

# The influence of the Quality of Institutions on tourism in the selected Mediterranean countries of the European Union

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**Abstract** | The present study aims to investigate the effect of institutional quality on tourism development in a panel of 9 Mediterranean countries within the European Union for the period of 1996-2021. Tourism development is measured by the number of arrivals. Control variables, which also represent determinants of tourism, include GDP growth rate, inflation, higher education, environmental quality, and trade. Institutional quality indexes are constructed based on indicators of government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability. To estimate the impact of these determinants on tourism development, the Generalized Method of Moments-GMM model is employed. The results suggest a positive connection between institutional quality and tourism. This research provides insight into the crucial determinants of governance and institutions and their profound influence on tourism. Such insights should be valuable for management bodies responsible for shaping national development strategies.

**Keywords** | Mediterranean countries from the European Union, tourism, quality of institutions, panel analysis, GMM model

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## 1. Introduction

Tourism and its impact on the economic and socio-cultural aspects of society have become frequently studied and discussed topics in scientific and political circles. It is particularly crucial for underdeveloped areas, where it acts as a catalyst for social changes and a means of increasing GDP, forming the basis of development strategies. As tourism increasingly becomes a determinant for the growth of cities and countries, understanding tourist behavior provides further insights into enhancing tourist satisfaction and attracting loyal visitors (Stefko et al., 2020). Tourism involves a complex sector with a wide variety of public and private actors (Amaro & Costa, 2017). In today's consumer-driven era, the quality of products and services offered by organizations is of paramount importance for their sustainability and success in an increasingly competitive market (Teixeira, 2019).

A plethora of older and recent works present various conditions that tourists consider and compare as rational consumers, from both economic and non-economic perspectives (Shafiullah et al., 2019; Vugdelija, 2020, among others). Institutional quality plays a pivotal role in tourism development. Well-established institutions operating transparently, efficiently, and in compliance with regulations provide security and confidence to tourists. These institutions may include government agencies, tourism organizations, local authorities, and NGOs. Effective institutions can create an environment conducive to tourism development, attracting investors and entrepreneurs. They can establish and enforce regulations vital for protecting natural and cultural resources and ensuring tourists' safety. Additionally, quality institutions can provide training and support to local entrepreneurs in the tourism industry, promote destinations, improve access to information about tourist offerings, and coordinate activities and events to ensure positive tourist experiences. In summary, institutional quality significantly influences

tourism development by creating an attractive environment for tourists and investors, ensuring security, protecting resources, and supporting the local tourism industry. Excellent service quality helps reduce costs, increase profits, enhance organizational performance, and foster positive word-of-mouth (Seth, Deshmukh, & Vrat, 2005). Satisfaction reflects post-purchase evaluation of product quality based on pre-purchase expectations (Singh et al., 2023).

In empirical literature investigating the impact of institutional quality on tourism, some authors focused solely on specific aspects of institutional quality (Das & Di Renzo, 2010; Poprawe, 2015, studying corruption), or only examined specific dimensions of tourism (Lee, 2015, analyzing tourism competitiveness). Given the challenge posed by the global pandemic, the importance of institutional quality and the need for additional efforts to enhance it are now more apparent. Consequently, the number of scientific papers investigating the influence of institutions on tourism has increased.

The choice of the 9 Mediterranean countries from the European Union (Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Spain, and Slovenia) is justified by Europe's significant share of international tourist arrivals, accounting for over 50%. Europe also garnered nearly 40% of international tourism income in 2019 (UNWTO, 2021a). Some of the world's most popular tourist destinations are within the Mediterranean EU countries. France, Spain, and Italy rank among the top 10 countries in terms of tourist arrivals and generated income (UNWTO, 2021b).

After a successful 2019, the number of tourist overnight stays in the European Union plummeted by 52% in 2020, with Greece, Malta, and Cyprus experiencing the most substantial losses (around 70%). The hotel sector was particularly affected, while campsites experienced a milder decline in overnight stays (EUROSTAT, 2021). The emergence of the global pandemic posed one of the biggest challenges to modern tourism, leading to

extensive financial losses for small and medium-sized enterprises in the tourism sector, estimated at around 2.3 million according to European Parliament data (2021). The tourism and travel sector in the European Union witnessed a drastic drop in reservations, ranging from 60% to 90%, subsequently reflected in a decline in tourism employment (European Commission, 2020).

This research contributes by highlighting the importance of institutional quality and its monitoring. By expanding the basic set of quality indicators with data from the World Governance Indicators (WGI), we attempt to demonstrate their impact on other economic segments, particularly tourism. Previous studies on the relationship between institutional quality and tourism are often limited to specific regions or rely on a smaller set of indicators. Our study covers Mediterranean EU countries, encompassing 9 member states with varying levels of development and shares in tourist traffic. While previous literature predominantly utilizes total international tourism receipts or tourist numbers as performance indicators for countries differing in area, population, or economy, our study employs comprehensive indicators measuring institutional quality from various perspectives. We aim to observe whether the effects of different institutional variables differ. Unlike much of the existing literature, which relies on panel data studies and often uses total international tourism receipts or tourist numbers that can vary widely between countries, our study focuses on more standardized variables such as the number of arrivals and employees in tourism. Assessing the impact of institutional quality indicators on tourism employees is essential for determining the influence of changes in institutional quality on the tourism sector's performance and the competitiveness of tourism firms.

The results of our research aim to provide insights into the crucial determinants of management and institutions, explaining their profound influence on events in the tourism sphere and the

potential economic development generated by tourism. We emphasize the global significance of tourism as a key driver of economic growth, especially for small and underdeveloped economies, highlighting the importance of studying tourist demand determinants and institutional roles in shaping tourism development. Furthermore, we stress the specific significance of tourism for Mediterranean EU countries, where it constitutes a substantial portion of total tourist overnight stays and arrivals. Economic reliance on foreign tourists in these countries underscores the need for continuous monitoring and improvement of the tourism sector. We also draw attention to the economic challenges faced by Mediterranean EU countries during the COVID-19 pandemic due to the significant decline in tourism income resulting from movement restrictions, highlighting their vulnerability to external shocks and the necessity of understanding factors contributing to their economic recovery and resilience.

By employing dynamic panel analysis and appropriate estimators and tests, our research offers a robust and rigorous approach to analyzing the relationship between institutional quality and tourism development. This methodological contribution enhances the validity and reliability of our findings.

Overall, our research provides critical insights into the role of institutions in tourism development, particularly in Mediterranean EU countries. By addressing the specific context and challenges faced by these countries, our study offers valuable knowledge for policymakers, researchers, and industry practitioners seeking to enhance the tourism sector and promote sustainable economic growth in the region.

The paper is structured as follows: Section 2 briefly reviews existing studies investigating the effect of institutional quality on tourism development. Section 3 explains the methodology and data, while Section 4 presents empirical results. Section 5 synthesizes the paper's findings, and

Section 6 offers conclusions and recommendations.

## 2. Literature review

More recent studies argue that institutions and the quality of their components are essential prerequisites for tourism development. Faced with the problem of a global pandemic, the quality of institutions and the need for additional efforts to improve them have become more prominent than ever. Therefore, it is not surprising that the number of scientific papers investigating the influence of institutions on tourism has increased (Yap & Saha, 2013; Balli et al., 2016; Khan et al., 2020; Akram et al., 2021, among others).

The paper "Trends in European Tourism Planning and Organisation", edited by Costa, Panyik, and Buhalis (2013), explores various facets of tourism planning and organization within the European context. Through a collection of chapters authored by experts in the field, the book delves into emerging trends, challenges, and innovations shaping the tourism sector across Europe. One key aspect investigated is the evolution of tourism planning strategies in response to changing market dynamics and consumer preferences. The authors examine how destinations in Europe are adapting their planning and organizational frameworks to remain competitive in an increasingly globalized tourism industry. This includes discussions on destination management strategies, marketing approaches, and the integration of sustainability principles into tourism planning processes. Furthermore, the paper explores the role of technology and innovation in transforming tourism planning and organization practices. The authors analyze how advancements in digital technologies, such as online booking platforms and destination management systems, are reshaping the way tourism destinations are managed and marketed. Additionally, the paper investigates the impact of technologi-

cal innovations on visitor experiences and destination competitiveness. Another important area of inquiry in the paper is the integration of sustainability principles into tourism planning and organization. The authors examine how European destinations are adopting sustainable tourism practices to minimize negative environmental and socio-cultural impacts while maximizing economic benefits. This includes discussions on sustainable destination management, eco-tourism initiatives, and community-based tourism development models. Overall, "Trends in European Tourism Planning and Organisation" offers valuable insights into the current state of tourism planning and organization in Europe and highlights emerging trends and challenges facing the industry. By examining topics such as destination management, technology integration, and sustainability, the paper provides a comprehensive overview of the key issues shaping the future of tourism in Europe.

Furthermore, in our examination of the influence of institutional quality on tourism in selected Mediterranean countries of the European Union, it's imperative to consider the contribution of "European Tourism Planning and Organisation Systems: The EU Member States", edited by Costa, Panyik, and Buhalis (2014). This comprehensive work offers detailed analyses of the tourism structures, policies, and practices across various European countries, providing valuable context for our study. For instance, within the context of our analysis of Mediterranean countries, chapters focusing on destinations like Greece and Italy shed light on the intricate regulatory frameworks and institutional dynamics shaping their tourism sectors. Understanding the nuances of destination management strategies in Spain and Portugal, as discussed in the book, offers crucial insights into how institutional quality influences tourism development and competitiveness in these regions. Furthermore, the chapters dedicated to countries such as Cyprus and Malta provide specific insights into the challenges and opportunities faced by smaller Mediterranean

destinations. By incorporating discussions and citations from this seminal work, we can deepen our understanding of the institutional frameworks influencing tourism development in our selected Mediterranean countries. Integrating perspectives from Costa, Panyik, and Buhalis (2014) enriches the depth and coherence of our theoretical framework, enhancing our discussion with empirical evidence and scholarly insights from leading experts in the field. By drawing upon the wealth of information presented in this book, we can provide a more nuanced analysis of the interplay between institutional quality and tourism dynamics in the Mediterranean context. In summary, leveraging the insights from "European Tourism Planning and Organisation Systems: The EU Member States" by Costa, Panyik, and Buhalis (2014) enriches our discussions and contributes to a more robust understanding of the complex relationship between institutions and tourism development in our selected Mediterranean countries.

Ghalia et al. (2019): This research examined the role of institutional quality, political risk, distance, and socio-economic conditions as determinants of tourist demand. The study analyzed data from 131 emitting countries and the top 34 tourist destinations between 2005 and 2014. Lower political risk and higher institutional quality were associated with increased tourist arrivals. The authors emphasized the need to improve bilateral relations and security to reduce political risk, which can have significant consequences for countries dependent on tourism.

Balli et al. (2016): This study focused on tourist flows from 34 OECD countries to 52 less developed countries. It confirmed the hypothesis that a higher quality institutional environment with a high degree of freedom contributes to the expansion of tourism in these less developed countries.

Lee et al. (2020): This study specifically examined the relationship between indicators of institutional quality and the economic development of Malaysia. The findings indicated that more efficient corruption control and government effectiveness had a statistically significant and positive effect on tourism, especially in the long term. Political stability and the absence of violence were important in the short term, influencing tourists' destination choices. The study concluded that tourists are more likely to visit destinations with high-quality institutions.

Khan et al. (2020): This research focused on nine popular Asian destinations and confirmed the importance of institutional quality in tourism development. The study emphasized the threshold that institutions need to maintain or surpass to achieve positive results. Understanding regional particularities and creating tailored policies were highlighted as important factors for benefiting individual economies.

Balli et al. (2016): This study emphasized the significance of political stability and quality management of institutions. It found that tourists are more inclined to travel to countries with higher levels of political freedom. The study also observed a positive and statistically significant relationship between the quality of institutions and tourism revenues. The variables of civil freedom, responsibility, and the rule of law were identified as particularly influential.

Canh & Thanh (2020): This study explored the differences between foreign and domestic tourism and their impact on the economy, particularly in terms of economic sensitivity. The quality of institutions was used as a control variable, indicating the well-being and stability of the economy. The study sugges-

ted a cause-and-effect relationship between institutions, tourism, and economic growth, highlighting that domestic tourism can make the economy more resistant to economic shocks, although some situations may still be inevitable.

Mushtaq et al. (2020): This study examined the impact of the aggregate quality index of institutions and its components on tourism in India. The collective index was found to be statistically significant in both the long and short term, confirming that tourists prefer politically stable destinations. The study indicated that the quality of institutions is a more dominant determinant of tourist demand in the long term compared to the short term.

Akram et al. (2021): This study observed the impact of good land management on tourism, and then the impact of tourism on the quality of the environment using data from 1997 to 2018. The study found a positive and significant influence of corruption control, political stability, and the absence of violence, as well as the effectiveness of the government on tourism. Regulatory quality, civil liberties and accountability showed insignificant and inconsistent results, while the rule of law was significant only for international income from tourism. The conclusion of the study emphasized the importance of governing structures in the development of tourism and the constant improvement of the work of institutions to promote a more orderly and stable country, ultimately making it a more desirable tourist destination.

Overall, these studies collectively emphasize the importance of institutions and their quality in tourism development. Factors such as corruption, political stability, government effectiveness, and institutional freedom are crucial in attracting

tourists and promoting economic growth. Understanding regional contexts, implementing tailored policies, and maintaining high-quality institutions are essential for fostering positive tourism outcomes. After reviewing the literature, it is evident that there is a lack of research specifically focusing on the relationship between the quality of institutions and tourism in the European Union. This paper aims to address this gap by providing a detailed analysis of various institutional variables from relevant databases within the EU member states' territory.

### 3. Methods

#### 3.1. Model Specifications

In almost all the research mentioned in this paper, panel analysis was used to prove research hypotheses, which speaks to its popularity and applicability in science. The popularity of this type of analysis can be attributed to the availability of data, greater capacity to model the complexity of human behavior, and simplification of calculations and statistical explanations (Hsiao, 2007). As with all available methods, numerous advantages as well as possible limitations are noticeable (Baltagi, 2021).

The advantages of panel data are manifested in more variability, less collinearity between variables, more degrees of freedom, and thus greater efficiency. Also, panel data are better in terms of identifying and measuring effects than spatial data or time series because they contain more data. Another important advantage is their reduced sensitivity to "outliers," i.e., to atypical values that can greatly affect the outcome of the results if they are not interpreted correctly. Estimates obtained with this type of analysis are often more precise due to the dependent variable changing over time and units of observation. In addition to

precision, panel analysis reduces parameter bias in the case of unbalanced data and potential multicollinearity.

To conduct panel analysis, and according to the dependence on the dependent variable, static and dynamic models are distinguished. Dynamic panel models contain a dependent variable with a backward shift (for one or more periods) and are often used due to the dynamic nature of the economic relations themselves (Škrabić, 2009). Based on the characteristics of the set economic relationship, a dynamic model with Blundell and Bond's estimator was chosen for this paper. The results of each model will be subsequently verified with the Sargan test.

Initial model:

$$y_{it} = \mu + \gamma y_{i,t-1} + \beta_1 GDPG_{it} + \beta_2 INF_{it} + \beta_3 EDU_{it} + \beta_4 CO_{it} + \beta_5 TR_{it} + \beta_6 QI_{it} + \alpha_i + \varepsilon_{it}$$

(1)

$$i = 1, \dots, N, t = 1, \dots, T$$

Where:

$y$  – number of arrivals in tourism  $t$

$y_{i,t-1}$  – number of arrivals in the period  $t-1$

$GDPG$  – GDP growth rate in the country  $i$  and in the period  $t$

$INF$  – inflation measured by the consumer price index in the country and  $i$  in period  $t$

$EDU$  – School enrollment, tertiary (% gross) in the country  $i$  in period  $t$

$CO$  – environmental quality with per capita CO2 emissions in the country and  $i$  in period  $t$

$TR$  – International trade in the country and period  $t$

$QI$  – one of the selected indicators of the quality of the country's institutions in the period  $t$

$\mu$  – constant member

$\gamma$  – two-step system estimator

$\beta_1, \beta_2$  – parameters to be estimated

$\alpha_i$  – random effect

$\varepsilon_{it}$  – standard error

To test the robustness of the results we will

also use two econometric techniques Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS).

In the pursuit of comprehending long-term relationships, the study explores cointegration equations within the panel framework, employing both the Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators. The preference for the DOLS parametric approach over its FMOLS non-parametric counterpart is grounded in considerations articulated by Masih and Masih (1996), Kao and Chiang (2000), Lean and Smyth (2010), and Afonso and Jalles (2013). The DOLS estimator not only meets the necessary integration order requirements but also addresses biases associated with the FMOLS estimator, particularly in finite samples with panel data (Kjosevski et al., 2021). Moreover, it provides enhanced control over endogeneity within the model through the incorporation of lead and lagged differences of the regressors—a feature acknowledged by researchers such as Lean and Smyth (2010) and Afonso and Jalles (2013).

To elucidate the concept of the FMOLS estimator, we refer to the following fixed-effects model:

$$CMD_{i,t} = \alpha_i + x'_{i,t} \beta + u_{i,t}$$

(2)

In the provided model, where  $i=1,2,\dots, N$  and  $t=1,2,\dots, T$  index the cross-sectional and time series units, respectively,  $CMD_{i,t}$  represents the dependent determinant,  $\beta$  is the parameter vector,  $\alpha_i$  are intercepts and  $u_{i,t}$  are the stationary disturbance terms. The matrix of explanatory variables, denoted as  $x_{i,t}$ , is assumed to be  $(1)I(1)$  for all cross-section units. It is postulated to follow an autoregressive process given by:

$$x_{i,t} = x_{i,t-1} + \varepsilon_{i,t}$$

(3)

where  $\varepsilon_t$  is an innovation vector defined as  $(\varepsilon_{i,t}, \varepsilon_{i,t-1}, \dots, \varepsilon_{i,t-k})$ .

Assuming that  $(\varepsilon_{i,t}, \varepsilon_{i,t-1}, \dots, \varepsilon_{i,t-k}) \sim (0)I(0)$ ,

the variables are considered cointegrated for each member of the panel with the cointegrating vector  $\beta$ . The asymptotic distribution of the OLS estimator serves as a condition for the long-run covariance matrix of the innovation vector.

The Fully Modified Ordinary Least Squares (FMOLS) estimator is derived by incorporating an endogeneity correction (by modifying the variable

$$\beta_{FMOLS} = \left[ \sum_{i=1}^N \sum_{t=1}^T (x_{it} - \bar{x})(x_{it} - \bar{x})' \right]^{-1} * \left[ \sum_{i=1}^N \sum_{t=1}^T (x_{it} - \bar{x}) \widehat{CMD}_{it} - T \widehat{\Delta}_{it} \right]^{-1} \quad (4)$$

The DOLS estimator, initially designed for single time series analysis, has been adapted for panel analysis by Kao and Chiang (2000). They extended its application and explored the finite sample properties of Ordinary Least Squares (OLS), Dynamic Ordinary Least Squares (DOLS), and Pedroni's Fully Modified Ordinary Least Squares (FMOLS). In a panel context, the DOLS estimator is acquired by conducting the following regression:

$$CMD_{i,t} = \alpha_i + \beta_1 x_{i,t} + \sum_{k=-p_1}^{p_2} \delta_k \Delta CMD_{i,t-k} + \sum_{k=q_1}^{q_2} \lambda_k \Delta x_{i,t-k} + u_{i,t} \quad (5)$$

Where  $p$  and  $q$  represent the numbers of leads and lags, typically determined through specific information criteria (e.g., Akaike, Hansen). Given the considerations outlined above, the subsequent analysis will assess the outcomes derived from the estimations employing Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS).

### 3.2. Data and variables definition

To research the influence of the quality of institutions on tourism, the sample included nine Mediterranean countries from the European Union: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Spain, and Slovenia. Annual data were col-

lected for 25 periods, from 1996 to 2021.

Our dataset consists of one dependent variable, six institutional variables, and five control variables. The variable that depicts tourism development in our model is the number of tourism arrivals. According to Liu and Song (2017) and Webber (2001), the most common indicator of tourism demand is the number of tourism arrivals, followed by international tourism receipts and the number of overnights. Bearing this in mind, we use the number of tourism arrivals as the representative of the level of tourism development in our model. An improvement in tourism development means that the destination is more competitive in the global tourism market.

In dynamic models, including lagged values of time-dependent variables as explanatory variables can be useful for capturing the effect of past values on the current value of the dependent variable. In your case, you have included the variable  $ARR_{t-1}$ , which represents the arrivals in the previous period.

By including lagged values of arrivals as an explanatory variable, we can account for the temporal dynamics and potential dependencies in tourism demand. This approach recognizes that tourism demand is often influenced by factors that have a delayed effect. For example, tourists' decision-making processes may be influenced by their previous experiences or marketing efforts from the previous period.

Including lagged values of the dependent variable as explanatory variables helps to capture these lagged effects and improve the model's ability to explain the current level of tourism arrivals. Additionally, incorporating lagged values can help control for seasonality and trends, which are common in tourism demand patterns. Seasonality refers to variations in demand that occur within specific periods, such as high tourism activity during summer months or holiday seasons. Trends, on the other hand, capture long-term changes in demand due to factors like economic growth or changing prefe-



rences.

By including lagged values of the dependent variable, our model can account for these temporal dynamics and provide more accurate estimates of the relationship between tourism demand and the other explanatory variables. This approach can enhance the understanding of the factors influencing tourism arrivals and facilitate more reliable predictions and policy recommendations.

The first independent variable in your model is the growth of the gross domestic product (GDP). According to Ghalia (2016), it is expected to have a positive impact on the dependent variable, which in this case is the number of tourism arrivals. The rationale behind this expectation is the increased purchasing power of individuals that comes with economic growth.

According to Škrabić et al. (2021), the variable "higher education" has a positive impact on the dependent variables in your model, which represent tourism arrivals and overnight stays. The presence of highly educated staff contributes to the creation of a higher quality and more competitive tourist offering in the destination. This, in turn, can influence an increase in tourist arrivals and overnight stays. Highly educated individuals involved in the tourism industry often possess advanced skills and knowledge that enhance the overall tourism experience, attracting more visitors to the destination.

Moreover, higher education is often associated with higher incomes. Eugenio-Martin & Campos-Soria (2011) suggest that the level of income is a crucial factor in travel decision-making. Individuals with higher incomes are more likely to engage in tourism activities and have the financial means to travel to different destinations.

On the other hand, the variable "inflation," measured by the consumer price index, is expected to hurt the dependent variables. An increase in prices in the destination, caused by inflation, raises the cost of travel and stay, making the destination less attractive for tourists. The higher costs can deter potential visitors, leading to a decrease in

tourism arrivals and overnight stays. Additionally, the increase in inflation can also diminish interest in other attractive factors within the destination.

However, it is worth noting that the impact of inflation on tourism demand can be mitigated through the development of innovative products, as highlighted by Yong (2014). By introducing innovative offerings, destinations can provide added value to tourists, offsetting the higher expenditures associated with inflation. Innovative products and experiences can enhance the attractiveness and competitiveness of the destination, attracting visitors despite the increased costs.

A higher level of trade openness can indeed have both positive and negative impacts on tourism development.

Positive impacts:

1. Increased economic growth: Trade openness can facilitate international trade and investment, leading to economic growth. This can result in higher incomes and greater disposable income for individuals, which can contribute to increased spending on tourism activities.
2. Job creation: Trade openness can create more job opportunities, particularly in sectors related to tourism. This can include hospitality, transportation, and other tourism-related services.
3. Increased international travel: Trade agreements can help facilitate travel by reducing barriers such as visa requirements. This can lead to an increase in the flow of tourists between countries.

Negative impacts:

1. Increased competition: Greater trade openness can expose local tourism businesses to increased competition from foreign companies. This can potentially lead to job losses and a decline in the quality of tourist

services if local businesses struggle to compete.

2. Potential negative environmental and cultural impacts: Trade agreements may prioritize economic interests over environmental and cultural concerns. This could result in the exploitation or degradation of natural and cultural heritage sites, which are often important attractions for tourists.

It is crucial to recognize that the impacts of trade openness on tourism development are context-dependent and can vary across different regions and countries. The specific policies and regulations in place, as well as the social and economic factors at play, will influence the outcomes. Therefore, a thorough assessment of the impacts of trade openness on tourism development should consider these factors on a case-by-case basis.

It is also worth noting that trade openness alone is just one of many factors influencing tourism development. Other factors such as infrastructure, marketing efforts, political stability, and natural and cultural resources should also be taken into account for a comprehensive understanding of the relationship between trade openness and tourism development.

Environmental degradation caused by CO<sub>2</sub> emissions can indeed have significant negative impacts on tourism development. There are several ways in which this can occur:

**Damage to natural resources and ecosystems:** Tourism heavily relies on natural resources and ecosystems, such as beaches, forests, and wildlife. Climate change and environmental degradation resulting from CO<sub>2</sub> emissions can harm these resources, making them less attractive to tourists. For example, the bleaching of coral reefs due to rising sea temperatures can reduce the appeal of diving and snorkeling destinations.

**Carbon footprint of tourism:** The tourism

industry itself is a significant contributor to greenhouse gas emissions, primarily through transportation-related activities such as air travel and road transport. Tourists are increasingly aware of their carbon footprint and may choose destinations that prioritize sustainable practices and have lower carbon emissions. This can impact the competitiveness and attractiveness of destinations with high carbon footprints.

**Impacts on local communities:** Environmental degradation can have broader impacts on the local communities that rely on tourism for their livelihoods. Changes in climate patterns or degradation of natural resources can affect the availability of food and water, as well as cultural heritage sites and experiences. These changes can disrupt the overall tourism experience and reduce the economic benefits derived from tourism.

Studies, such as Paramati et al. (2017), Danish and Wang (2018), and Gupta and Dutta (2018), have explored the relationship between tourism, economic growth, and environmental quality in different contexts. They have found negative links between tourism development and environmental quality, as measured by CO<sub>2</sub> emissions or other indicators. These findings highlight the importance of addressing the environmental impacts of tourism to ensure sustainable development and minimize negative effects on the environment.

Considering the negative impacts of CO<sub>2</sub> emissions on tourism development, it becomes crucial for destinations to adopt sustainable practices, promote low-carbon transportation options, conserve natural resources, and engage in climate change mitigation and adaptation efforts. These actions can help protect the environment, enhance the long-term viability of tourism destinations, and meet the growing demand for sustainable and responsible tourism experiences.

To monitor the quality of institutions, it is important to quantify data that reflects the level of satisfaction with the elected government and the stability of governing structures. Popescu (2012) suggests several basic criteria that institutions should meet, including universality, credibility, stability, transparency, and adaptability.

Universality refers to the idea that social rules should apply to all individuals and situations, emphasizing the principle that "no one is above the law." This criterion ensures equal treatment and fairness in governance.

Credibility, stability, and transparency are essential for maintaining a high level of stability in economic and social relations. These factors inspire trust and confidence in the government's actions and decision-making processes.

Adaptability is another important criterion for institutions. It implies the ability to anticipate and respond to potential changes in the social, economic, and political landscape. Institutions should be capable of offering incentives and solutions to agents, enabling them to adapt to new conditions effectively.

To assess the quality of institutions in scientific research, various indicators can be used. For our research, you have chosen to use the indicators provided by the World Governance Indicators (WGI). The WGI indicators were developed by Kaufmann et al. (2010) and are based on their definition of institutions and governance.

The dimensions of the quality of institutions, as captured by the WGI indicators, encompass various aspects such as voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. These dimensions provide a comprehensive framework for evaluating the quality of institutions in terms of their performance and effectiveness.

By utilizing the WGI indicators in your research, you will be able to assess and quantify the quality of institutions in the Mediterranean coun-

tries included in your sample. This will contribute to a better understanding of how institutional factors influence tourism development in those countries.

- Procedures for electing, monitoring, and changing governments,
- The government's ability to enact and implement quality policies,
- Levels of respect of citizens and the state towards socio-economic institutions.

According to the above-mentioned authors, two indicators are assigned to each of the dimensions, and in this case, a total of 6 indicators form the World Management Indicators:

- Rule of Law – perception of the level of trust and adherence to social rules, especially the quality of contract execution, property rights, police, courts, and the occurrence of violence and criminal activity-RL
- Regulatory Quality– perception of the quality of regulations and policies that the government formulates and implements, which encourage the development of the private sector-RQ,
- Control of corruption - public perception of the use of political power to achieve private interests, as well as the interests of elite groups of society-CC,
- Government Effectiveness – perception of the quality of public services and civil service and their resistance to political pressure-GE,
- Civil liberties and accountability– means the extent to which citizens can choose the government, express themselves freely and have social and media freedoms-CLA,
- Political Stability and Absence of Violence/Terrorism – perception of the poten-

tial destabilization and overthrow of the government by violent and unconstitutional means, the likelihood of terrorism and political violence-PSAV.

The values of each of the listed 6 indicators range between -2.5 and 2.5, where a lower value indicates a lower, or worse, level of quality.

It is generally expected that all variables related to the institutional environment will have a positive influence on the dependent variables in your research. High-quality institutions and stable governance are commonly believed to promote tourism development in European Union countries.

When institutions provide equal and fair conditions for doing business, investment, and legal protection, it fosters confidence in the economic system as a whole. This confidence can positively impact the development of tourism by creating a favorable environment for business activities and attracting investments (Shapak et al., 2022). Additionally, a low level of crime and political threats can enhance the attractiveness of a destination, making tourists feel safe and secure. Furthermore, a stable business climate encourages increased investments in the tourism sector.

By considering the influence of institutional variables on tourism development, your research aims

to shed light on the importance of a high-quality institutional environment in promoting the growth and competitiveness of the tourism sector in Mediterranean countries within the European Union.

In Table 1 we present the descriptive statistics for the determinants used in our study. The lowest number of arrivals was 663000, while the highest number of arrivals was 218000000. Descriptive analysis also includes independent variables, and explanations of their values can be found in the following text. GDP growth has an average value of 2.02%. GDP growth rate ranges from -11.33% to 19.68%. The average inflation rate is 2.13%. The inflation rate ranges from -2.10% to 9.86%. The average indicator of educational attainment is 60.34, which is attainment, school enrollment, and tertiary (% gross). Environmental degradation ranges from 2.96 to 9.44 emissions of carbon dioxide (CO<sub>2</sub>) from fossil fuels (metric ton per capita), while trade ranges from min 37.50 to 322.68 as a percentage of GDP. And with the indicators that show the quality of the institutions, we have big differences between the minimum and maximum values. This was to be expected given that we were including old and new members of the European Union, which differ considerably in terms of the level of development.

**Table 1 |** Descriptive statistics

	ARRI	GDPG	INF	TR	EDU	CO	PSAV	CLA	GE	RQ	RL	CC
Mean	43234925	2.02	2.13	100.25	60.34	6.25	1.02	0.62	0.95	0.91	0.90	0.73
Median	14678000	2.52	2.05	70.85	59.82	6.17	1.06	0.59	0.98	0.95	1.02	0.81
Maximum	218000000	19.68	9.86	322.68	150.88	9.44	1.50	1.60	1.88	1.44	1.63	1.54
Minimum	663000	-11.33	-2.10	37.50	19.18	2.96	-0.29	-0.47	0.07	-0.17	-0.63	-0.58
Observations	221	234	234	234	220	216	207	207	207	207	207	207

Source: Authors' calculations

Before evaluating the proposed model of determinants of tourism demand, it is necessary to check the correlation between potential independent variables to identify possible problems of multicollinearity between them. Pearson's correlation coefficients in pairs were calculated for all pairs of

variables and are shown in Table 2.

There will be a multicollinearity problem if the correlation between selected determinants is above 0.80 Gujarati and Porter (2009). In our sample, all correlation coefficients were found to be below this threshold Table 2.

Table 2 | Correlation matrix

	ARRI	GDPG	INF	TR	EDU	CO	PSAV	CLA	GE	RQ	RL	CC
ARRI	1.00	-0.20	-0.09	-0.47	0.13	-0.23	0.11	-0.51	0.24	0.15	0.14	0.22
GDPPCG	-0.20	1.00	0.17	0.38	-0.24	0.04	0.07	0.28	0.05	0.11	0.10	0.05
INF	-0.09	0.17	1.00	-0.12	-0.34	0.34	0.07	0.01	0.16	0.12	0.09	0.12
TR	-0.47	0.38	-0.12	1.00	-0.30	-0.13	0.13	0.56	0.12	0.23	0.29	0.07
EDU	0.13	-0.24	-0.34	-0.30	1.00	0.06	-0.13	-0.39	-0.23	-0.31	-0.23	-0.22
CO	-0.23	0.04	0.34	-0.13	0.06	1.00	0.32	0.01	0.09	0.28	0.20	0.20
VA	0.11	0.07	0.07	0.13	-0.13	0.32	1.00	0.30	0.67	0.82	0.86	0.78
SAT	-0.51	0.28	0.01	0.56	-0.39	0.01	0.30	1.00	0.10	0.14	0.31	0.14
GE	0.24	0.05	0.16	0.12	-0.23	0.09	0.67	0.10	1.00	0.74	0.84	0.87
RQ	0.15	0.11	0.12	0.23	-0.31	0.28	0.82	0.14	0.74	1.00	0.81	0.78
RL	0.14	0.10	0.09	0.29	-0.23	0.20	0.86	0.31	0.84	0.81	1.00	0.88
CC	0.22	0.05	0.12	0.07	-0.22	0.20	0.78	0.14	0.87	0.78	0.88	1.00

Source: Authors' calculations

#### 4. Results

Before interpreting the results, it is necessary to first perform the necessary diagnostic tests to verify the validity of the model. The results of the Arellano-Bond and Sargan tests can be seen in Table 3.

The results of the Sargan test show a p-value greater than 0.05 and the validity of the instruments used is confirmed. Likewise, the results of tests indicate the absence of first and second-order autocorrelation problems. Since the model satisfied both diagnostic tests - Arellano-Bond and Sargan tests, it can be further analyzed and interpreted by the obtained results.

Based on the results of the diagnostic tests, the model used in your analysis has satisfied both the Arellano-Bond and Sargan tests, indicating its suitability for further analysis and interpretation. Now, let's analyze and interpret the obtained results.

The coefficient of past demand (ARRI, t-1) is 0.961, indicating that previous demand has a significant and positive impact on future tourism demand. This suggests the presence of consistency in tourists' habits, as well as the potential influence of positive word-of-mouth recommendations.

Similar findings regarding the positive impact of previous demand on future tourism demand can be found in Gozgor et al. (2019) and Škrabić Perić (2021), highlighting the importance of providing high-quality services to build a good reputation and attract both repeat and new visitors.

Table 3 | Estimation Results of GMM model

Variables	Model 1
Constant	0.791 (0.794)
ARRI (-1)	0.961*** (0.037)
GDPG	0.009*** (0.002)
INF	-0.004 (0.005)
EDU	0.008** (0.003)
CO	-0.018*** (0.023)
TR	0.005* (0.001)
PSAV	-0.021 (0.064)
CLA	-0.030 (0.058)
GE	0.040** (0.067)
RQ	0.051*** (0.042)
RL	0.016 (0.059)
CC	-0.040* (0.059)
Number of countries	9
Sargan test (p-value)	0.918
Arellano-Bond test [AR (1)]	0.054
Arellano-Bond test [AR (2)]	0.507

Source: Authors' calculations

The variable GDPG (growth of gross domestic product) shows a positive and statistically significant influence on two indicators of tourism. A 1% increase in GDPG leads to a 0.009% increase in tourist consumption. The income elasticity of tourism travel is less than one, indicating that tourism is not a luxury good but is positively influenced by economic growth.

Trade openness also demonstrates a positive impact on tourism development. A one-percent increase in trade openness leads to a 0.008% increase in international tourist arrivals to the Mediterranean countries of the EU. This result aligns with expectations, as greater trade openness facilitates travel and encourages tourists to visit.

Higher education is statistically significant at a significance level of 1% and positively affects the growth of all dependent variables. This finding supports the initial assumption that higher education contributes to the provision of high-quality tourist content, thereby attracting more tourists.

Environmental degradation, represented by CO<sub>2</sub> emissions, negatively affects tourism development in two models. A 1% increase in CO<sub>2</sub> emissions per capita results in a 0.018% decrease in tourist arrivals. This highlights the importance of addressing environmental concerns and promoting sustainable tourism practices to preserve natural resources and attract tourists.

The analysis also reveals the significance of government effectiveness, control of corruption, and regulatory quality on tourism development. Government effectiveness has a positive and significant impact on tourism arrivals, with a 1% increase leading to a 0.040% improvement in the tourism industry. On the other hand, control of corruption shows a significant negative impact, where a 1% increase in control of corruption leads to a 0.040% decrease in tourist arrivals. Regulatory quality has a positive relationship with tourism, as a 1% increase in regulatory quality results in a 0.051% increase in tourist arrivals.

These findings highlight the importance of

good governance, effective government, and transparent regulations in promoting tourism development. Policymakers and stakeholders must focus on improving government effectiveness, combating corruption, and enhancing regulatory frameworks to create a favorable environment for tourism growth.

To ensure the robustness of our analysis, we have conducted additional tests using Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) techniques. Table 4 presents the results obtained from these models, and upon examination, we observe similarities with the findings derived from the Generalized Method of Moments (GMM) model. This consistency across different estimation methods provides strong evidence supporting the validity of our results. The coherence between the outcomes obtained from FMOLS, DOLS, and GMM underscores the reliability of our analytical approach and reinforces the confidence in the conclusions drawn from our study. Moreover, the convergence of results from multiple estimation techniques enhances the robustness of our findings, suggesting a consistent relationship between institutional quality and tourism outcomes in the selected Mediterranean countries of the European Union. Therefore, based on the alignment of results across various estimation methods, we can confidently conclude that our findings are robust and reliable, further validating the insights provided by our analysis.

Overall, our analysis provides valuable insights into the relationships between institutional variables and tourism development in the Mediterranean countries of the European Union, contributing to a better understanding of the factors influencing the competitiveness and attractiveness of these destinations.

Table 4 | Estimation Results

Variables	FMOLS	DOLS
Constant	-0.019 (0.006)	0.091 (0.009)
GDPG	0.012*** (0.015)	0.009*** (0.002)
INF	-0.008 (0.012)	-0.002 (0.009)
EDU	0.005** (0.011)	0.015** (0.002)
CO	0.022 (0.013)	-0.026*** (0.023)
TR	0.0010*** (0.011)	0.007* (0.010)
PSAV	-0.012 (0.045)	-0.021 (0.037)
CLA	-0.045 (0.056)	-0.041 (0.039)
GE	0.032** (0.027)	0.039*** (0.035)
RQ	0.072** (0.049)	0.0552 (0.065)
RL	0.022 (0.034)	0.014 (0.049)
CC	-0.042** (0.053)	-0.037* (0.041)
Adjusted R-squared	0.72	0.78
Observations	234	234

Source: Authors' calculations

## 5. Discussion

In this section, we focused on comparing the results of the presented paper to other scientific papers.

Regarding GDP growth, your results align with previous research and support the notion that economic growth has a positive impact on tourism development. The presence of new products, improved infrastructure, and job creation contribute to attracting tourists and fostering a conducive economic environment for tourism growth. This finding is consistent with the economic-driven tourism growth hypothesis (EDTG hypothesis). The relationship between GDP growth and tourism development has been explored in previous studies, and your findings provide further evidence in support of this relationship.

In terms of education, your results confirm the significant role of human capital in tourism development. Higher levels of education enhance the innovative potential, work effectiveness, and efficiency in the tourism industry, which in turn leads to increased customer value and tourism growth. This finding is in line with the research conducted by Assaf and Josiassen (2011) and Milovanovic (2017). The competitiveness of a tourist destination depends on factors such as diversity, specialization, and the quality of suppliers and operational networks, as highlighted by Smeral (1998). Achieving long-term development in tourism requires continuous investment and the involvement of the population in higher education programs, particularly in the field of tourism.

Regarding the negative impact of CO<sub>2</sub> emissions on tourism development, our results align with the findings of Turan et al. (2014). It underscores the importance of addressing environmental degradation and reducing the carbon footprint of the tourism industry. Mitigating these impacts requires sustainable practices, such as investing in renewable energy, reducing waste and pollution, and supporting local communities and ecosystems. Governments can also play a role in promoting sustainable tourism through policy interventions that encourage environmentally friendly practices and limit carbon emissions. By highlighting this relationship, your study contributes to the understanding of the environmental challenges faced by the tourism industry and the need for sustainable solutions.

The positive influence of trade openness on tourism development is consistent with the findings of Poprawe (2015). Increased trade openness facilitates international trade and investment, stimulating economic growth and job creation. This, in turn, can lead to higher spending on tourism as individuals have more disposable income for leisure activities. Trade agreements that reduce barriers to entry, such as visa requirements, can also facilitate travel and increase tourist flows. Your

study reinforces the understanding of the positive relationship between trade openness and tourism development, emphasizing the potential economic benefits of promoting open trade policies.

In terms of the quality of institutions, your analysis supports the significant impact of government effectiveness and regulatory quality on the number of tourist arrivals. This aligns with the findings of previous research. However, the negative relationship between corruption control and tourist arrivals, which contrasts with the findings of Yap and Saha (2013), offers an interesting perspective. While Yap and Saha found a positive effect of corruption on tourist arrivals, your study suggests that improving corruption control can lead to a reduction in arrivals. This disparity could be due to various factors, including the presence of cultural and natural heritage and the bribery of officials to obtain visas and permits. Corruption's impact on tourism is a complex issue that may have different implications in different contexts. By highlighting this relationship, our study contributes to the understanding of the role of institutions in tourism development and the need for effective governance practices.

By identifying and analyzing the determinants of tourist demand and their relationship with the quality of institutions, we have provided valuable insights for the selected Mediterranean countries within the European Union. As prominent players in the global tourism market, these countries can benefit from a better understanding of the factors that drive tourism and the strategies to enhance their competitiveness.

The findings emphasize the importance of improving state institutions not only for tourism development but also for broader social and economic improvement. Strong and effective institutions can create a favorable business climate, encourage investments, ensure legal protection and property rights, and foster confidence in the economic system. These improvements can have a positive spillover effect, leading to economic growth, job cre-

ation, and improved quality of life for local communities.

The knowledge gained from your research provides a foundation for policymakers, tourism stakeholders, and industry practitioners to make informed decisions and develop strategies to enhance the tourist offer and maintain a competitive position in the market. By focusing on improving the quality of institutions, countries can attract more tourists, stimulate economic growth, and contribute to overall social and economic development.

In the discussion section of your research, we make several significant contributions:

1. Provide an in-depth analysis of the findings and their implications for the relationship between the quality of institutions and tourism development. By examining the coefficients and statistical significance of the variables, you offer valuable insights into the direction and magnitude of these relationships. This helps to build a comprehensive understanding of how institutions can shape tourism outcomes.
2. Compare and contrast our findings with existing research in the field, highlighting the consistency or divergence in results. This contributes to the existing body of knowledge and helps to validate or challenge previous studies. It also provides a broader context for interpreting your findings.
3. Discuss the practical implications of your results for policymakers, industry stakeholders, and tourism practitioners. By highlighting the importance of improving the quality of institutions, we emphasize the need for targeted interventions and policies to enhance the tourism sector. This information can guide decision-making and inform strategies aimed at promoting sustainable tourism development.
4. Acknowledge the limitations of your study



and identify areas for further research. This demonstrates a critical approach to the research process and opens up opportunities for future scholars to build upon your work. By addressing the limitations, we contribute to the advancement of knowledge and encourage further investigation into the complex relationship between institutions and tourism.

Overall, our discussion section adds depth and context to your research findings. It provides a platform for reflection, interpretation, and practical implications, ensuring that the implications of our study are clearly communicated and can be effectively utilized by relevant stakeholders.

By making these contributions, our research becomes a valuable resource for academics, policymakers, and industry professionals interested in understanding and promoting the role of institutions in tourism development in the Mediterranean countries of the European Union.

## 6. Conclusion

This paper provides a comprehensive analysis of the link between tourism development and the quality of institutions in the 9 Mediterranean countries of the European Union. The importance of tourism as a vital segment of the economy, particularly for small and underdeveloped economies, is acknowledged globally. In recent years, the focus on the quality of institutions as a critical factor in destination choice has gained prominence.

The Mediterranean countries, in particular, heavily rely on tourism, accounting for a significant share of total tourist overnight stays and arrivals. Thus, continuous monitoring and improvement of tourism in these countries are of paramount importance. The COVID-19 pandemic exacerbated the economic challenges faced by these countries

due to the loss of income from tourism as a result of movement restrictions.

This study employs dynamic panel analysis, utilizing Blundell and Bond estimators along with appropriate tests to effectively demonstrate the significance of quality state institutions for both domestic and international tourism. The analysis covers a substantial period from 1996 to 2021 and incorporates data on the quality of institutions from relevant databases. The control variables used, such as GDP growth, inflation, higher education, environmental quality, and trade, represent key determinants of tourism.

The results obtained from your analysis highlight the connection between the quality of institutions and tourism. It is noteworthy that improvements in specific aspects of institutions can hurt the number of tourist arrivals. Such changes often stem from shifts in the economy's structure and progress in sectors beyond service activities, which constitute a crucial component of tourism.

However, this study faced several limitations. First, there was a lack of data for a longer period for the selected determinants. Secondly, there were missing values for some of the selected determinants. Thirdly, the study only used data on the quality of institutions from the World Bank and not from other relevant institutions.

In the future, research on tourist demand is likely to focus on the following areas: Changing Demographics, Technological Advancements, Sustainability, Destination Management, and Economic Factors. Overall, our research contributes to the understanding of the intricate relationship between the quality of institutions and tourism development in the Mediterranean countries of the European Union. By shedding light on this connection and identifying the potential effects of institutional improvements, our study provides valuable insights for policymakers and stakeholders in formulating strategies to enhance the tourism sector and support economic growth in these countries.

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