} \zeta_{HD_i}(\tau)\, \Delta HD_{t-1} + \eta_{HD_i}(\tau) HD_t + \sum_{i=1}^{q_7-1} \zeta_{PI_i}(\tau)\, \Delta PI_{t-1} + \eta_{PI_i}(\tau) PI_t + \mu_{it}(\tau) \quad (5)$$

where

$\zeta_{GDP_i}(\tau) = \sum_{i=0}^{q_1} \gamma_i(\tau)$, $\eta_{GDP_i}(\tau) = -\sum_{j=i+1}^{q_1} \gamma_j(\tau)$
$\zeta_{Tor_i}(\tau) = \sum_{i=0}^{q_2} \delta_i(\tau)$, $\eta_{Tor_i}(\tau) = -\sum_{i=j=i+1}^{q_2} \delta_j(\tau)$
$\zeta_{FC_i}(\tau) = \sum_{i=0}^{q_3} \theta_i(\tau)$, $\eta_{FC_i}(\tau) = -\sum_{j=i+1}^{q_3} \theta_j(\tau)$
$\zeta_{TO_i}(\tau) = \sum_{i=0}^{q_4} \vartheta_i(\tau)$, $\eta_{TO_i}(\tau) = -\sum_{j=i+1}^{q_4} \vartheta_j(\tau)$
$\zeta_{ER_i}(\tau) = \sum_{i=0}^{q_5} \rho_i(\tau)$, $\eta_{ER_i}(\tau) = -\sum_{j=i+1}^{q_5} \rho_j(\tau)$
$\zeta_{HD_i}(\tau) = \sum_{i=0}^{q_6} \sigma_i(\tau)$, $\eta_{HD_i}(\tau) = -\sum_{j=i+1}^{q_6} \sigma_j(\tau)$
$\zeta_{PI_i}(\tau) = \sum_{i=0}^{q_7} \upsilon_i(\tau)$, $\eta_{PI_i}(\tau) = -\sum_{j=i+1}^{q_7} \upsilon_j(\tau)$

In considering Equation (5), the study arrived at the following panel QARDL model:

$$Q\Delta Tor_{it} = \alpha(\tau) + \psi(\tau)\,[Tor_{2t-1} - \beta_{GDP}(\tau) GDP_{t-1} - \beta_{FC}(\tau) FC_{t-1} - \beta_{TO}(\tau) TO_{t-1} - \beta_{ER}(\tau) ER_{t-1} - \beta_{HD}(\tau) HD_{t-1} - \beta_{PI}(\tau) PI_{t-1}] + \sum_{i=0}^{P-1} \varphi_i(\tau) Tor_{2t-i} + \sum_{i=0}^{q_1-1} \gamma_i(\tau) GDP_{t-i} + \sum_{i=0}^{q_2-1} \delta_i(\tau) FC_{t-i} + \sum_{i=0}^{q_3-1} \theta_i(\tau) TO_{t-i} + \sum_{i=0}^{q_4-1} \vartheta_i(\tau) ER_{t-i} + \sum_{i=0}^{q_5-1} \rho_i(\tau) HD_{t-i} + \sum_{i=0}^{q_6-1} \sigma_i(\tau) PI_{t-i} + \mu_{it}(\tau) \quad (6)$$

The panel QARDL in Equation (6) can be expressed mathematically as:

$$Q\Delta Tor_{it} = \alpha + \beta_1 \Delta GDP_{it}^{\theta} + \beta_2 \Delta FC_{it}^{\theta} + \beta_3 \Delta TO_{it}^{\theta} + \beta_4 \Delta ER_{it}^{\theta} + \beta_5 \Delta HD_{it}^{\theta} + \beta_6 \Delta PI_{it}^{\theta} + \beta_7 GDP_{it}^{\theta} + \beta_8 \Delta FC_{it}^{\theta} + \beta_9 TO_{it}^{\theta} + \beta_{10} ER_{it}^{\theta} + \beta_{11} HD_{it}^{\theta} + \beta_{12} PI_{it}^{\theta} + \mu_t^{\theta} \quad (7)$$

where the quantile level is denoted by θ, while the cross-section and time are represented by i and t, respectively. The short run and long run are represented by the coefficients β_1–β_6 and β_7–β_{12}, respectively. The error correction term is denoted by the symbol μ_t^{θ}.

The ECM parameter, denoted as $\varphi(\tau)$ in Equation (4), is anticipated to exhibit a substantial negative value. The influence of the variables on HP in both the short- and long-term can be evaluated through the application of the Wald test to examine the null hypotheses. The parameter $\rho^*(\tau)$ is defined as follows:

$$H_0 : \rho^*(0.25) = \rho^*(0.50) = \rho^*(0.95)$$
$$H_1 : \exists\, i \neq j \; s.t. \; \rho(i) \neq \rho(j) \quad (8)$$

Likewise, these hypotheses are inspected on each parameter for the residual short-run parameter.

4. Data Description and Preliminary Analysis

This study tests two key hypotheses: tourism-led economic growth (TLEG) and economy-driven tourism growth (EDTG). The study employs annual data from 1995 to 2023 obtained from World Bank indicators. Section 2.1 emphasises that the model includes various variables: real GDP is expressed in constant 2015 USD, ensuring a consistent

measure of economic growth over time. International tourism receipts are also reported in constant 2015 USD, serving as a reliable indicator of tourism activity. Investment in physical assets is represented as a percentage of GDP through gross fixed capital formation; whilst trade openness is quantified by the sum of exports and imports as a percentage of GDP, reflecting the degree of economic integration. Additionally, political stability and the absence of violence/terrorism are based on the Worldwide Governance Indicators (WGIs) which capture institutional and governance quality; the exchange rate defined as the official exchange rate (LCU per USD, period average), accounting for currency fluctuations; and human capital is measured using the Human Capital Index (HCI), which represents the population's education and health levels.

The sample consists of selected countries from Europe (Italy, Spain, England, France, and Germany), and the Asia–Pacific region (Japan, Australia, Singapore, South Korea, and New-Zealand). The choice of these countries is of high importance due to various reasons. For instance, European countries exhibit a variety of travel and tourism sectors. According to the Travel and Tourism Development Index (2024), these countries possess robust policies, abundant natural and cultural resources, and well-established infrastructure. The rapid growth of Asia–Pacific countries emphasises the importance of innovation, ICT development, sustainability, and resource management. European nations are significant tourism-driven economies characterised by established tourism industries, cultural attractions, and advanced infrastructure. Conversely, Asia–Pacific nations exhibit rapid economic growth, emphasising sustainability, ICT development, and innovation, thereby highlighting the disparity between developed and developing tourism economies.

Analysing the impact of tourism on economic development identifies these nations as optimal based on the 2024 Travel and Tourism Development Index rankings concerning tourism policies, natural and cultural resources, and infrastructure.

Incorporating these areas facilitates a comprehensive examination of the interactions between tourism and economic development within various cultural, economic, and governmental contexts. Developed and emerging markets offer valuable insights into regional prospects and global trends.

To sum up, including these areas enables a thorough analysis of the dynamics of tourism and economic development across many cultural, economic, and governmental settings. Developed and emerging markets together provide insightful analysis of regional prospects and worldwide trends.

4.1. Quantile Unit Root and Cointegration Results

Prior to the implementation of the panel QARDL approach, an assessment of the stationary properties of the variables and the stability of their relationships over time is conducted. This is achieved through the generalised quantile unit-root test on panel data that accounts for common shocks, as outlined by Yang et al. (2022). This approach provides a comprehensive analysis of the data, facilitating the capture of potential variations in the behaviour of the variables across different quantiles.

The findings from the quantile unit root test, as Table 1 details, demonstrate that the variables analysed show stationarity in both their conditional means and conditional quantiles at a designated quantile. Nonetheless, the subsequent values of the variable achieve stationarity upon the application of first differences. The findings indicate that the variables are integrated to either zero or one. This suggests that the model parameters related to various orders of integration validate the feasibility of the panel QARDL model.

Table 1. Panel unit root test.

	Level		Difference	
		Europe		
Tor	−1.532	[0.321]	−3.272	[0.006]
GDP	−1.810	[0.086]	−2.907	[0.011]
FC	−1.431	[0.302]	−3.536	[0.002]
TO	−1.683	[0.429]	−3.418	[0.000]
ER	−1.734	[0.082]	−4.183	[0.000]
HD	−1.209	[0.221]	−5.107	[0.000]
PI	−1.447	[0.381]	−4.773	[0.000]
		Asia–Pacific		
Tor	−1.782	[0.231]	−2.477	[0.016]
GDP	−1.446	[0.189]	−3.184	[0.008]
FC	−1.359	[0.215]	−2.896	[0.012]
TO	−1.945	[0.087]	−3.355	[0.002]
ER	−1.288	[0.287]	−2.931	[0.010]
HD	−0.938	[0.457]	−2.348	[0.031]
PI	−1.127	[0.327]	−3.023	[0.007]

Notes: *p*-values are in square parenthesis. LLC stands for Levin–Lin–Chu unit-root test. Source: Authors owns.

After verifying the variables' stationary properties, we investigated possible shifts in the cointegration connection between the variables throughout the distribution using a panel cointegration test. Informed by previous studies (Salman et al., 2019), we utilised the cointegration test proposed by Westerlund (2007) to examine four tests that adhere to a normal distribution: Gt (between groups), Ga (among groups), Pt (between panels), and Pa (among panels). The findings in Table 2 indicate significant and enduring relationships among the variables analysed in the studied cities. The Ga and Pa tests demonstrate a lack of evidence for cointegration.

Table 2. Westerlund panel cointegration test results.

Test	Value	*p*-Value	Cointegration
	Europe		
Gt	6.483 **	[0.021]	Yes
Ga	1.182	[0.384]	No
Pt	6.488 **	[0.018]	Yes
Pa	5.489	[0.652]	No
	Asia–Pacific		
Gt	4.468 **	[0.012]	Yes
Ga	3.227	[0.622]	No
Pt	8.916 *	[0.002]	Yes
Pa	1.978	[0.458]	No

Notes: *p*-values are in square parenthesis. *, ** and *** represent the 1, 5 and 10% significance level, respectively. Source: Author's own.

4.2. Cross-Sectional Dependency (C-D) Results

Assessing cross-sectional dependence is an essential crucial step in the panel QARDL process to deal with the difficulties of inaccurate test statistics and inefficient estimators. This cross-sectional dependence arises from an unidentified common disturbance and interactions among units, where the error terms of the units are non-mutually exclusive (Baltagi et al., 2016).

The research utilised two assessments: the Frees test (Frees, 1995) and the Pesaran CD test (Pesaran et al., 2004) to analyse cross-sectional dependence. The results (as in Table 3) imply the absence of cross-sectional dependence among the variables, as they surpass conventional levels of statistical significance.

Table 3. Cross-sectional dependency test.

Test	Stat.	*p*-Value
	Europe	
Frees test	−1.541	[0.183]
Pesaran CD	3.986	[0.207]
	Asia-pacific	
Frees test	−1.173	[0.137]
Pesaran CD	8.267	[0.861]

Notes: *p*-values are in square parenthesis. Source: Author's own.

5. Results of Panel QARDL

5.1. The Impact of Tourism on Economic Growth

The first set of analyses examined the tourism-led economic growth (TLEG). Tables 4 and 5 provide the short-term analysis related to panel QARDL for Europe and Asia–Pacific countries, respectively[2]. The speed of the adjustment parameter translates to this expected negative sign and is significant in the considered quantiles. The negative sign reflects an adjustment to the long-term equilibrium between economic growth and tourism among other variables within the examined sample, which aligns with Bayar and Yener (2019) and Çetin et al. (2023). The findings demonstrate that, for European countries, the speed of adjustment is highest in the middle to upper quantiles, at 91% and 87%, respectively (Table 4). The rapid adjustments observed in stronger economic conditions and established tourism sectors indicate that the economies in question possess strong institutional frameworks, diversified income sources, and stable tourism demand, enabling them to recover swiftly from shocks. In adverse economic conditions, reliance on tourism remains significant; however, the existence of alternative economic buffers mitigates the necessity for immediate adjustment. The image exhibits a notable inversion in the Asia–Pacific region, where the adjustment appears to be more pronounced at the lower (91%) and middle (93%) quintiles. In line with the findings of Rivera (2017) and Zhou et al. (2017), the latter indicates that these countries emphasise prompt action to stabilise their economies given the essential role of tourism in their overall growth. In higher quantiles, more robust economies exhibit greater diversification and reduced dependence on tourism, leading to marginally slower adjustments to equilibrium.

The data presented in the tables clearly indicates that the impact of the analysed factors on economic growth exhibited significant variation across different instances, both among the quantiles and across the regions examined. In bearish periods (lower quantile), economic growth in European countries is significantly affected by the tourism sector, exhibiting an elasticity of GDP to tourism sectors of approximately 63%. The elasticity for nations within the Asia–Pacific region is estimated to be around 46%. This highlights the significant role of tourism in sustaining growth during economic recessions, particularly in Europe.

The other examined variables demonstrate the anticipated signs. For instance, trade openness is identified as the second most significant factor, showing elasticities of approximately 41% for European countries and 28% for Asia–Pacific countries: with the latter highlighting its essential role in economic resilience. Human development and fixed capital formation positively influence economic growth, emphasising the importance of investments in these areas. Whereas the negative sign for exchange rate fluctuations and political instability stresses the importance of macroeconomic and political stability in times of economic contraction, consistent with Appiah et al. (2019) and Corovei and Socol (2019).

Table 4. Short-term estimated coefficients: European countries.

EC	TOR	FC	TO	ER	PI	HD
			Lower Quantile			
−0.839	0.637 **	0.029 ***	0.412 *	−0.468 *	−0.505 *	0.130
(0.099)	(0.367)	(0.018)	(0.030)	(0.283)	(0.125)	(0.250)
[0.000]	[0.012]	[0.073]	[0.000]	[0.000]	[0.003]	[0.210]
			Middle quantile			
−0.911	0.721 *	0.062	0.458 **	0.190	0.248 *	0.162 **
(0.090)	(0.138)	(0.107)	(0.173)	(0.147)	(0.124)	(0.153)
[0.000]	[0.009]	[0.372]	[0.018]	[0.936]	[0.032]	[0.043]
			Upper quantile			
−0.879	0.455 **	0.139 *	0.691 *	0.652 **	0.181 ***	0.129 **
(0.061)	(0.129)	(0.022)	(0.158)	(0.319)	(0.081)	(0.065)
[0.000]	[0.032]	[0.003]	[0.003]	[0.042]	[0.059]	[0.043]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

Table 5. Short-term estimated coefficients: Asia–Pacific countries.

EC	TOR	FC	TO	ER	PI	HD
			Lower Quantile			
−0.905 *	0.486 *	0.120 **	0.283 *	−0.556 *	−0.772 **	0.086
(0.143)	(0.148)	(0.045)	(0.089)	(0.147)	(0.236)	(0.138)
[0.000]	[0.005]	[0.014]	[0.008]	[0.002]	[0.026]	[0.500]
			Middle quantile			
−0.932 *	0.388 **	0.056	0.357 **	0.388 **	0.237 *	0.140 **
(0.065)	(0.112)	(0.135)	(0.176)	(0.187)	(0.037)	(0.047)
[0.000]	[0.025]	[0.391]	[0.044]	[0.024]	[0.003]	[0.041]
			Upper quantile			
−0.846 *	0.437 **	0.147 ***	0.391 *	0.318 **	0.186 **	0.123 *
(0.082)	(0.277)	(0.078)	(0.289)	(0.174)	0.037	0.029
[0.000]	[0.030]	[0.053]	[0.002]	[0.045]	[0.017]	[0.009]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

The contribution of the tourism sector diminishes during periods of economic growth as other sectors become more prominent. This indicates that the elasticity of GDP to tourism has declined to 45% in Europe and 44% in Asia–Pacific countries. All other factors display the expected sign, suggesting that an appreciation in the exchange rate positively affects growth. Political stability contributes significantly to economic growth. The findings indicate that policies aimed at promoting tourism and ensuring stability could alleviate economic downturns. Furthermore, high-GDP nations should reduce dependence on cyclically vulnerable sectors, such as tourism, by investing in infrastructure and innovation. The findings suggest that during periods of economic expansion, it is essential to foster stability and allocate investments towards diverse, high-growth sectors to achieve balanced and sustainable development.

In the time of moderate economic growth (median quantile), a greater elasticity of GDP to the tourism sector was noted compared to both downturn and upturn periods. This indicates that tourism exerts a greater influence on growth during times of economic stability, rather than during periods of contraction or expansion. Under these conditions, the sector's capacity to stimulate demand and generate income in associated industries is markedly improved. The findings underscore the importance of implementing bal-

anced policies that leverage tourism and trade, while simultaneously ensuring ongoing investments in stability and infrastructure.

The long-term effects (Tables 6 and 7) demonstrate a consistent trend across nearly all examined factors, underscoring their enduring impact on economic growth over time. The long-term importance of the tourism sector decreases as other structural and foundational factors, including human development, fixed capital formation, trade openness, and political stability, become more prominent. This transition indicates the economy's movement away from a reliance on cyclical and demand-sensitive sectors, such as tourism, towards more stable and growth-promoting factors that enhance resilience and sustainable development. Long-term economic policies must prioritise investments in innovation, infrastructure, and human capital to achieve balanced and sustainable growth that extends beyond the immediate benefits of sectors such as tourism.

Table 6. Long-term estimated coefficients: European countries.

TOR	FC	TO	ER	PI	HD
		Lower Quantile			
0.553 *	0.420 **	0.425 *	−0.116 **	−0.123	0.388 **
(0.181)	(0.250)	(0.076)	(0.018)	(0.093)	0.413
[0.005]	[0.033]	[0.001]	[0.024]	[0.113]	[0.021]
		Middle quantile			
0.569 **	0.295 **	0.372 ***	0.233 *	0.324 **	0.257 **
(0.279)	(0.130)	(0.277)	(0.015)	(0.141)	(0.123)
[0.024]	[0.023]	[0.077]	[0.007]	[0.044]	[0.041]
		Upper quantile			
0.602 *	0.247 **	0.383 **	0.246 **	0.531 **	0.233 **
(0.159)	(0.099)	(0.103)	(0.167)	(0.240)	(0.112)
[0.001]	[0.032]	[0.038]	[0.043]	[0.021]	[0.038]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

Table 7. Long-term estimated coefficients: Asia–Pacific countries.

Long-Term for Asia–Pacific Countries					
TOR	**FC**	**TO**	**ER**	**PI**	**HD**
		Lower Quantile			
0.160 **	0.261 *	0.276 **	0.131	−0.205 *	0.168 *
(0.097)	(0.079)	(0.145)	(0.083)	(0.044)	(0.012)
[0.045]	[0.003]	[0.035]	[0.226]	[0.006]	[0.004]
		Middle quantile			
0.203 **	0.451 **	0.300 *	0.179 **	0.186	0.242 *
(0.035)	(0.187)	(0.109)	(0.073)	(0.128)	(0.021)
[0.016]	[0.013]	[0.007]	[0.043]	[0.417]	[0.000]
		Upper quantile			
0.196 **	0.373 **	0.391 *	0.249 **	0.352 *	0.511 *
(0.086)	(0.175)	(0.114)	(0.125)	(0.124)	(0.150)
[0.041]	[0.049]	[0.001]	[0.041]	[0.009]	[0.000]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

5.2. The Impact of Economic Growth on Tourism Sector

This section explores an additional hypothesis relevant to the findings on economy-driven tourism growth (EDTG). Proceeding in a similar fashion, Tables 8 and 9 display the panel

QARDL results for European and Asia–Pacific nations. The negative adjustment parameter signifies a shift towards long-term equilibrium between economic growth and tourism, highlighting marked regional disparities. The highest adjustment speeds in European countries are observed in the middle to upper quantiles and are around 55%. This faster adjustment speeds in the middle to upper quantiles imply that economic growth during stable or bullish periods has a stronger and more immediate impact on tourism. This calls for strategies that leverage growth momentum to further develop the tourism sector during favourable economic conditions. In the Asia–Pacific region, the adjustment is notably more significant at the lower (40%) and middle (45%) quintiles. The more pronounced adjustment at the lower and middle quantiles in these countries highlights the importance of stabilising and supporting tourism during economic downturns or moderate growth phases.

Table 8. Short-term estimated coefficients: European countries.

EC	GDP	FC	TO	ER	PI	HD
			Lower Quantile			
−0.513 *	0.180 **	0.107 *	0.399 **	0.225 ***	−0.377 **	0.444 *
(0.137)	(0.053)	(0.012)	(0.107)	(0.118)	(0.145)	(0.086)
[0.000]	[0.014]	[0.006]	[0.026]	[0.062]	[0.047]	[0.000]
			Middle quantile			
−0.551 *	0.161	0.095 *	0.320 *	0.083 **	−0.166 ***	0.337 *
(0.139)	(0.123)	(0.012)	(0.046)	(0.017)	(0.094)	(0.072)
[0.000]	[0.216]	[0.001]	[0.007]	[0.030]	[0.075]	[0.000]
			Upper quantile			
−0.568 *	0.178 ***	0.102 *	0.391 **	0.074 **	0.154	0.292 *
(0.143)	(0.062)	0.017	0.149	0.036	0.005	(0.045)
[0.000]	[0.070]	[0.003]	[0.041]	[0.047]	[0.812]	[0.000]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

Table 9. Short-term estimated coefficients: Asia–Pacific countries.

Short-Term for Asia–Pacific Cities						
EC	**GDP**	**FC**	**TO**	**ER**	**PI**	**HD**
			Lower Quantile			
−0.403 *	0.138 **	0.075 **	0.219 **	0.249 **	−0.147 **	0.204 *
(0.171)	(0.018)	(0.019)	(0.081)	(0.116)	(0.041)	(0.262)
[0.011]	[0.026]	[0.023]	[0.036]	[0.036]	[0.016]	[0.000]
			Middle quantile			
−0.453 **	0.130 **	0.126	0.255 **	0.025 ***	−0.001	0.653 **
(0.184)	(0.060)	(0.113)	(0.108)	(0.017)	(0.008)	(0.295)
[0.0131]	[0.046]	[0.227]	[0.047]	[0.076]	[0.873]	[0.029]
			Upper quantile			
−0.143 *	0.163 *	0.120	0.237	0.008	0.001	0.063
(0.037)	(0.041)	(0.094)	(0.069)	(0.017)	(0.010)	(0.217)
[0.009]	[0.001]	[0.165]	[0.005]	[0.628]	[0.942]	[0.303]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

The fact that the impact of the elements that were analysed on the tourism sector exhibited the expected signs is something that specifically sticks out in these tables. In the short-term, growth has a major impact on the tourism sectors of both areas, particularly at lower quantiles (almost 18% for Europe and 13% for Asia–Pacific). This is especially true in

European countries. Specifically, the latter emphasises the significance of economic stability and growth in terms of affordability and encouraging demand for short-term tourism accommodations. There is also the possibility of a moderate gain for the tourism sector through fixed capital creation (not exceeding 15%) as a result of delays in the building of infrastructure; however, in the short-term, this only delivers modest gains. Trade openness, on the other hand, demonstrates more immediate benefits in the quantiles that are taken into consideration, including the facilitation of increased access to foreign markets and the enhancement of tourism. On the basis of these data, it is possible to propose that the expansion of tourism in the short-term is more dependent on immediate economic factors such as the growth of GDP and the openness of trade than it is on long-term infrastructure initiatives. Trade openness, on the other hand, demonstrates immediate benefits since it makes it easier to access foreign markets and it encourages tourism flows, particularly in locations that are more integrated into global trade.

Lower quantiles are more susceptible to the effects of swings in currency rates, which attract visitors who are concerned about their financial situation because of favourable exchange rates. Improvements to the human development index (HDI) have an immediate impact, leading to an improvement in welfare and living conditions, which in turn attracts a greater number of tourists. Last but not least, political stability is also an important factor in lower quantiles. In these areas, instability can negatively impact tourism to a significant degree, whereas stability encourages trust and investment.

The long-term effects (Tables 10 and 11) reveal a consistent trend across nearly all examined factors, highlighting their lasting influence on the tourism sector over time. Broadly, the expansion of the gross domestic product (GDP) over the long-term encourages innovation, the development of infrastructure, and niche tourism, all of which contribute to sustainable growth, particularly in regions with a high GDP. Enhancements to the human development index (HDI) continue to improve both the workforce and the infrastructure, which in turn further encourages high-value tourism. The presence of political stability creates an atmosphere that is conducive to long-term growth by ensuring a safe reputation for tourism and a suitable climate for sustained investment. The stability of exchange rates becomes increasingly crucial, which in turn influences strategic pricing and the attractiveness of the market. The formation of fixed capital has more significant benefits over the long run, leading to improvements in infrastructure and competitiveness, particularly in levels of higher quantiles. Last but not least, the openness of trade helps to develop regional integration and encourages the expansion of tourism by permitting constant international exchange.

Table 10. Long-term estimated coefficients: European countries.

GDP	FC	TO	ER	PI	HD
		Lower Quantile			
0.227 *	0.420 **	0.425 *	0.216 **	−0.123	0.388 **
(0.101)	(0.250)	(0.076)	(0.018)	(0.093)	(0.413)
[0.006]	[0.033]	[0.001]	[0.024]	[0.113]	[0.021]
		Middle quantile			
0.569 **	0.295 **	0.572 ***	0.233 *	0.324 **	0.257 *
(0.279)	(0.130)	(0.277)	(0.015)	(0.141)	(0.123)
[0.024]	[0.023]	[0.077]	[0.007]	[0.044]	[0.011]
		Upper quantile			
0.258 *	0.468 **	0.483 **	0.095 **	0.531 **	0.233 **
(0.159)	(0.099)	(0.103)	(0.167)	(0.240)	(0.112)
[0.007]	[0.034]	[0.044]	[0.046]	[0.026]	[0.047]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

Table 11. Long-term estimated coefficients: Asia–Pacific countries.

Long-Term for Asia–Pacific Countries					
GDP	**FC**	**TO**	**ER**	**PI**	**HD**
Lower Quantile					
0.199 **	0.196 *	0.371 **	0.122	−0.215 *	0.268 *
(0.097)	(0.079)	(0.145)	(0.083)	(0.044)	(0.042)
[0.045]	[0.003]	[0.035]	[0.226]	[0.006]	[0.004]
Middle quantile					
0.243 **	0.475 **	0.280 *	0.208 **	0.161	0.242 *
(0.035)	(0.187)	(0.109)	(0.073)	(0.128)	(0.021)
[0.016]	[0.013]	[0.007]	[0.043]	[0.417]	[0.000]
Upper quantile					
0.296 **	0.273 ***	0.368 *	0.289 **	0.316 *	0.511 *
(0.066)	(0.175)	(0.114)	(0.125)	(0.124)	(0.150)
[0.041]	[0.052]	[0.003]	[0.042]	[0.011]	[0.000]

Notes: Std. errors are in parenthesis. *, **, and *** represent the 1, 5, and 10% significance level, respectively. TOR: tourism, FC: fixed capital formulation, TO: trade openness, ER: real effective exchange rate, PI: political stability, HD: human development. Source: Author's own.

6. Conclusions

This study offers a detailed examination of the complex relationship between tourism and economic growth, filling notable gaps in the current literature. The research employs a multifaceted approach that includes both tourism-led economic growth (TLEG) and economy-driven tourism growth (EDTG), highlighting the bidirectional dynamics between these sectors. The findings indicate that tourism plays a crucial role during economic downturns, acting as a stabilising force, whereas its significance diminishes during economic expansions when other sectors gain prominence. These findings are consistent with Singh and Alam (2024) and Kyara et al. (2021) who stated that tourism development enhances economic growth.

The use of a panel quantile ARDL regression model improves comprehension of this relationship by considering regional asymmetries and differing levels of economic and tourism development. The findings suggest that European nations possess well-developed tourism industries and varied economies, facilitating a stronger recovery, while Asia–Pacific countries encounter increased pressure to utilise tourism for economic stabilisation. The elasticity of GDP in relation to tourism is significantly elevated during recessions, highlighting the sector's essential function in maintaining growth during adverse conditions.

The long-term implications indicate a strategic shift that prioritises structural factors rather than cyclical ones, supporting policies that promote innovation, infrastructure development, and investment in human capital. These strategies are crucial for attaining balanced and sustainable economic growth that transcends the short-term advantages of tourism. The analysis of EDTG highlights the significance of immediate economic indicators and long-term stability factors, including political stability and trade openness, in influencing tourism growth. This study highlights the need for comprehensive economic policies that leverage the strengths of the tourism sector while fostering resilience and diversification for sustained prosperity.

Policymakers must recognise the intricate relationship between tourism and economic growth, as outlined in this study, which identifies tourism as both a stabilising force during economic downturns and a potentially less significant factor during growth phases. Key recommendations include enhancing the tourism sector during recessions to bolster GDP, tailoring strategies to the unique economic contexts of European and Asia–Pacific countries, focusing on long-term structural improvements such as innovation and infrastructure, and

integrating tourism into broader economic policies that promote political stability and trade liberalisation. This approach will help ensure sustainable economic resilience, particularly in regions facing economic challenges.

However, the study has limitations, including a potential lack of generalizability beyond the regions analysed and the need for more comprehensive data on the long-term impacts of tourism on economic resilience. While it emphasises the importance of structural factors over cyclical ones, the findings may not fully capture the complexities of tourism's role in diverse economic contexts. Additionally, the focus on immediate economic indicators may overlook other critical factors influencing tourism growth. Policymakers are encouraged to consider these nuances when integrating tourism into broader economic strategies for sustainable growth.

Future research should address the limitations identified in the current study by expanding the geographic scope to enhance generalisability and by collecting more comprehensive data on the long-term impacts of tourism on economic resilience. Investigating the complexities of tourism's role in various economic contexts is essential, as is examining factors beyond immediate economic indicators that influence tourism growth. Policymakers should be informed of these nuances to effectively integrate tourism into sustainable economic strategies.

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Notes

[1] Tourism-Led Economic Growth (TLEG) is examined by treating GDP as the dependent variable in Equations (1)–(7). $(\text{i.e., GDP} = f(Tor, \text{FC}, \text{TO}, \text{ER}, \text{HD}, \text{PI}))$. Full equations will not be presented here to conserve space.

[2] The findings of this paper are presented only for quantile levels (i.e., 25th, 50th, 75th). The quantiles are categorised as low, normal, and high economic regimes, respectively.

References

Alcalá-Ordóñez, A., Brida, J. G., & Cárdenas-García, J. (2024). Has the tourism-led growth hypothesis been confirmed? Evidence from an updated literature review. *Current Issues in Tourism*, *27*(22), 3571–3607.

Alcalá-Ordóñez, A., & Segarra, V. (2023). Tourism and economic development: A literature review to highlight main empirical findings. *Tourism Economics*, *31*(1), 76–103.

Alhowaish, A. K. (2016). Is tourism development a sustainable economic growth strategy in the long run? Evidence from GCC countries. *Sustainability*, *8*(7), 605. [CrossRef]

Ansari, M. A. (2024). Tourism and economic growth: Evidence from cross-country data with policy insights. *Journal of the Knowledge Economy*, 1–46. [CrossRef]

Apergis, N., & Payne, J. E. (2012). Tourism and growth in the Caribbean–evidence from a panel error correction model. *Tourism Economics*, *18*(2), 449–456.

Appiah, M., Li, F., Frowne, D. I., & Donkor, D. T. (2019). Foreign investment and growth: A case of selected African economies. *International Entrepreneurship Review*, *5*(3), 7.

Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: The Spanish case. *Applied Economics*, *34*(7), 877–884.

Baltagi, B. H., Feng, Q., & Kao, C. (2016). Estimation of heterogeneous panels with structural breaks. *Journal of Econometrics*, *191*(1), 176–195.

Basu, K., & Marg, V. S. (2010). Impact of political instability and terrorism in the tourism industry of three Middle-East countries: An Econometric exploration. In *International conference on tourism, transport & logistic*. UP Organizer and Publication Co.

Bayar, Y., & Yener, B. (2019). Political stability and tourism sector development in Mediterranean countries: A panel cointegration and causality analysis. *European Journal of Tourism Research*, *21*, 23–32.

Biagi, B., Ladu, M. G., & Royuela, V. (2017). Human development and tourism specialization. Evidence from a panel of developed and developing countries. *International Journal of Tourism Research*, *19*(2), 160–178.

Bilen, M., Yilanci, V., & Eryüzlü, H. (2017). Tourism development and economic growth: A panel Granger causality analysis in the frequency domain. *Current Issues in Tourism*, *20*(1), 27–32.

Bouzahzah, M., & El Menyari, Y. (2013). International tourism and economic growth: The case of Morocco and Tunisia. *The Journal of North African Studies*, *18*(4), 592–607.

Brida, J. G., Cortes-Jimenez, I., & Pulina, M. (2016). Has the tourism-led growth hypothesis been validated? A literature review. *Current Issues in Tourism*, *19*(5), 394–430.

Cervantes, R., & Villaseñor, J. (2015). Political stability and economic growth: Some considerations. *Journal of Public Governance and Policy: Latin American Review*, *1*(1), 77–100.

Cho, J. S., Kim, T. H., & Shin, Y. (2015). Quantile cointegration in the autoregressive distributed-lag modeling framework. *Journal of econometrics*, *188*(1), 281–300.

Corkill, D. (1998). The iberian economies: Divergence to convergence? In *European economies since the second world war* (pp. 124–147). Springer.

Corovei, E. A., & Socol, A. (2019). The impact of political stability on economic growth in European Union. *Ovidius University Annals, Economic Sciences Series*, *19*(1), 8–14.

Cortes-Jimenez, I., Nowak, J. J., & Sahli, M. (2011). Mass beach tourism and economic growth: Lessons from Tunisia. *Tourism Economics*, *17*(3), 531–547.

Cortes-Jimenez, I., & Pulina, M. (2010). Inbound tourism and long-run economic growth. *Current Issues in Tourism*, *13*(1), 61–74.

Çetin, M. K., Sekreter, M. S., & Mert, M. (2023). The effect of price and security on tourism demand: Panel quantile regression approach. *Advances in Hospitality and Tourism Research (AHTR)*, *11*(2), 256–276.

De Long, J. B., & Summers, L. H. (1992). Macroeconomic policy and long-run growth. *Policies for Long-Run Economic Growth*, *77*, 93–128.

Dritsakis, N. (2004). Tourism as a long-run economic growth factor: An empirical investigation for Greece using causality analysis. *Tourism economics*, *10*(3), 305–316.

Eugenio-Martin, J. L., Martín-Morales, N., & Sinclair, M. T. (2008). The role of economic development in tourism demand. *Tourism Economics*, *14*(4), 673–690.

Fahimi, A., Saint Akadiri, S., Seraj, M., & Akadiri, A. C. (2018). Testing the role of tourism and human capital development in economic growth. A panel causality study of micro states. *Tourism Management Perspectives*, *28*, 62–70.

Frees, E. W. (1995). Assessing cross-sectional correlation in panel data. *Journal of Econometrics*, *69*(2), 393–414.

Goeldner, C. R., & Ritchie, J. B. (2011). *Tourism: Principles, practices, philosophies*. John Wiley & Sons.

Gunduz, L., & Hatemi-J, A. (2005). Is the tourism-led growth hypothesis valid for Turkey? *Applied Economics Letters*, *12*(8), 499–504.

Hakim, M. A. A., Suryantoro, A., & Rahardjo, M. (2021). Analysis of the influence of tourism growth on economic growth and human development index in West Java Province 2012–2018. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*(1), 160–169.

Haller, C., Thach, L., & Olsen, J. (2020). Understanding eWinetourism practices of European and North America wineries. *Gastronomy and Tourism*, *4*(3), 141–156.

Harb, G., & Bassil, C. (2021). Harnessing cross-region disparities to assess the impact of tourism on regional growth in Europe. *Current Issues in Tourism*, *24*(11), 1491–1504.

Hung, N. T., & Hieu, H. M. (2022). Tourism demand and economic growth in Vietnam: Fresh insights based on the partial and multivariate wavelet approaches. *The Singapore Economic Review*, 1–22. [CrossRef]

International Monetary Fund (IMF). (2023). *Economic reports*. Available online: https://www.imf.org/en/Publications (accessed on 8 December 2024).

Kasimati, E. (2016). Does tourism contribute significantly to the Greek economy? A multiplier analysis. *European Journal of Tourism, Hospitality and Recreation*, *7*(1), 55–62.

Katircioglu, S. T. (2009). Revisiting the tourism-led-growth hypothesis for Turkey using the bounds test and Johansen approach for cointegration. *Tourism Management*, *30*(1), 17–20. [CrossRef]

Keho, Y. (2017). The impact of trade openness on economic growth: The case of Cote d'Ivoire. *Cogent Economics & Finance*, *5*(1), 1332820.

Kervankiran, İ., & Eteman, F. S. (2023). Does Tourism Reduce Regional Inequality? Spatial Appearance of Tourism Development in Turkey. *Almatourism-Journal of Tourism, Culture and Territorial Development*, *13*(24), 30–50.

Khalid, U., Okafor, L. E., & Burzynska, K. (2022). Do regional trade agreements enhance international tourism flows? Evidence from a cross-country analysis. *Journal of Travel Research*, *61*(6), 1391–1408. [CrossRef]

Khozaei, F., Carbon, C. C., Hosseini Nia, M., & Kim, M. J. (2022). Preferences for hotels with biophilic design attributes in the post-COVID-19 era. *Buildings*, *12*(4), 427. [CrossRef]

Kibara, O. N., Odhiambo, N. M., & Njuguna, J. M. (2012). Tourism and economic growth in Kenya: An empirical investigation. *The International Business & Economics Research Journal (Online)*, *11*(5), 517.

Kong, Q., Peng, D., Ni, Y., Jiang, X., & Wang, Z. (2021). Trade openness and economic growth quality of China: Empirical analysis using ARDL model. *Finance Research Letters*, *38*, 101488. [CrossRef]

Kyara, V. C., Rahman, M. M., & Khanam, R. (2021). Tourism expansion and economic growth in Tanzania: A causality analysis. *Heliyon*, *7*(5), e06966. [CrossRef]

Leontidou, L. (1995). Repolarization of the Mediterranean: Spanish and Greek cities in neo-liberal Europe. *European Planning Studies*, *3*(2), 155–172. [CrossRef]

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *The American Economic Review*, *82*, 942–963.

Li, H., Chen, J. L., Li, G., & Goh, C. (2016). Tourism and regional income inequality: Evidence from China. *Annals of Tourism Research*, *58*, 81–99.

Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. *The Quarterly Journal of Economics*, *107*(2), 407–437.

Martin, C. A., & Witt, S. F. (1988). Substitute prices in models of tourism demand. *Tourism Annals of Tourism Research*, *15*(2), 255–268. [CrossRef]

Martins, L. F., Gan, Y., & Ferreira-Lopes, A. (2017). An empirical analysis of the influence of macroeconomic determinants on World tourism demand. *Tourism Management*, *61*, 248–260. [CrossRef]

McKinnon, R. I. (1964). Foreign exchange constraints in economic development and efficient aid allocation. *The Economic Journal*, *74*(294), 388–409.

Oh, C. O. (2005). The contribution of tourism development to economic growth in the Korean economy. *Tourism Management*, *26*(1), 39–44.

Okafor, L. E., Adeola, O., & Folarin, O. (2023). Natural disasters, trade openness and international tourism: The role of income levels across countries. *Tourism Recreation Research*, *48*(1), 60–78.

Özcan, C. C., & Özmen, İ. (2016). Terör ve turizm ilişkisinin karşilaştirmali bir analizi: AB ve Mena örneği. *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, *9*(4), 69–83.

Pablo-Romero, M. D. P., & Molina, J. A. (2013). Tourism and economic growth: A review of empirical literature. *Tourism Management Perspectives*, *8*, 28–41.

Payne, J. E., & Mervar, A. (2010). Research note: The tourism–growth nexus in Croatia. *Tourism Economics*, *16*(4), 1089–1094.

Pesaran, M. H., Schuermann, T., & Weiner, S. M. (2004). Modeling regional interdependencies using a global error-correcting macroeconometric model. *Journal of Business & Economic Statistics*, *22*(2), 129–162.

Quadri, D. L., & Zheng, T. (2010). A revisit to the impact of exchange rates on tourism demand: The case of Italy. *The Journal of Hospitality Financial Management*, *18*(2), 47–60.

Rahman, M. M., Saidi, K., & Mbarek, M. B. (2020). Economic growth in South Asia: The role of CO_2 emissions, population density and trade openness. *Heliyon*, *6*(5), e03903.

Ramirez, A., Ranis, G., & Stewart, F. (1997). *Economic growth and human development* (No. 787). Center Discussion Paper. Yale University.

Renaud, L. (2020). Reconsidering global mobility–distancing from mass cruise tourism in the aftermath of COVID-19. *Tourism Geographies*, *22*(3), 679–689.

Ribeiro, E. D. C., & Wang, B. (2020). Tourism led growth hypothesis: Has the tourism industry an impact on the economic growth of Sao Tome and Principe? *International Journal of Economics and Financial ISSUES*, *10*(1), 180.

Ritchie, J. B., & Crouch, G. I. (2003). *The competitive destination: A sustainable tourism perspective*. Cabi.

Rivera, M. A. (2017). The synergies between human development, economic growth, and tourism within a developing country: An empirical model for Ecuador. *Journal of Destination Marketing & Management*, *6*(3), 221–232.

Romer, M. (1990). Endogenous technological change. *Journal of Political Economy*, *98*(5, Part 2), S71–S102.

Salman, M., Long, X., Dauda, L., Mensah, C. N., & Muhammad, S. (2019). Different impacts of export and import on carbon emissions across 7 ASEAN countries: A panel quantile regression approach. *Science of the Total Environment*, *686*, 1019–1029.

Seraphin, H., & Dosquet, F. (2020). Mountain tourism and second home tourism as post COVID-19 lockdown placebo? *Worldwide Hospitality and Tourism Themes*, *12*(4), 485–500.

Singh, D., & Alam, Q. (2024). Is tourism expansion the key to economic growth in India? An aggregate-level time series analysis. *Annals of Tourism Research Empirical Insights*, *5*(2), 100126.

Sokhanvar, A., Çiftçioğlu, S., & Javid, E. (2018). Another look at tourism-economic development nexus. *Tourism Management Perspectives*, *26*, 97–106.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, *70*(1), 65–94.

Suri, T., Boozer, M. A., Ranis, G., & Stewart, F. (2011). Paths to success: The relationship between human development and economic growth. *World Development*, *39*(4), 506–522.

Tang, C. F. (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), 272–284.

Timothy, D. J., & Tosun, C. (2003). Arguments for community participation in the tourism development process. *Journal of Tourism Studies*, *14*(2), 2–15.

Trang, N. H. M., Duc, N. H. C., & Dung, N. T. (2014). Research note: Empirical assessment of the tourism-led growth hypothesis—The case of Vietnam. *Tourism Economics*, *20*(4), 885–892.

Travel and Tourism Development Index. (2024). Available online: https://www3.weforum.org/docs/WEF_Travel_and_Tourism_Development_Index_2024.pdf (accessed on 8 December 2024).

United Nations World Tourism Organization (UNWTO). (2023). *Tourism highlights*. Available online: https://www.e-unwto.org/doi/book/10.18111/9789284424986 (accessed on 8 December 2024).

Wamboye, E. F., Nyaronga, J., & Sergi, B. S. (2020). What are the determinants of international tourism in Tanzania? *World Development Perspectives*, *17*, 100175.

Westerlund, J. (2007). Testing for error correction in panel data. *Oxford Bulletin of Economics and Statistics*, *69*(6), 709–748.

World Travel & Tourism Council (WTTC). (2023). *Annual economic impact reports*. Available online: https://wttc.org/Research/Economic-Impact (accessed on 8 December 2024).

Yang, L., Zhou, X., & Feng, X. (2022). Renewable energy led economic growth hypothesis: Evidence from novel panel methods for N-11 economies. *Renewable Energy*, *197*, 790–797.

Zhou, M., Liu, X., Pan, B., Yang, X., Wen, F., & Xia, X. (2017). Effect of tourism building investments on tourist revenues in China: A spatial panel econometric analysis. *Emerging Markets Finance and Trade*, *53*(9), 1973–1987.

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