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# DETERMINANTS OF TOURISM DEMAND IN SELECTED COUNTRIES OF META: EMPIRICAL PANEL ANALYSIS

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**Abstract**

The present study aims is to examine the influence of different factors on tourism demand for selected eight countries from META. To test the proposed hypotheses, the study was used six determinants (GDP per capita, consumer price index, investment, openness to international trade in goods and services, terrorism in destinations and one dummy variable for the emergence of the Covid-19) during the period 2010-2020. In order to estimate impact of selected determinants in tourism demand in selected eight countries from META we used dynamic panel data model-system GMM. From the variables encompassed in the model i.e., income and trade, show statistically significant positive influence on tourist arrivals in eight countries from META. Also the results show that terrorism and Covid-19 have negative impact of the tourist demand. These results imply that for any country in the eight countries from EU Med alliance to attract more arrivals of tourists, it should invest significantly in the tourism sector in terms of upgrading tourism infrastructure, increasing trade openness and promoting a peaceful reputation and safe country.

Key words: META countries, tourism demand, panel analysis

## INTRODUCTION

Tourism has become one of the most significant socio-economic phenomena in the last hundred years, from activities available only to small groups of wealthy people in the first half of the 20th century, to mass after World War II, especially since 1970. It is estimated that international tourist arrivals will reach 1.8 billion by 2030 (UNWTO, 2014). The explanation of the causes (factors) of this accelerated growth of tourism is analyzed by Amelung and Viner (2006). According to his, demographics (e.g. population growth and migration flows), culture (e.g. leisure, fashion, hedonism), economy (e.g. disposable income), technology (e.g. ICT, high-speed Along with the global phenomenon of growing demand for tourism over the last decades, scientific research interest in the field of tourism has also grown. One of the most important areas of research work in tourism is modeling and forecasting tourism demand, in which both academics and practitioners are equally interested (Song & Li, 2008).

The economic impact of tourism flows on economies is often significant and acts as a driver of economic growth in small communities, but also in large countries. In order to improve the effects of tourism, it is in the interest of the private sector, but also the authorities themselves and policy makers to find appropriate analytical models (Brida & Scuderi, 2013). In general, the factors influencing tourism demand can be divided into motivators and determinants. While motivation deals with psychological factors and questions about why people travel at all and what needs they try to meet, determinants are factors that affect demand itself. Factors affecting tourism demand can be economic, sociological, demographic, political, geographical, etc. (Fletcher et al., 2018).

Tourism demand is the problem of numerous studies that seek to identify its key determinants and their impact, all with the aim of better understanding and managing tourism as an economic driver. International tourist demand is most often measured in terms of the number of tourist arrivals from the emitting country to the receptive country, in terms of tourist consumption by visitors to the destination or in terms of the number of overnight stays of tourists from the country of origin in the destination. Among the explanatory variables, the population and income of the emitting country, intra-destination prices, substitute prices, tastes, marketing, expectations and persistence of habits, and various qualitative effects that appear in the models in the form of dummy variables (Song, Witt & Li, 2009). In recent years, numerous studies have been conducted in the field of modeling and forecasting tourism demand. However, tourism demand models differ greatly in terms of selected dependent and independent variables, observed periods and data, empirical methodologies as well as pairs of emitting and receptive countries (Dogru, Sirakaya-Turk, & Crouch, 2017). More and more authors, in addition to traditional demand variables, are introducing specific regressors as determinants of tourism demand in order to adapt the models to the goals of their research. Some studies have focused on specific forms of tourism, such as academic tourism, and variables closely related to this form of tourism appear as determinants of tourism demand (Rodríguez, Martínez-Roget & Pawlowska, 2012). On the other hand, numerous studies focus on various specific issues (climate, environmental, social, political, terrorism, corruption, etc.) and their impact on tourism demand. Some authors have considered the impact of climate differences between the emitting country and destination on tourism demand (Li H., Song and Li L., 2017), but also the impact of terrorism on tourism demand (Ulucak, Yücel & İlkay, 2020).

With this in mind, countries belonging to the economic and geographical group of countries included in the Mediterranean Travel Association (META) were selected in this paper. The reason for choosing the countries of the Mediterranean region is that according to the authors,

no research has been done so far on the basic determinants (their direction and intensity of action) of tourist demand. Mediterranean is a destination that is growing in popularity and according to predictions, an increase of between 440 and 665 million tourists is expected by 2025. Given that the countries within the Mediterranean region are also defined on the basis of economic and geographical connectivity, eight countries were selected, which account for over 80 percent of total tourism spending within the region. In the context of the geographical location and the tourist products they offer. These are Croatia, Cyprus, France, Greece, Italy, Portugal, Spain and Turkey. Considering the characteristics of the socio-economic environment that affect international tourism demand, the selection of European countries belonging to the same tourist region to define the spatial dimension of the sample allows to draw general conclusions about the determinants of international tourism demand for the study region. According to the UNWTO (2014), the European tourist region in the period from 1990 to 2013 (and according to projections and beyond) remained the leader in international tourist arrivals by region of origin (or emitting tourist demand) in the world, with total with an average share of more than 52% for the specified period. The size of emitting tourist demand included in the sample countries represents more than 82% of the total emitting tourist demand of the European tourist region, so it can be stated that this sample of countries is also representative of the European tourist region. Precisely because of the above, it is possible to draw general conclusions about the determinants of emitting tourist demand after empirical testing in this paper. The selected study period from 2010 to 2020 determines the defined time dimension for the above sample of countries that will be covered by the empirical research in this paper. The choice of this period is the result of considering the availability of statistics for that period and for all variables included in the empirical testing.

A better knowledge of the factors that explain the tourists ’preferences to choose these countries as a destination place will help policy makers to design more adequate strategies to further develop this sector. Therefore, it is essential to analyze the determinants of META’s countries, tourism demand, in order for the tourism industry to apply efficient management and to correspond to infrastructure development needs. Tourism demand forecasting would help managers and investors make operational, efficient and strategic decisions. The substantial contribution of tourism in META’s countries justifies the interest in explaining the determinants of tourism demand and, therefore, the factors that influence the decision of tourists to choose the country as a destination place.

The paper is organized as follows. Section 2 briefly reviews the existing studies of the determinants of tourist demand. Section 3 introduces the empirical methodology and data.

Section 4 shows the empirical results, while, Section 5 synthesizes the paper findings and offers policy-relevant recommendations.

## THEORETICAL BACKGROUND

The field of tourist demand analysis has attracted the attention of scientists and business people, with the aim of analyzing the effects of different variables on tourist demand and to enable accurate forecasting of international tourist demand. The first (pioneering) works in this area can be found in the 1960s (Guthrie, 1961, Gerakis, 1965, and Gray, 1966, cited in Song, Witt, & Li, 2009). Since then, research in this area has made significant progress in the diversity of research interests, the quality of theoretical settings and the improvement of methodologies used in research. Progress in research in this area has been significantly accelerated since the 1990s thanks to advances in various methodological techniques, such as econometric, which have only been introduced in tourism research in the last 20 years (Song, Witt & Li, 2009).

According to Candela and Figini (2012), research on the determinants of international tourism demand is at the crossroads of microeconomic and macroeconomic research. Exploring the individual preferences and behaviors of tourists as consumers, on the one hand, and then defining the determinants of international tourism demand, on the other, leads to determining the impact that international tourism has on economies of both emitting and receptive countries (Allen, Yap and Shareef, 2009).

Two basic areas are distinguished in the research and analysis of international tourism demand (Lim, 2006). These are defining the determinants of tourism demand and forecasting the future level of tourism demand (usually only for next year) (Song & Li, 2008).

According to Jones and Chu Te (1995), the determinants of tourism demand aim to determine the leading indicators by which it is possible to predict changes in the variable of interest. Defining leading indicators for the economy is widely used in the economic literature when predicting business cycles (Yap & Allen, 2011). In the case of tourist demand, this means that changes in the movement of tourist demand can be predicted based on changes in certain determinants of tourist demand (which are the leading indicators) (Yap & Allen, 2011). Song, Witt and Li (2009) see the importance of determining the relevant (leading) determinants of tourist demand in the need to know the mode of behavior of tourist consumption, in order to form a basis for forecasting tourist demand. According to them, forecasting tourism demand can be key to making business and development decisions at the level of tourism companies in a destination or at the level of the entire destination (or country).

Vanhoe (2005) sees the usefulness of determining the main determinants of international tourism demand, except for prognostic purposes, and the need to crystallize the determinants to determine why the population of certain countries has a greater propensity to travel than the population of other countries

According to Dwyer, Forsyth and Dwyer (2010), the preference for tourist spending is determined by the availability of free time and a certain amount of money that a tourist has to spend on travel and vacation. These authors conclude based on the above that tourism is a complex phenomenon, and there is a need and purpose to determine the main determinants that encourage travel.

In a study by the Organization for Economic Co-operation and Development (OECD), Dwyer et al. (2001b) distinguish three groups of determinants (factors) of tourism demand: (i) socioeconomic and demographic factors (corresponding to Fretchling push factors), (ii) qualitative factors (image, quality of service, marketing, promotion, attractiveness in the destination) and (iii) price factors (tourist factors that determine the cost, namely: the cost of transport or travel to the destination and the cost of consumer and other goods in the destination).

Middleton, Fyall, and Morgan (2009) summarize nine major factors that shape determinants of tourism demand. These are: (i) economic factors, (ii) competitive prices, (iii) demographic factors, (iv) geographical factors, (v) socio-cultural experience of tourism, (vi) mobility, (vii) government / governance, (viii) ) media content and (ix) information and communication technologies.

Görmüs and Göçer (2010) conclude that in the field of international tourism demand, research differs in whether it explains theoretical starting points in defining determinants of international tourism demand, thus questioning the relevance of the variables used (Lim, 1997; Li, Song & Witt, 2005; Song & Li, 2008; Witt & Witt, 1995, etc.) or investigate the elasticity of tourism demand with respect to selected variables and predict its movements (Durbarry & Sinclair, 2003; Eilat & Einav, 2004). In doing so, research uses different indicators for the dependent variable - international tourism demand, but also different explanatory variables (Görmüs & Göçer, 2010).

Song and Li (2008) analyze the indicators of international tourism demand used in research over the last 20 years. They conclude that the variable of international tourist arrivals is the most popular indicator of international tourist demand when researching demand for a specific destination. Revenue from international tourism or tourist spending appears in the literature as the second most commonly used indicator of international tourism demand (Akal,

2004). According to Lim (2006), observing the level of tourist demand through the prism of tourist services exports or tourist services imports is a good measure of tourist demand, especially if one wants to study the influence of tourist demand on the impact of tourist consumption in both emitting and receptive countries. Lim (2006) lists other indicators of international tourism demand used in previous research, including the number of tourist nights inhotel accommodation, the length of stay of tourists, the classification of arrivals by purpose of arrival (business trips, visits to friends and relatives) and others . The tourist demand for the destination is expressed by the number of total tourist arrivals from emitting countries, and can be further analyzed according to different types or purposes of tourist arrivals. For example, Turner and Witt (2001a, 2001b) analyze international tourist travel demand (BT). More detailed research goes back to the analysis of international tourism demand differentiated according to,for example, the categories of means of transport used (Song & Li, 2008) and others.

An interesting example of a model of tourism demand with specific factors involved in the impact of tourism demand is the authors Li, Song and Li (2017). They included climatic factors as explanatory variables in the standard model of tourist demand (data on climatic conditions in the visitor's domicile, data on climatic conditions in the destination and data on the difference between the climate in the destination and the climate of the visitor's home country). factors have a significant impact on the demand for tourism in 19 tourist cities in mainland China among tourists from Hong Kong. Again, the method of generalized moments over panel data was used. The dependent variable in the model, ie the demand measure, is the number of tourist arrivals from Hong Kong, and in addition to the dependent variable with time lag, among the standard explanatory variables in this model were: GDP per capita of Hong Kong; relative price indicator calculated as the ratio of the consumer price index in destination cities and Hong Kong adjusted for the exchange rate; dummy variables due to the possible impact of well-known events on tourism demand (Beijing 2008 Olympic Games, Shanghai Expo 2010, Guangzhou Asian Games 2010).

## DATA AND METHODS

### Model Specifications

The works assessing the determinants of tourist demand are mostly related to countries where tourism is traditionally very important in the economy (Greece, Turkey, Egypt, France, etc.). Methods such as the least squares method (Soukazis & Proenka, 2005), two-phase and three-phase least squares methods (Allen and Yap, 2009), GMM method (Habibi et al., 2009) are

used. ), and multiple linear regression models (VAR models), and numerous others (Dritsakis, 2004; Eilat & Einav, 2004). It is evident that the analyzes of the mentioned research were based on the use of time series, and only recently we have a more frequent use of data based on a set of time series and spatial data, ie panel data. Given the growing importance of panel data analysis for better modeling of various phenomena and thus tourism demand (Candela & Figini, 2012), the mentioned approach will be used in this paper. The exponential growth of empirical research on determinants of tourism demand using panel analysis methodology has been recorded since the beginning of the 21st century (Seetaram & Petit, 2012). Furthermore, the development of the use of panel models in the last ten years has led to the increasing use of dynamic panel models in the analysis of determinants of tourism demand. The advantage of applying panel data analysis according to Brooks (2008) is that panel analysis enables the investigation of more complex problems that cannot be addressed using time series or spatial (cross-sectional) data separately. According to Song, Witt, and Lee (2009) using panel analysis, it is possible to obtain robust results in modeling over economic and social variables. In such research, which simultaneously models the spatial and temporal component of a phenomenon, panel analysis has become an unavoidable econometric technique (Škrabić Perić, 2012). The most obvious advantage of panel analysis is that conclusions are made using a larger sample, ie a larger number of observations so that there is no problem of losing a large number of degrees of freedom (Seetaram & Petit, 2012). Panel data can reduce the effect of parameter bias that occurs, for example, due to missing data or atypical values (outliers). Therefore, it can be concluded that the estimators in the panels are more robust to the incomplete specification of the model. According to Baltagi (2005), panel data allow modeling of more complex econometric models, such as temporal changes in spatial units. Additionally, panel models assume data diversity and reduce correlation between variables. Namely, if it happens that two variables within one observation unit are strongly correlated, but this correlation is not expressed among the variables of other observation units, this correlation loses its significance and does not significantly affect the results. According to Seetaram and Petit (2012), one of the most important advantages of panel analysis is that it allows control of heterogeneity in a research sample.

Previous research has shown that past demand for a good or service can have an impact on future demand and that the nature of demand for tourism products, like many other economic relationships, can be characterized as dynamic. For this reason, in models involving dynamic specifications, estimators such as the simple and generalized least squares method (OLS and GLS) would cause biased and inconsistent estimates. Therefore, in order to overcome the

mentioned problem, the procedure of generalized method of moments proposed by Arellano and Bond (1991) is applied in this paper. However, in order to obtain a consistent and unbiased estimate, the generalized method of moments requires that there is no autocorrelation of the εit error (Cameron & Trivedi, 2010). For this reason, it is necessary to check by diagnostic tests whether there is a problem of autocorrelation among the first differences of residual deviations. First- and second-order autocorrelation tests are usually performed using the Arellano and Bond tests (m1 and m2 tests). If first-order autocorrelation is present among the first residual differences, parameter estimates remain consistent. On the other hand, if a second-order correlation is found among the first residual differences, the parameter estimates are not consistent. In addition, the calculation of the m2 test is possible in the case when the number of observations for each observation unit is at least 5 (Škuflić & Mlinarić, 2015).

Another diagnostic test commonly used in this type of analysis is the Sargan test, which verifies the validity of the selected instruments needed to evaluate the model by analyzing the correlation of instrumental variables with residuals. Sargan's test actually examines the pre-identification of constraints because it is assumed that the introduction of each new instrumental variable introduces a new condition, ie a constraint that needs to be met (Škuflić & Mlinarić, 2015).

The initial form of the tourist demand model based on the selected variables can be expressed as:

$$DEMAND_{i,t} = f(DEMAND_{i,t}, GDPPC_{i,t}, INV_{i,t}, INF_{i,t}, TRADE_{i,t}, TEROR_{i,t}, DUMMY_t). \quad (1)$$

Furthermore, in order for the model to take a linear form and interpret the estimated parameters as coefficients of elasticity, a logarithmic transformation was performed on the original values of tourist demand, and GDPPC were ultimately expressed by natural logarithm. Therefore, the form of model (1) takes the following form:

$$lnDEMAND_{i,t} = f(lnDEMAND_{i,t-1}, nGDPPC_{i,t}, INV_{i,t}, INF_{i,t}, TRADE_{i,t}, TEROR_{i,t}, DUMMY_t) \quad (2)$$

In addition to the above, the general form of the model of tourist demand in selected countries in this paper is expressed as:

$$Q_{i,t} = \alpha + \delta Q_{i,t-1} + \sum_{n=1}^{N} \beta_n X_{it}^n + \varepsilon_{it} \qquad \varepsilon_{it} = \upsilon_i + u_{it} \quad (3)$$

where is:
$Q_{i,t}$ number of tourist arrivals from the emitting country and in year t (i = Austria,… United Kingdom; t = 2010,…, 2020);

- $\alpha$ is a constant term,;
- $\delta$ speed of adjustment of the existing state of the dependent variable according to the desired state;
- Qit-1 value of the dependent variable in the previous year, ie the number of tourist arrivals in the previous year;
- $\beta$ estimated parameters;
- Xit explanatory variables (income, investment, inflation, trade, terrorism, dummy);
- εit stands for the disturbance, in which νi represents the unobserved country-specific effect while *uit* denotes idiosyncratic error. (Škuflić & Mlinarić, 2015).

At the value of the term δ close to zero, there is a high speed of adjustment to the optimal level, while the value of δ close to one indicates a very slow adjustment process. The first case indicates that the industry is quite competitive, while in the second case the industry is less competitive (Athanasoglou et al. 2008).

**Data and variables definition**

The variables in this model were selected based on the studied relevant literature, previous research and in accordance with the availability of data. Each variable from the model, data sources as well as theoretically expected signs are explained below. In this paper we analyze the demand for tourism in selected META countries Croatia, Cyprus, France, Greece, Italy, Portugal, Spain and Turkey by tourists from European and non-European countries. The most important twenty-eight emitting markets were selected according to the number of arrivals in the specified period: Austria, Australia, Bulgaria, Canada, Croatia, Czech Republic, Cyprus, Denmark, France, Finland, Germany, Hungary, Italy, Israel, Ireland, Japan, Netherlands, Norway, Portugal, Poland, Romania, Russia, Switzerland, Sweden, Spain, Slovakia, Turkey, UK and USA. Based on a sample period of 10 years, from 2010 to 2020, the data for the study are obtained from the World Bank Reports, the World Travel and Tourism Council, the European Central Bank Statistical Data, the World Bank data, Media Services S.A. Garín-Muñoz (2006) states that the use of annual data avoids potential problems that may arise due to seasonality.

Before presenting the potential determinants of tourist demand, it is necessary to identify the dependent variable. Following the example of Garín-Muñoz (2006) and Li, Song and Li (2017), the dependent variable in the model is the number of tourist arrivals in selected countries by

tourists from the most important emitting markets (DEMANDi, t ). This variable also represents a measure of tourist demand in the model. It shows the number of tourist arrivals from the emitting country in the year t (i = Austria,… United Kingdom; t = 2005, (Unur et al., 2019).

Furthemore we employ the following explanatory variables:

Dependent variable with time shift. As in other dynamic models, the value of the time-dependent variable was included in the model as an explanatory variable (DEMAND, t-1). This variable represents the demand in the previous period. Garín-Muñoz (2006; 2007) explains the reasons justifying the inclusion of past spending as a regressor. The first reason is that less uncertainty is associated with staying in a destination already known to visitors, compared to traveling to an unknown foreign destination. Another reason relates to the fact that knowledge and word about the destination spreads as tourists recount events and impressions about their trip to friends and acquaintances, thus reducing uncertainty and uncertainty for potential new visitors to the same destination. Garín-Muñoz (2006; 2007) also emphasizes that it is possible that, if the impact of past demand is ignored, the impact of the relevant variables under consideration will be overestimated. According to the results of previous research, a positive sign of this variable is expected.

The variable of tourist income that will be used for empirical testing will be approximated by the GDP *per capita* in the origin country as a measure for tourist's income in $ and in the observed period, ie time t (GDPPCit). GDPPC is generally a much better measure of the level of income earned by a country's residents, especially when it comes to modeling emitting tourist demand for holidays, than, for example, the more commonly used gross domestic product indicator p.c. (Song, Witt, & Li, 2009.) Starting from microeconomic theory as well as from previous research, a positive sign is expected for this variable.

Furthemore, we used a consumer price index in the selected META as the proxy for the cost of tourism. Using a consumer price index (CPI) as a proxy for the cost of tourism can provide a general indication of changes in the overall price level in an economy. The CPI is a measure of the average price of a basket of goods and services consumed by households, and it reflects the inflationary or deflationary trends in a country.

When using the CPI as a proxy for the cost of tourism, it assumes that the prices of goods and services relevant to tourists are captured in the CPI calculation. This includes items such as accommodation, food and beverages, transportation, entertainment, and other expenses typically incurred by tourists. By tracking changes in the CPI over time, you can assess whether the overall cost of tourism is increasing or decreasing relative to the average price level. For example, if the CPI rises by a certain percentage, it suggests that the cost of tourism has also increased by a similar proportion. Conversely, if the CPI decreases, it indicates that the cost of

tourism has decreased. However, it's important to note that the CPI may not fully capture all aspects of the cost of tourism. There may be specific items or services that are more relevant to tourists but are not adequately represented in the CPI calculation. Additionally, the CPI represents average price changes for the entire population, and individual experiences may vary.

When using the CPI as a proxy, it's crucial to consider other factors that can influence the cost of tourism, such as exchange rates, seasonal variations, local economic conditions, and specific tourism-related factors. Combining the CPI with other indicators and data sources can provide a more comprehensive understanding of the cost of tourism in a specific area or for a particular market segment.

The level of investment (INVit) of all economic sectors of the host country will be represented by the percentage share of gross investment of business sector (INVbit) and household sector (INVhit) in the country and gross domestic product and time t, Given that higher investment activity a positive link between investment activity and tourism demand is expected.

Openness to international trade in goods and services (TRADE) will be approximated by the percentage indicator of the value of total trade (exports and imports) of goods and services (excluding emitting tourist demand) per capita and in time t.

Trade and tourism demand are closely interconnected and often have a symbiotic relationship. Changes in trade patterns and economic activity can significantly influence tourism demand, and vice versa. Here are some key aspects of the relation between trade and tourism demand:

Economic Development: Trade and tourism are both influenced by the overall economic development of a country or region. Increased trade can stimulate economic growth, leading to higher income levels and disposable income for individuals. This, in turn, can boost tourism demand as people have more resources to spend on travel and leisure activities.

Business Travel: Trade activities often involve business transactions, conferences, exhibitions, and meetings. These events generate demand for business travel, including flights, accommodation, and related services. International trade can result in a rise in business tourism as individuals travel to attend trade fairs, negotiate contracts, or explore new markets.

Foreign Direct Investment (FDI): Trade can attract foreign direct investment, as companies seek to establish operations or expand their presence in new markets. FDI inflows contribute to the development of infrastructure, hospitality services, and other tourism-related sectors, creating an environment conducive to tourism demand. Increased trade and FDI can lead to the growth of both leisure and business tourism.

Destination Image: Trade can impact a destination's image and perception among potential tourists. Positive trade relationships, such as increased exports, foreign investments, and cultural exchanges, can enhance a country's reputation, making it more attractive as a tourist destination. Conversely, trade disputes, political tensions, or negative perceptions can discourage tourism demand.

Connectivity: Trade often requires efficient transportation networks, including air, sea, and land routes. Investments in transportation infrastructure can improve connectivity and accessibility to a region, making it easier for tourists to reach and explore new destinations. Improved connectivity resulting from trade can boost tourism demand by reducing travel barriers and increasing convenience.

Market Diversity: Trade can introduce new products, services, and experiences to a region. This diversification can enrich the tourism offerings and attract a broader range of tourists seeking unique experiences. For example, increased trade of cultural products, such as food, art, and handicrafts, can contribute to cultural tourism and attract visitors interested in local traditions and heritage.

Exchange Rates: Trade can influence exchange rates, which, in turn, affect tourism demand. Fluctuations in currency values can make a destination more or less affordable for international tourists. A weaker currency resulting from trade imbalances can make a destination more attractive for visitors from countries with stronger currencies, potentially increasing tourism demand.

Economic Stability: Trade can contribute to overall economic stability, which is a crucial factor influencing tourism demand. A stable economy provides a favorable environment for tourism growth, as consumers are more likely to spend on travel and leisure when they feel confident about their financial situation. Conversely, economic instability resulting from trade disruptions or imbalances can negatively impact tourism demand.

It is important to note that the relationship between trade and tourism demand is complex and can vary depending on numerous factors, including the specific characteristics of a country or region, geopolitical conditions, government policies, and global economic trends.

Terrorism in destinations. The impact of terrorism in destinations is also included in the model (TERORt). The Global Terrorism Index, published by Vision of Humanity, was chosen as a measure of terrorism in competing countries, and is based on the Global Terrorism Database (GTD), which is the most respectable source of terrorism data today. Vision of Humanity is supported by the Institute for Economics and Peace (IEP). According to the Vision of Humanity, the Global Terrorism Index (GTI) is a complex measure consisting of four indicators: incidents, deaths, injuries and property damage. The Global Terrorism Index rates

each country on a scale of 0 to 10, with 0 representing the absence of the impact of terrorism, while 10 represents the greatest measurable effect of terrorism. Countries are ranked in descending order with the worst scores at the top of the scale. As for the very definition of terrorism, the Global Terrorism Index defines terrorism as the threat or actual use of illegal force and violence by a non-state actor to achieve political, economic, religious or social goals through fear, coercion or intimidation. This definition takes into account that terrorism refers not only to the physical act of attack, but also to the psychological impact it leaves on society long after the act itself (Institute for Economics & Peace, 2020). Considering the studied literature, but also the well-known practice, it is assumed that visitors will prefer safer countries, so in the case of terrorism in destinations, they will prefer to spend their vacation in other countries. Therefore, a negative sign for the global terrorism index is expected.

The rapid spread of Covid-19 has significantly affected global tourism, which has suffered serious consequences (Estrada et al., 2020), especially attractive tourist destinations, such as France, Italy and Spain, but also countries where outbound tourism is extremely widespread, such as China and the United States (Farzanegan et al., 2020). The news that the virus has spread has caused great concern among tourists, potential tourists and the wider tourism industry. A global wave of cancellations and postponements of tourist and business arrangements followed. The (UNWTO, 2020) forecast for the COVID-19 crisis is a potential loss of 100 million jobs and $ 2.694 billion of world GDP due to declining travel and tourism. The recommendations given by the WTTC (targeting the Governments of the countries), which refer to the tourism sector are the following: reduction of travel barriers and facilitation of procedures (visas, etc.), easing fiscal policies (reduction of travel fees), support of the business sector (tax exemptions) and destination support (increased budget for promotion, development of tourist products, etc.). Bearing this in mind we also include a binary dummy for the emergence of the Covid-19 and assign a value of one for the 2020 and a value of zero for all other periods.

Tab. 1 presents the descriptive statistics for the determinants involved visitors from the observed sample was 65212424. The lowest number of arrivals was 2450000, while the highest number of arrivals was 217877000. The average value of net national income for all countries is about $ 24794.35 per capita , with a large range between the minimum and maximum values, ie the amount of $ 8536,433 per capita to $ 43,790.73 per capita. The standard deviation for this variable is also quite large. This was to be expected given that the tourist region of Europe includes old and new members of the European Union, which differ considerably in terms of the level of economic development. Average investments in selected countries in the observed period amounted to 19.25, while the range of trade was from a minimum of 46.69 to 154.5% of

GDP. Also, the selected countries together recorded the value of the global terrorism index averaging 3.7 in the observed period. The lowest impact of terrorism (TEROR) is 0.16, while the highest impact of terrorism is 8.18. Tab. 1

**Table 1** Descriptive statistics

| | DEMAND | GDPPC | INV | INF | TRADE | TEROR |
|---|---|---|---|---|---|---|
| Mean | 65212424 | 24794.35 | 19.25367 | 2.023967 | 75.15304 | 3.703385 |
| Median | 46649000 | 25028.23 | 19.05975 | 1.114745 | 64.17706 | 3.75 |
| Maximum | 217877000 | 43790.73 | 29.85714 | 16.33246 | 154.5827 | 8.18 |
| Minimum | 2450000 | 8536.433 | 10.57804 | -2.097 | 46.69447 | 0.16 |
| Std. Dev. | 61991703 | 9599.879 | 4.670496 | 3.497672 | 25.8685 | 2.224985 |
| Observations | 84 | 88 | 88 | 88 | 88 | 65 |

Source: Author 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 Tab. 2.

**Table 2** Correlation matrix

| | DEMAND | GDPPC | INV | INF | TRADE | TEROR |
|---|---|---|---|---|---|---|
| DEMAND | 1 | 0.6696 | 0.2401 | -0.1307 | 0.4623 | -0.2727 |
| GDPPC | 0.6696 | 1 | -0.1925 | -0.4886 | -0.0460 | -0.1738 |
| INV | 0.2401 | -0.1925 | 1 | 0.7618 | -0.3153 | 0.6230 |
| INF | -0.1307 | -0.4886 | 0.7618 | 1 | -0.3084 | 0.6561 |
| TRADE | 0.4623 | -0.0460 | -0.3153 | -0.3084 | 1 | -0.6358 |
| TEROR | -0.2727 | -0.1738 | 0.6230 | 0.6561 | -0.6358 | 1 |

Source: Author calculations

According to Gujarati and Porter (2009), multicollinearity is a problem when the correlation is above 0.80. As is presented in Tab. 2, all correlation coefficients were found to be below this threshold, suggesting the continuation of use of all the variables included in running the regression model.

## RESULTS AND DISCUSSION

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 Tab. 3.

**Table 3** Estimation Results

| **Explanatory variables** | **Results** |
|---|---|
| Lagged dependent variable *logDEMAND t-1* | 0.629*** (0.009) |
| Constant | -0.957*** (0.034) |
| LogGDPPC | 0.054*** (0.027) |
| INV | 0.001 (0.004) |
| *INF* | 0.011 (0.007) |
| TRADE | 0.001*** (0.004) |
| TEROR | 0.104*** (0.004) |
| Dummy | -1.114*** (0.014) |
| Number of countries | 8 |
| Sargan test (p-value) | 0.256 |
| Arellano-Bond test [AR (1)] | 0.044 |
| Arellano-Bond test [AR (2)] | 0.968 |

Note: Standard errors are presented inparentheses.
Source: Authors' calculations

Among the first residual differences, first-order autocorrelation is present at a significance level of 0.05 because m1 (0.044) <0.05, and therefore the null hypothesis of no first- order autocorrelation is rejected. However, even with the presence of first-order autocorrelation, parameter estimates in the model may still be consistent. What is crucial is that second-order autocorrelation is not present among the first residual differences because m2 is 0.968, which exceeds the significance level of 0.05, so the hypothesis of no second-order autocorrelation can be accepted. This also makes the Arellano-Bond test criterion satisfied. The second check refers to the Sargan test whose p-value in the model is 0.256 which exceeds the significance level of 0.05 so it can be concluded that the selected instruments in the model are valid.

Since the model satisfied both diagnostic tests - Arellano-Bond and Sargan test, it can be further analyzed and interpreted in accordance with the obtained results.

The estimated coefficient with the time-dependent variable (Qi, t-1) is 0.5 and is statistically significant at a significance level of 1%. Taking into account the previously explained interpretation of this coefficient by Athanasoglou et al. (2008), it can be concluded that the tourism industry in the selected countries is moderately competitive. The coefficient of past demand of 0.5 also indicates the presence of consistency in the habits of tourists who gladly return to selected countries, as well as the possible effect of "word of mouth". Similar results on the positive impact of previous demand on future tourism demand can be found in Garín-Muñoz (2006, 2007), who also emphasizes the importance of providing high quality service in order to

gain a good reputation among tourists and attract both old and new visitors. This result is high loyalty of tourists in the selected countries and which also recognized the recommendations of relatives and friends and previous stay as the most important sources of destination information (along the Internet).

Based on the results, it is identified that income is the most important factor that determines tourism demand for selected EuroMed9 countries. Similar to the findings of (Hanafiah et al., 2011; Gan 2015; Soofi et al., 2018), income is identified to be positively related to the tourism demand. It implies that the increase in income per capita for selected EU Med countries causes the tourism demand to go higher. According to Soofi et al., (2018), the positive relationship income per capita is known as an indicator of the level of economic development that could promote tourism receipts. The current paper believes that the increase in the level of economic development implies the improvement in terms of infrastructure, facility, and security that attracts tourists to come to the host countries. Also developing countries with more GDP per capita take more place in the media. Their names are often mentioned along with organizations such as film and music festivals (Unur et al., 2019). The perfect example would be set for the city of Paris which is recognized and referred to as the capital of fashion by the worldwide media without any extra efforts, advertising and promotional activities of France with the annual GDP per capita of $ 42,000. As a result, the increase in the GDP per capita of a country has a positive impact on the country's image, and in this regard, the tourism demand for the country increases in the long-run (Schubert et al., 2011, p.381).

The results of consumer price index (CPI) variable indicates that international demand for travel to selected META countries is not sensitive to the fluctuations of this variable, because has a positive sign and is almost equal to zero but it is insignificant. These results are consistent with the findings (Khoshnevis Yazdi & Gomami, 2016).

Furthermore, the openness of the economy, i.e. the knowledge of destinations in the issuing country through various products and services that are subject to international (or bilateral) exchange, has a positive impact on the emission tourism demand. Confirmation of the above is visible in the statistical significance of the TRADE variable, a positive sign parameter with the above variable, which confirmed the sub-hypothesis by empirical testing The positive and significant impact of trade openness is consistent with (Hanafiah et al., 2011; Rasekhi & Mohammadi, 2017). The current paper argues that an increase in trade openness implies the easiness to travel and encourages tourists to come. In line with (Eilat & Einav, 2004; Phakdisoth & Kim, 2007), they found that trade partners are an important vehicle to expand tourism. A higher trade value means wider trade openness. Hence, we can conclude that higher trade value

will affect tourist arrivals regarding the trade openness As matter of fact, in trade aimed travels to a country, a product is bought from the country visited (import) or is sold to that country (export). With this regard, a successful business travel to a country leads a trade stream between countries; as a result, in the scope of new trade/business negotiations or business travels between those countries, economic relations develop. This situation is an external effect of a successful commercial business travel reveals. Thus, with externality a successful business travel creates, in the trade etc. aimed travels to that country, an increase will be under consideration. The increase of trade aimed business travels from a country to other will also certainly lead to the increase of the holiday, recreation, rest, and recreation aimed travels. However, buying goods and services from a country will indirectly pioneer to the presentation and advertisement of that country in the home country. In addition, trade between countries will cause to increase of the consumers' interest to goods and services purchased and humans to be informed about products and the country, resources of that country. Hence the interest and famousness that earlier begin with the commercial relationships between countries will guide to the touristic aimed travels in the next stage (Kulendran & Wilson 2000, p. 1002). Subject to possible caveats of the study, the following are some important policy implications for selected EU Med countries in terms of tourism and trade that can be drawn from the findings. It seems that an increase in international trade even if export or import, increases will cause growth in tourism sector, which means that most of tourist arrivals are related to tourism in especially less developed countries in the sample such as Croatia and Turkey. Hence, economic policy should focus more on trade related tourism, in order to generate more foreign trade earning to selected EU Med countries. Besides, in order to increase and sustain in the growth of tourism sector, more attention should be given to the business tourism such as meetings, incentives, academicals, conferences, workshop and exhibitions.

Furthemore, the results reveal that terrorism has a negative relationship with tourism demand, given that fear of casualty from terror attacks could be limiting the preference of potential tourists in terms of choice of destination, thereby negatively affecting the general inbound tourist arrivals into the countries. This result is in line with the fact that personal safety is one of the most important elements of tourist demand. For example, in Paris, after the attacks suffered in 2015, the large shopping centre Galeries Lafayette halved the number of visitors, in the hospitality sector the occupancy rate and room revenues fell by more than 20% during the first weekend, some meetings and activities were cancelled, others confirmed, but with reinforced controls (Varani & Bernardini, 2018). The significant impact of terrorism on tourism demand has been confirmed by, (Samitas et al., 2018; Fourie et al., 2020; Ulucak et al.,2020).

The results of this research also have implications for practice at the level of the tourist destination as a whole in the planning and implementation phase. In the planning phase, tourist destinations, especially those whose economy is significantly dependent on tourism (as is the case in our example), must implement crisis management strategies in order to deal with terrorist threats (Bilandžić & Lucić, 2015). It is imperative for destinations to implement crisis management with marketing efforts to regain lost tourist interest and rebuild a positive image. Once a situation is identified as a crisis, crisis management should be initiated until full recovery is achieved. Destinations that are susceptible to attacks should at least implement basic measures to prepare for a crisis in tourism. Managers should face the fact that terrorist attacks provoke a substitution effect on destination choice behaviors. Tourists will replace destinations considered unsafe due to terrorist threats with others considered safer. The physical distance of the tourists' home countries and their cultural and socio-economic traits influence this replacement behavior. In addition, managers must take into account that the substitution effect occurs between the European countries located in central areas and those located in peripheral areas. When terrorist attacks occur in the Mediteranian countries, tourists avoid those regions and choose peripheral destinations like Portugal (Seabra et al., 2020) Evidence also made it clear that the opposite effect also happens. Given the randomness of terrorist attacks, tourism managers should be prepared to alter quickly their marketing strategy, namely their market targeting strategies and promotion campaigns to prevent substitution effect. The findings from this study support the recommendation of providing continuous support for the security establishment of the nation to boost tourist confidence towards stimulating inbound arrivals. Because tourism earnings are very crucial to the stability of the selected countries, the current finding calls for more proactive measures for curbing terrorist attacks by strengthening security not just in the public arena alone but also at major historical sites and other popular touristic areas.

COVID-19 pandemic led to significant negative changes in international tourism, and certainly in the selected countries. Namelly, development dynamics and trends in the Mediterranean, as in the rest of the world, have suffered a severe slowdown since 2020. In many cases, they have taken the form of a sharp reversal following the outbreak of the COVID-19 pandemic and the social and economic crisis that has ensued. The pandemic crisis has weakened economic sectors that are considered vulnerable as they are more than others influenced by different variables. The Mediterranean basin and the countries of the three continents bordering it have not been spared by the crisis, and in this context one of the hardest hit sectors has been tourism. Consequently, many of the measures adopted by national

governments have focused, on the one hand, on income support for workers in the tourism sector and, on the other, on support mechanisms for the activities linked to the sector (directly or indirectly). At the same time, many Mediterranean countries, especially within the framework of multilateral and supranational initiatives, have been preparing recovery plans to tackle the post-pandemic phase and beyond. Alongside generating substantialfinancial burdens, the pandemic fostered the adoption of new routines and technologies to dynamically respond to these threats by making use of all possible organizational resources to survive the crisis and its consequences on organizational processes (Capolupo et al., 2022).

To be fully beneficial for the territories, countries and the Mediterranean region at large, sustainable and innovative tourism should therefore take into account some critical aspects such as:

- New forms of tourism, targeting not only international visitors, but also, and above all, local visitors and operators, so as to make the overall sector more resilient. Indeed, domestic tourism is providing a much needed boost to help sustain many tourism destinations and businesses, and will continue to be a key driver of recovery in the short to medium term. - Integration and synergies with other related sectors (e.g. agriculture, fisheries, restauration, transport, infrastructures for energy efficiency, etc.) to maximise the added value of local tourism (e.g. pescatourism, ecotourism, supporting immaterial heritage such as the Mediterranean diet, underwater tourism…).

- Integrated Coastal Zone Management (ICZM) and Maritime Spatial Planning (MSP) are operational governance tools that can help local ecosystems and communities; in this sense, there is a need for promoting greater integration of policies and sectors in order to maximize and rationalize the sustainable use of local assets and marine/coastal space by tourism businesses.

- As the impacts of climate change are expected to be severe for coastal communities across the Mediterranean, sustainable tourism business models and practices are to adapt to the increased challenges that they will have to face (e.g. involving more resilient and adaptive infrastructures, services/products offered, skills and capabilities, etc.).

- Digitalisation should be properly considered given that data and market intelligence will be vital Climate friendly, while sustainable travel experiences have further boosted the demand for “slow tourism” and outdoor, nature-based destinations.

The coefficients of inflation is not statistically significant, which means that tourism in META countries is not very sensitive to prices indicating that tourists do not perceive META

countries as an expensive destination and rising prices in META countries will not change their decision to travel.

The last estimated parameter refers to variable investment in META countries, which amounts to 0.001%. As for the statistical significance of this coefficient, it is not statistically significant. On the basis of this result, it can be concluded that the demand for Croatian tourist products is weakly sensitive to changes in foreign supply, because a 1% increase in capital investment would imply only 0.001%. growth in tourist demand. However, it is important to emphasize that in practice investment refers to a much wider set of different investments, including infrastructure investments, construction works, investments in human resources and many others, while this model, due to simplification, only takes into account a narrower area of investments that are related in the activities of providing accommodation and preparing and serving food (hotels and restaurants). Therefore, the low value of the coefficient can be explained by the fact that the impact of only part of the relevant investments was observed.

The research in this paper tried to overcome the mentioned limitations in the previous work of research. However, given the complexity of the research area, it is possible to identify limitations within this paper's research, and also give guidelines for future research.

The limitations of the research are manifested in:

- the impossibility of including a larger number of countries in the research sample and a longer period of time for which hypotheses were empirically tested;
- the need to investigate in more detail the social preferences of the broadcast market and define additional variables that explain it;
- it is necessary to define another proxy variable that can replace the investment variable in research and development and which can be significant in determining the emissive tourist demand;
- eventual methodological shortcomings that arise from the chosen estimator of dynamic panel models in empirical hypothesis testing.

On the given limitations of the first part of the research, it is possible to present guidelines for future research related to:

- the increase includes the number of countries and the time period of the analysis in which the socio-economic environment and its influence on the emitting touristic demand will be determined;
- an empirical investigation of other socio-economic variables on the emission market that determine tourism demand, such as the degree of urbanization, literacy rate of the population,

residential structures by age and sex, etc., then determining expectations in the economy based on the consumer confidence index or similar;

- replace research and development with new indicators such as the number of patents approved for a certain period per capita of the emitting country;

- the use of other 'possible' estimators of dynamic panel models in testing new determinants of emissive tourist demand.

## CONCLUSION

Due to the exceptional importance of the tourism industry for selected countries, it is important to frequently conduct various analyzes and empirical research in order to better understand the decision-makers and tourism actors in practice the nature of tourism demand and adapt accordingly.

In this paper, a new model of foreign tourist demand in the Mediterranean region (Croatia, Cyprus, France, Greece, Italy, Portugal, Spain and Turkey) is established using panel data and generalized method of moments (GMM).

One of the main conclusions of the study looking at the period from 2010 to 2020 is the significant value of the lagged dependent variable (0.629), which shows that the habitat persistence is important to explain the tourist demand in selected countries from META . This result can be interpreted as high consumer loyalty to the destination and / or as an important word-of-mouth effect in the consumer's decision in favor of the destination. Also, according to the survey results, we have the positive relationship between tourist demand and GDPPC. Furhemore, the increase in the level of economic development implies the improvement in terms of infrastructure, facility, and security that attracts tourists to come to the host countries. Trade openness has a positive impact on Tourism demand, So that by 1% increase in trade openness in selected META countries, the incentive to travel to these countries has increased, and as a result, tourism demand will increase by 0.001%. The coefficient for terrorism in destinations shows that the 1% growth of terrorist activities in selected countries (expressed by the global terrorism index) affects the demand for tourism products in such a way that in this case it falls by 0.10%.

Based on the analysis of the impact of the Covid-19 pandemic on selected META countries, we can conclude that selected META countries in all segments of tourism achieved a large decline and losses in 2020. It follows that in the field of tourism, in the next few years, the battle for each guest will be very fierce because selected META countries are not the only ones returning to the tourism scene. If we work on good communication with the guest and provide an interesting and attractive offer, in the fight for the market we can expect in the next few

years, to come out as winners. How and how quickly selected META countries will recover from the pandemic crisis remains to be seen. Unfortunately, we cannot know what else awaits us in the fight against the corona virus, and many questions such as - what will the world look like one day, will we be able to return to what was once considered "normal", what this crisis brings us in the future, in which areas rapid changes will be needed and what kind of consequences await us "- he will look for his answers for some time to come.

This study does not face significant limitations, but their removal will certainly contribute to more robust results. First, there are no data for the selected determinants over a longer period, and we have some missing data observations in the selected period. Secondly, the selected variables fail to catch the effects of supply factors as potential determinants in explaining tourism inflows in selected META countries.

The future avenues of research on the phenomenon of tourist demand should invest the impact of other potentially relevant determinants, which are nonstrictly economic (related to quality, experience, appreciation of culture, nature, safety, and human resources) may allow finding more determinants on tourism demand. Also further researchers can different methods such: two- or three-least squares or panel co-integration models. Future research on this topic for a more detailed analysis of the impact of investment on tourism demand should include in the observation and investments such as construction, infrastructure, investment in human resources and many others.

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