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Contents

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Sustainable Regional Development Scientific Journal, Vol. I, (1), 2024

Editorial Note

In the first semester of 2024, the Sustainable Regional Development Scientific Journal (SRDSJ), published under the scientific aegis of the Albanian Association of Regional Scientists (A.A.R.S), launches the first special issue (I) of its first volume (Vol. I) since the first day it was published. The SRDSJ is an international, open-access, and peer-reviewed journal that publishes research on various topics related to Regional Science and Sustainability. The journal aims to freely promote the academic dialogue in Regional Science worldwide, as well as to serve scientific research with solid quality standards in empirical, methodological, and theoretical contribution. It provides a platform for scholars, policymakers, and practitioners to share their research and insights on regional development, sustainability and its various dimensions.
The SRDSJ has the merit to serve the broad multidisciplinary scope of regional science and thus to provide publication opportunities to researchers from various disciplines, but it is also privileged to provide an open-access platform for regional science and sustainability research (making it accessible to a wider audience), and also to support a reasonably timely review process (thus acknowledging that timely publication is beneficial both for the authors and the promotion of the academic dialogue). Further, the SRDSJ is supported by an editorial board of reputable scholars from worldwide (counting over a hundred members), who ensure that the published papers meet rigorous academic standards. Also, the SRDSJ has the merit to provide a forum for ideas exchange, news, and information, by covering topics of broader academic interest, such as events (conferences, workshops, and seminars), academic profiles (which provide insights into the work and accomplishments of leading scholars in the field), and book reviews (which offer a valuable service by summarizing and evaluating important publications), enhancing its value as a resource for scholars and practitioners for readers interested in keeping up with the latest developments in Regional Science and Sustainability. Following this heritage, the SRDSJ continues working hard toward providing a reputable and respected publication, along with a valuable platform for high-quality research for anyone interested in regional science, regional development, sustainability and related fields.
This issue (SRDSJ, Vol. I, (1), 2024) includes seven papers that were carefully selected from a large pool of candidacies for publication and comply with the journal’s standards. These papers deal with modern and interesting topics Regional Science and Sustainability research, welfare, economic growth and debts in terms of financial globalization direct foreign investmens, tourism in the Southern EU and other related fileds.
In brief, the first paper, titled “TRANSPORTATION NETWORKS AND REGIONAL DEVELOPMENT: THE CONCEPTUAL AND EMPIRICAL FRAMEWORK IN GREECE”, authored by *Dimitrios TSIOTAS and Serafeim POLYZOS* examines the importance of transportation networks for the economic and regional development of Greece, focusing on the country’s infrastructure and its road, rail, maritime, and air transport networks. Based on statistical and economic indicators and the application of a multivariate linear regression econometric model, the link between transport and economic and regional development and its complexity is highlighted. The study underlines that the structure and functionality of transportation networks reflect the social and economic needs of their user societies, providing important information on the development dynamics of a country. Through a literature review, technical reports, and empirical analyses, this information can serve as a thematic basis for examining transport networks at both research and policy levels. Overall, this article is addressed to regional researchers and policymakers, highlighting the need for responsible transport planning, which is associated with high opportunity costs and inelastic infrastructure sunk costs.
The second paper, titled “STRATEGIC MANAGEMENT DECISIONS IN THE CONTEXT OF FOREIGN DIRECT INVESTMENT. THE ROLE OF INSTITUTIONS AND ECONOMIC DETERMINANTS”, authored by *Ligita ŠARKUTĖ, Darjel SINA*, *Kreshnik BELLO and Arben VERCUNI,* studies the emerging markets have grown in importance as investment and corporate objectives because of globalization. Multinational corporations use foreign direct investment (FDI) as a strategical investment decision to gain a competitive advantage. The purpose of the study is to investigate the role of formal and informal institutional determinants of FDI and how multinational Companies (MNCs) base their strategic investment concerning the institutional environment of emerging and developing markets. Consulting the existing literature in relation to the quality of institutions and their relevance and impact on foreign direct investment strategies and investment decision process this study includes and analyze all institutions (Political, Regulatory, Economic and Cultural) that have an impact on the FDI management strategic investment decision. Herewith the study came with concrete findings and recommendations for potential international investors, local institutions but also organization

involved with investment promotion.
The third paper, titled "PUBLIC DEBT AS A DETERMINANT OF THE ECONOMIC GROWTH IN KOSOVO", authored by *Filipos RUXHO, Dimitrios PETROPOULOS, Dimas Angga NEGORO*, investigates the impact of public debt on economic growth in Kosovo. By analyzing secondary data, we aim to determine whether increasing public debt levels have stimulated or hindered economic growth. The study employs an econometric model to quantify this relationship, providing valuable insights for policymakers and economists. The findings suggest a nuanced impact of public debt on economic growth, with implications for fiscal policy and sustainable development strategies in Kosovo. Empirical results suggest negative relationship between public debt and economic growth controlling for other determinants of growth trade openness, total investment, current account balance and primary balance. The results also confirmed the existence of a "U inverted" relationship between public debt and economic growth.
The fourth paper, titled "THE CULTURE AND ORGANIZATIONAL PERFORMANCE: THE CASE OF FAMILY HEALTH UNITS IN THE ALGARVE REGION", authored by *Vera BASILIO, Susana Soares Pinheiro Vieira PESCADA, João VIDAL, Fernando TEIXEIRA*, studies the changes within organizations and their constant needs for internal and external adaptation, the study of organizational culture has been seen as a determining factor for the management of organizational behavior and, at the same time, a foundation in the process of decision making. This study aimed to analyze and compare the profile of the organizational culture of Family Health Units of two different models of organizational management. A quantitative, cross-sectional study of the type described was chosen and the results of the study revealed that the professionals of the USF model A identify the Hierarchical culture as predominant and the professionals of the USF model B perceive the Market culture as dominant. Certain cultural characteristics such as: dominant characteristics, organizational leadership, employee management, internal cohesion, organizational principle and success criteria must be readjusted in order to meet the challenges and objectives associated with management models organizational structure and, consequently, promote change and the success of the USF.
The fifth paper, titled "SOCIAL PROTECTION IN GREECE AND SUSTAINABLE DEVELOPMENT LEAVING NO ONE BEHIND", authored by *Anastasios SEPETIS, Algis KRUPAVIČIUS, Christos Ap. LADIAS*, examines a sustainable development leaving no one behind and social protection in line with its institutional framework are crucial for the well-being of local communities. The literature shows, however, that a general and growing recognition of sustainable development alone does not provide equal opportunities to different segments of society. Our research found that in Greece regions and local communities clearly have an important role to play in the development of new social protection policies for sustainable and inclusive growth. The key challenges for defining inclusive and sustainable development for social protection policies in Greece are highlighted. Reforms are proposed for inclusive and sustainable development policies that are likely to contribute to regional and local social protection. The conclusions identify key reform principles that will promote a holistic social protection policy in the context of local sustainable development leaving no one behind.
The *sixth* paper, titled "THE INSTITUTIONAL IMPACT ON TOURISTIC INDUSTRY IN SOUTHERN EUROPEAN UNION COUNTRIES", authored by *Fejzulla, BEHA, Antoneta POLO, Carolina PALMA*, attempts to explore the impact of institutional quality on tourism development in a panel of southern countries within the European Union over the period. Tourism development is evaluated using the number of tourist arrivals, with control variables such as GDP growth rate, inflation, higher education, quality of the environment, and trade, representing key determinants of tourism. Institutional quality is gauged using indicators of government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability. The study utilizes the Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators to assess the influence of these determinants on tourism development. The findings demonstrate a positive correlation between institutional quality and tourism, providing valuable insights into the role of institutions in tourism management and their impact on the sector.
Last but not least, the seventh paper, titled "USEFULNESS OF TECHNICAL ANALYSIS IN THE FOREX MARKET: THE EUR/USD PAIR", authored by *Miguel LAMPREIA, Erjola BARBULLUSHI, Ismet VOKA,* studies the financial forecasting as a topic of great interest to the economic and academic community. The ability to predict currency market movements in advance has financial benefits for investors as well as companies. The tools available for technical analysis, trends, trend and channel lines, support/resistance zones and Fibonacci retracements have demonstrated their validity, as they are useful in predicting possible trend reversal/continuation zones. Reversal chart and candlestick patterns demonstrated their validity, since when found on the charts of the pairs under study, it was possible to verify their effectiveness in predicting trend reversal. Graphic continuation patterns also demonstrated their validity in predicting trend continuation, since after its break, the trend direction prevailed.

All these interesting works are available on the next pages of the SRDSJ intending to promote the academic dialogue in Regional Science. Overall, the Editor in Chief, Professor Assistant Filipos A. Ruxho, the Editorial Board, and the signatory of this Editorial Note welcome the reader to the multidisciplinary journey of Sustainable Regional Development Scientific Journal that the current issue promises on its following pages.

On behalf of the Editorial Board
Professor Assistant **Filipos A. Ruxho**
Editor-in-Chief

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Articles

TRANSPORTATION NETWORKS AND REGIONAL DEVELOPMENT: THE CONCEPTUAL AND EMPIRICAL FRAMEWORK IN GREECE

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Abstract
This paper examines the importance of transportation networks for the economic and regional development of Greece, focusing on the country's infrastructure and its road, rail, maritime, and air transport networks. Based on statistical and economic indicators and the application of a multivariate linear regression econometric model, the link between transport and economic and regional development and its complexity is highlighted. The study underlines that the structure and functionality of transportation networks reflect the social and economic needs of their user societies, providing important information on the development dynamics of a country. Through a literature review, technical reports, and empirical analyses, this information can serve as a thematic basis for examining transport networks at both research and policy levels. Overall, this article is addressed to regional researchers and policymakers, highlighting the need for responsible transport planning, which is associated with high opportunity costs and inelastic infrastructure sunk costs.

Keywords: road networks, railway networks, maritime networks, aviation networks.
JEL Classification Codes: R4, R41, R42.

1. Introduction

The movement of people is a historical phenomenon, which emerged from the innate need for communication and mobility and which has a lasting impact on the economic and social development of societies (Polyzos, 2011; Polyzos and Tsiotas, 2020, 2023). Within this conceptual framework, transport constitutes the set of organized human actions, which aim to satisfy the human need for communication and mobility and involve the coverage of spatial distances and generally spatial constraints that occur from the dispersion of the locations of social formations and social activities. Transport, which has always been an imprint of human activities in space, can be divided into three main categories (Polyzos, 2019; Polyzos and Tsiotas, 2020): (*i*) *Transport of people*: this category refers to the need to move people between areas for various purposes; (*ii*) *Transport of goods*: This category refers to the movement of material goods to cover geographical distances to promote the production process and to carry out commercial transactions; (*iii*) *Transfer of information, knowledge, and technology*: This category refers to the dissemination of information and technological knowledge between different spatial units as a result of the interaction of culture and civilization that takes place during communication

Historically, the development of transport and transport infrastructure has been closely linked to the development of human societies, constituting their footprint in space. Over time, it has been shown that the spatial resistance (Tsiotas and Polyzos, 2013; Polyzos and Tsiotas, 2020, 2023), to which transport is subjected, is constantly decreasing, promoting opportunities for communication and economic interactions (Capello, 2015; Polyzos, 2019). It also emerges historically that the development of large urban centers is closely linked to their geographical location, but also to the ability to exploit existing natural transport systems (riverside or coastal cities) or to the possibility of developing man-made transport infrastructure (Polyzos and Tsiotas, 2020). In general, transport infrastructure is the structural background within which the actions that take place in each of the aforementioned transport categories are implemented and which has played an important role over time in the development of social formations such as cities, regions, or, on a larger scale, countries (Polyzos, 2019).

The relationship between transport and economic development is characterized by a high degree of complexity. In terms of regional economics (Behrens and Thisse, 2007; Capello, 2015), transport contributes over time to linking land use, promoting the productive process, to the realization of trade by creating trade flows (Polyzos and Tsiotas, 2020), to the development of local economies, to the reduction of interregional inequalities and spatial asymmetry in general (Polyzos, 2019), to the growth of national economies and, more generally, to the promotion of international economic transactions. Transport can affect income distribution, the mix of production and inputs, employment levels, and technological progress. In many cases, the existence of an undeveloped transport system between undeveloped regions reflects the inadequacy of the corresponding demand (Rodrigue et al., 2013; Polyzos, 2019). Transport is instrumental in promoting economic interactions (economic development), but also in promoting interpersonal communication (social development)

In contrast to the view that transport infrastructure directly promotes regional development, some approaches argue that transport infrastructure contributes to increasing regional disparities. Drew (1990) argues that the transport system is not a sufficient and necessary condition for the development of regions, but acknowledges that it helps to bypass spatial barriers and creates conditions for further development. As a process, economic growth following the construction of transport infrastructure occurs initially in urbanized regions or regions close to urban areas, because they have the necessary human and natural resources and the economic structure required for the direct exploitation of this infrastructure. In a chain reaction, entrepreneurs are influenced to locate their businesses in regions with a comparative advantage in terms of transport costs, due to accessibility to markets and sources of raw materials. However, the overall benefits gained vary from one industry to another due to their different dependence on transport costs. As transport infrastructure contributes to increasing productivity, it also promotes growth. Plassard (1992) argues that the existence of a positive relationship between transport infrastructure and regional development lacks sufficient scientific evidence and that the views supporting it are sustained by the need to legitimize policy decisions to build transport infrastructure and the existence of continuity between short and long term changes, which have been difficult to distinguish between them. It also considers that the construction of transport infrastructure does not generate significant long-term regional changes. In a synthetic approach, Rephann (1993) distinguishes 3 competing views on the optimal regional conditions in which transport infrastructure should be implemented to maximize its efficiency. The first view argues that such infrastructure should be built in developing regions, the second proposes intermediate regions, and the third is based on the theory of growth poles, according to which the construction of transport infrastructure should be concentrated in regions with a predominantly urban population composition, which shows previous growth potential. Vickerman (1989, 1995) argues that further factors should be considered more in-depth than the standard approach which focuses on accessibility and the effect of changing transport costs on regional industries. According to the author, consideration should be given to the possibility of creating “corridor effects” (Rodrigue et al., 2013; Polyzos, 2023) so that a region is not affected by the transit induced through this transport infrastructure so that it is constrained to take advantage of the benefits offered by the infrastructure. Typical examples, according to Vickerman (1989, 1995), are the districts of Kent in the United Kingdom and Nord Pas de Calais in France, which are located at the two entrances to the Channel Tunnel. The author also recognizes the problem of the assumption that the economic structure of the regions is static.

In Greece, Petrakos (1997), codifying the above approaches, states that transport networks can contribute to regional development in combination with the other three development factors of a region, namely its location in geographical space, the existing economies of concentration and the sectorial composition of local production and employment. The magnitude of the benefits accruing to a non-central region that reduces its distance due to the development of transport infrastructure depends mainly on its productive base and its capacity to resist the pulling power that it will receive from the central ones to absorb its purchasing power and labor force and thus several of its economic activities. The effects can be positive or negative and the geographical location (central or peripheral) together with the dynamism of the economy of each region affected by interregional transport infrastructure are the key features that determine the direction of these effects. In terms of Network Science (Lewis, 2011; Brandes et al., 2013), transport constitutes interaction and communication systems, whose infrastructures represent networks and movements express the flows that occur within networks. For example, in road transport, road infrastructure constitutes a network, within which travel flows are developed serving each of the aforementioned transport categories. Similarly, the maritime transport system, which consists of the set of active ports of a country and its coastlines, describes a network of coastal transport (Tsiotas and Polyzos, 2015a), in which transport activities (flows) from all three transport categories are equally carried out. Similarly, the air transport system, which consists of a country’s active airports and air corridors (air movement paths), is an air transport network (Tsiotas and Polyzos, 2015b) in which all the aforementioned categories are also served, but mainly the transport of passengers.

A typical view expressed by Petrakos and Psycharis (2016) argues that the emphasis on transport infrastructure is exaggerated for its share in all communication systems (e.g. telecommunications, broadband networks) and is due to its material (tangible) nature, as opposed to infrastructure that is considered "intangible" (i.e. where information/signal is transmitted through channels that have no structured substance, e.g. in the air). This view relates to the "static" nature of transport infrastructures compared to other "intangible" communication systems which exhibit characteristic dynamics and adaptability to changes over time and of all kinds. However, the static nature of transport infrastructures, given their structured configuration, highlights the crucial importance of planning and design as tools for developing transport policy, since it is particularly difficult and costly to eliminate any errors and omissions.

From the above, transport networks can be defined (Tsiotas, 2016) as the systems of connections that are developed between different locations or spatial units (such as urban formations, cities, ports, and airports), take place within a specific spatial embedding (land surface, sea surface, air) and are designed to carry out transport and (by extension) regional development. The form, structure, and functions of transport networks vary according to historical, economic, and social conditions, the means of transport, and the spatial infrastructure. Finally, the interaction of land use systems and transport networks is one of the main phenomena that occur in areas of urban concentration (Polyzos, 2023). In general, it is observed that the development of transport networks is an attraction for the establishment of social and economic activities in adjacent areas. The development of areas (hubs) with high accessibility generally increases the overall demand for the establishment of activities, creating a comparative advantage over other competing areas. This development has a multiplier effect (Capello, 2015; Tsiotas, 2022), as high accessibility areas feedback new development and concentration of further economic activities.

In this context, this paper provides an overview of the main thematic axes that highlight the importance of transport and in particular transport infrastructures and networks in the economic and regional development of Greece. Transport networks constitute the fixed capital that extends in different forms throughout the country to interact, trade, and communicate between connected areas. For this purpose, longitudinal and cross-sectoral information is examined, which describes some fundamental macroeconomic variables and measures related to transport. The methodological approach of this paper is based on the presentation and processing of these measures using techniques of descriptive and inferential statistics, as well as on the construction of an econometric model for the empirical examination of the contribution of transport infrastructure to regional development. Furthermore, this paper attempts to highlight the structural and functional dimensions that define transport networks and to highlight the necessity of their joint consideration in scientific research. The paper stands at the intersection of a review article, technical report, and empirical paper, providing the reader with a thematic basis for the study of transport networks.

2. Transportation in Greece

Transport in Greece is a key component of the national economy and an important factor in its development (Tsiotas and Polyzos, 2015a,b; Polyzos, 2019, Tsiotas, 2021; Polyzos, 2023). At the policy level, over time, the Greek government structure has placed particular emphasis on the transport sector. For instance, according to the ministerial structure of Greece in 2012, two (Ministry of Shipping and the Aegean; Ministry of Infrastructure, Transport, and Networks) out

of the 18 Greek ministries were exclusively dedicated to transport. In addition, two more Ministries (the Ministry of Public Order and Citizen Protection; and the Ministry of Tourism) are entrusted with functions related to transport (such as road safety and transport security).
The existence of a quality transport system is a sufficient but not necessary condition for a country's economic development. On the contrary, the existence of an efficient transport network is a sufficient and necessary condition for the growth of the economy of less developed countries (Tsiotas, 2016). For this reason, the implementation of transport infrastructure upgrading projects is generally a top priority of development policies implemented in developing economies (Polyzos, 2019). The importance of transport infrastructure in the national economy leads countries to allocate annually a significant portion of government expenditure to its maintenance and upgrading (Polyzos and Tsiotas, 2020). This is also applicable to the level of economic policy-making in Greece. In particular, Figure 1 presents the share of the Greek Public Investment Budget allocated to the Ministry of Infrastructure, Transport and Networks for the period 2009-2016. As shown in Figure 1, Public Investment expenditure in Greece allocated to transport and network infrastructure is particularly significant, reaching 1/3 of the total Public Investment budget. This fact combined with the given economic tightness that Greece has been experiencing over the 2008 economic crisis (Polyzos et al., 2013), demonstrates the importance given (at the level of development policy) to the transport sector. This seems to be a key prospect for the Greek economic recovery, exit from the current economic crisis, and further economic growth.

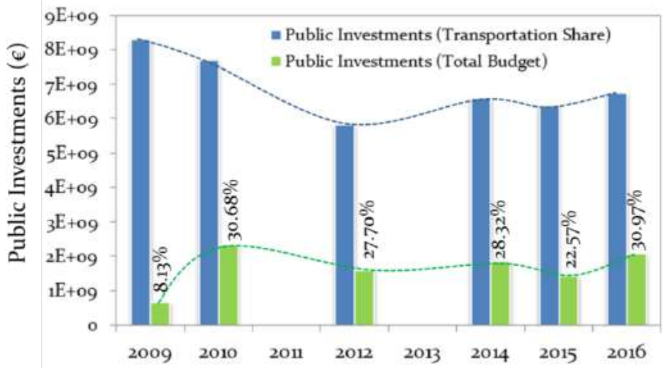

Figure 1. The share of the Greek Public Investment budget in the Ministry of Infrastructure, Transport and Networks, for indicative post-crisis years from the period 2009-2016 (source: Tsiotas, 2016; own elaboration).

Furthermore, Figures 2a, and b shows that transport accounted (on average) for 7% of Greece's Gross National Product (GNP) during the country's period of economic prosperity 1995-2004 (Tsiotas, 2016). The corresponding average participation rates in the main productive sectors were 6.96% for agriculture, 19.57% for industry, and 63.34% for services, while for the other sectors, there were 0.55% for mining, 10.54% for manufacturing, 1.75% for energy, 6.72% for construction, 12.16% for trade, 6.65% for hotels and restaurants and 4.48% for financial intermediation. Figure 2c shows the evolution of the contribution of the Transport and Communications sector to GDP over time, compared to the corresponding contribution of the main productive sectors of Greece (primary - agriculture, secondary - industry, tertiary - services), during the period 1995-2004. As can be seen, the dynamics of the Transport - Communications sector become equivalent to that of the primary sector, indicating the prominent importance of transport in the economic structure of the country. In addition, the graph shows that the dynamics of the Transport - Communications sector in the production of national products is about half that of the secondary sector and 10% that of the tertiary sector.

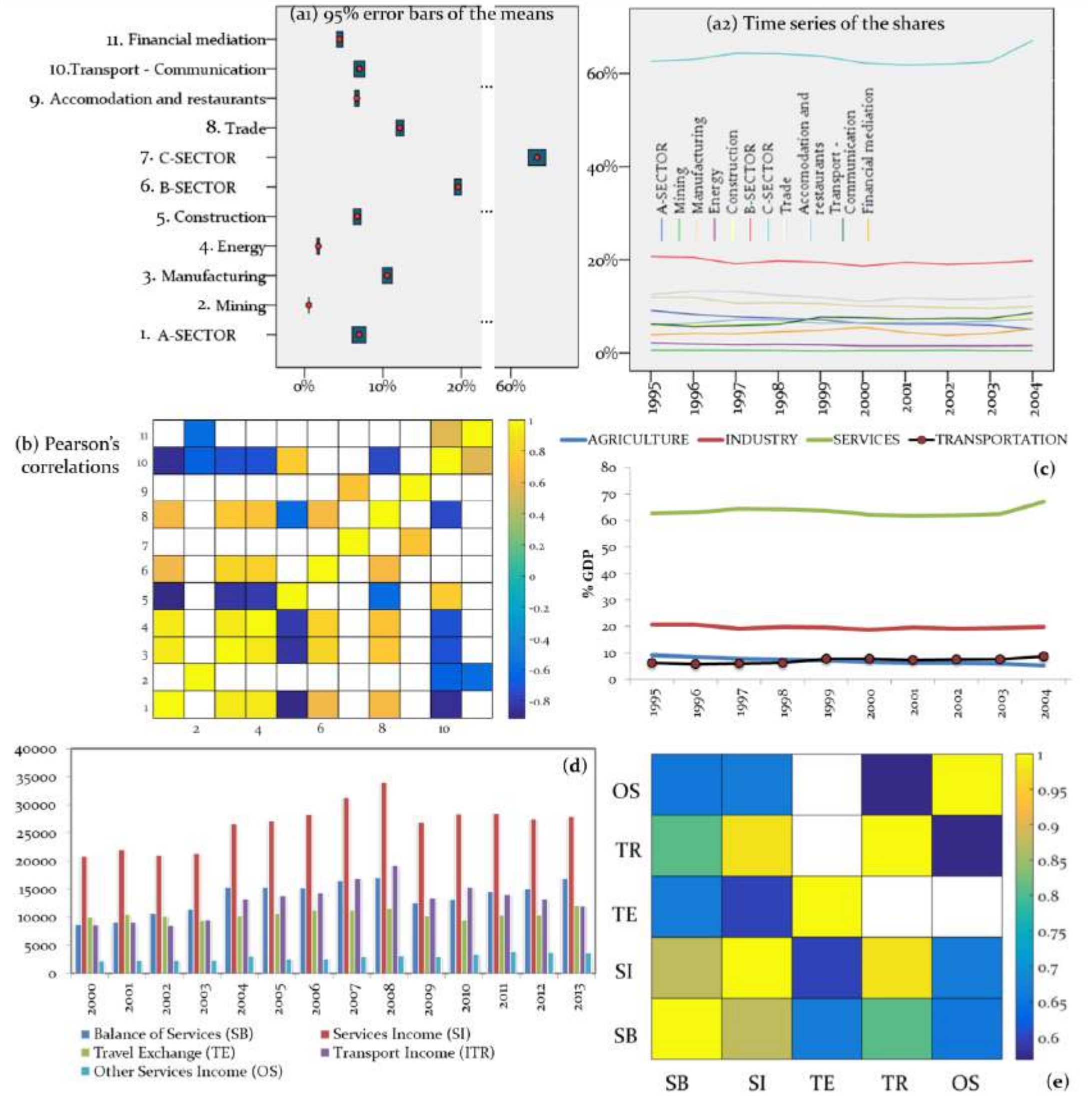

Figure 2. (**a**$_1$) The average and their time-series (**a**$_2$) percentage shares of production sectors in GDP over the pre-crisis decade 1995-2004; (**b**) Significant bivariate Pearson correlations between the production sectors; (**c**) Pre-crisis time series (1995-2004) of the percentage share of the main productive sectors (A_{sec}=Agriculture, B_{sec}=Industry, C_{sec}=Services) and the Transport sector in GDP; (**d**) Pre- and post-crisis time series (2000-2013) of Travel Exchange and Transport Receipts, compared to Services Receipts and Services Balance; (**e**) Correlation analysis for the sectorial variables shown (sources: Bank of Greece, 2014; Tsiotas, 2016; own elaboration).

According to data from the Bank of Greece (BoG, 2014), transport revenues for the period 2000-2013, constituted an important component of tertiary sector receipts, averaging 48%, while their size covered on average 94% of the country's services balance. Further, from the data in Table 3, it is estimated that transport receipts exceeded in size those of travel by an average of 122%, but also exceeded by an average of 435% the receipts from other services recorded in the country's balance of payments. Figure 2d shows a graphical representation comparing travel foreign exchange, transport receipts, services receipts, and the services balance. As can be seen, the dynamics of transport receipts are stronger than those of travel foreign exchange and comparable to those recorded in the country's services balance. To further detect the structural correlation in the variability of the variables in Figure 2d, a correlation analysis (Norusis, 2004; Devore and Berk, 2012) is performed using Pearson's bivariate correlation coefficient r_{xy}. This coefficient ranges in the interval [-1,1] and detects a linear relationship between two variables *x*, *and y*. When r_{xy}=1 there is a full positive linear relationship, for r_{xy}=-1 there is a full negative linear relationship, while for r_{xy}=0 the variables are linearly uncorrelated. The results of the correlation analysis are shown in Figure 2e, which shows that transport revenues (TR) are almost entirely linearly correlated with tertiary sector (SI) revenues ($r_{TR,SI}$=0.976, with significance $p\leq 0.01$) but also highly correlated with the services balance ($r_{TR,SB}$=0.809, with significance $p\leq 0.01$). The corresponding values for travel foreign exchange (TE) and other services revenue (OS) are significantly lower than the above, in the range of 20-40%. These results highlight an association between the SI and TR variables. The same stands (but slightly weaker) for the SB and TR variables. This observation, together with the smaller results for the variables TE and OS respectively, suggests the stronger involvement of transport receipts in shaping the volatility of tertiary sector revenue and the balance of services.

To form a more complete picture for the comparison between TR (transport receipts), TE (travel foreign exchange), and SB (services balance), we apply a paired-sample t-test (Norusis, 2004) to statistically test the equality of their averages. The procedure calculates the differences between the values of the two variables for each case and tests whether their mean is statistically different from zero. In this test, a 95% confidence interval is chosen for the difference in means. The available data shall be administered pair-wise, implying that each t-test is calculated on a case-by-case basis on the largest possible number of samples (degrees of freedom) which may vary from test to test. The results of this test are shown in Table 1, where (*i*) the statistically significant difference TR-TE>0 expresses that in the period 2000-2013 the average value of transport receipts is statistically higher than that of the tourism exchange; (*ii*) the statistically zero difference TR-SB=0 expresses that the average value of transport receipts does not differ from that of the balance of services; whereas (*iii*) the statistically significant difference TE-SB<0 expresses that, in the period in question, the average value of tourist foreign exchange has been lower than that of the services balance. The results of the pairwise statistical test (statistical test) indicate that the transport sector had a greater impact on the national economy than the tourism foreign exchange earnings, during the period 2000-2013, but also that its size is similar to that of the country's services balance.

Table 1

Paired-sample t-test for the comparison of the means μ_i and μ_j between payment balance variables

4a. Summary

Pair		Pair Correlations		
		d.f.	r_{xy}	Sig.[(a)]
1	TR[(b)]-TE[(c)]	14	0.449	0.108
2	TR-SB[(d)]	14	0.809	0.000
3	TE-SB	14	0.664	0.010

4b. Test Results

Pair		Pair Differences					t	d.f	sig.[b]
		Mean	s	s_e[e] of the mean	95% CI[f] for the mean difference				
					Lower Bound	Upper Bound			
1	TR[b]–TE[c]	2357.2	2911.56	778.15	**676.14**	**4038.3**	3.029	13	.010
2	TR–SB[d]	-768.5	1880.25	502.52	-1854.1	317.10	-1.529	13	.150
3	TE–SB	-3125.7	2382.48	636.74	**-4501.3**	**-1750.1**	-4.909	13	.000

a. 2-tailed significance
b. Transport Income
d. Tourism Exchange
d. Services Income
e. Standard error
f. Confidence Interval
(data source: Bank of Greece, 2014)

Further, the scatter plots (TR,SI | transport receipts, service sector revenue) and (TR,SB | transport receipts, balance of services) in Figure 4 illustrate that there is a stronger structural relationship between the variables (TR,SI) than (TR,SB). This observation expresses that almost all (95.3%) of the variation in transport revenue data is also described by the variation in tertiary sector revenue data, while in the case of the (TR, SB) difference this ability falls to 65.4%.

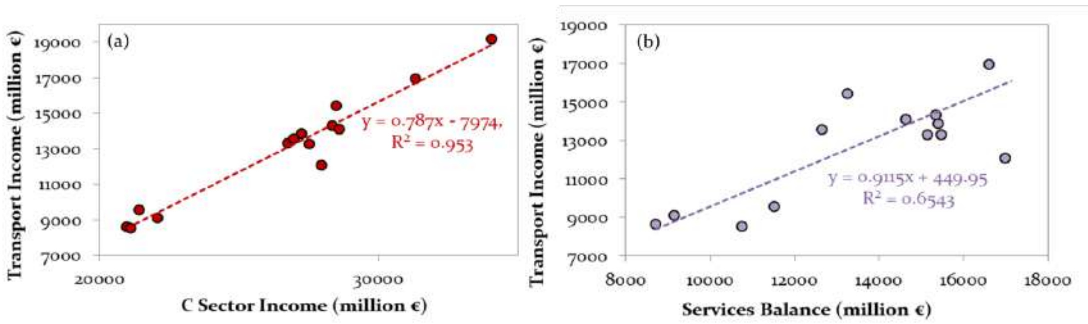

Figure 3. (**a**) Scatter plots of Transport Receipts and Services Receipts (2000-2013); (**b**) Scatter plots of Transport receipts and the Balance of Services (2000-2013) (source: Bank of Greece, 2014; own elaboration).

3. Transportation networks in Greece

As can be deduced by the previous examination, the transport sector in Greece seems to be a key component of growth. In this context, the following subsections focus on the case of Greece, providing more technical evidence on the structure of transport networks.

3.1. The road transport network

In historical terms, the development of road transport networks over time is symbiotically related to the history of mankind. Initially, human travel was carried out by exploiting natural transportation channels (e.g. by following the course of rivers or other natural crossings). However, the historical criterion for the emergence of road transport was the exploitation of human thought and labor in the design and construction (Tsiotas, 2016) and generally in the development of road infrastructure (Kaltsounis, 2007). According to Kaltsounis (2007), the first indications of the use of human thought and labor in the design and construction of roads are recorded in the cobbled roads built in Mesopotamia, which date back to around 4000 BC (the period of the wheel discovery), followed chronologically by the cobbled roads in India (around

3000 BC) and the cobbled roads of the Minoan period in Crete. The oldest road that survives today is in Crete, built around 1700 BC, and has a total length of about 50 km (Tsiotas, 2016). The road connected Knossos with the city of Gortyna and the southern coast of the island. The foundations of urban road planning were laid in the era of Ancient Greece (Polyzos, 2023). During this period, the urban road ceased to follow the randomly shaped territorial contours, becoming a product of planning, adapted to the needs of settlements, which constituted an organized road network. Further, at that time, the city was divided into blocks of flats, in which care was taken to design the public spaces and the required road infrastructure, with the city of Miletus as a typical representative (Kaltsounis, 2007). The dominant vehicle of this period was the wheeled horse-drawn carriage. Alexander the Great's contribution to the road-building of Ancient Greece was significant, since he maintained, improved, and expanded, with his Thracian craftsmen, the road network of the Persians that he received during his empire (Tsiotas, 2016). The development of road-building during the Roman era was decisive, driven by the need to control this vast empire, since its road network stretched from the North Sea to the Sahara and from the Atlantic to Mesopotamia, with Rome as the focal point (Kaltsounis, 2007; Polyzos, 2023). The excellence of the construction of this network enabled it to function for many centuries after the collapse of the Roman Empire. The main feature of the road network of that period was the hierarchy in the construction of its sections, the primary section being paved with stones (90,000km long), the secondary section being paved with gravel (300,000 km long) and the remaining sections being paved with wood (sandstone). It was noteworthy that the network was signposted, kilometre-marked, systematically maintained, and had stopping and overnight accommodation facilities (hostels). A characteristic feature of the network was its extensive alignment (the so-called "Roman alignments"), which served safety and distance reduction purposes and were only bypassed to better adapt the project to the ground (Tsiotas, 2016). The network was also characterized by frequent longitudinal gradients of up to 10%, which are still used today as permissible gradients in road design for design speeds of less than 60 km/h. The invention of the automobile was a milestone in the evolution of road construction, which contributed to the upgrading of both the geometric design and the quality of road construction (Rodrigue et al., 2013; Tsiotas, 2016). Before the advent of the motor car, there were no strict requirements for the geometric design of roads, due to the low speeds of travel of horse-drawn vehicles and other means of transport. But the advent of the car marked a new era in travel at ever-increasing speeds. Since then, road construction has aimed to build quality road networks, with the safety of users as the primary concern (Tsiotas, 2016).

In Greece, the construction of the road network in its present form also began after WW2 (Tsiotas, 2016). In 1963, by a decision of the Minister of Public Works (G.25871, 1963), a list of the country's national roads was drawn up, with the aim of "systematic mileage measurement and better service of the country's increasing tourist traffic", which included sections that had not yet been paved. The wording of the purpose of the above decision expresses (as early as 1963) the legislative and political perception of the worldwide known interaction between transport and tourism (Tsiotas and Polyzos, 2015a; Amoiradis et al., 2021; Beha and Ruxho, 2023) and their expected contribution to the economic development (Tsiotas, 2016). In 2006, the General Secretariat for Public Works (GSGE) of the Hellenic Ministry of the Environment, Spatial Planning and Public Works (YPEXODE) drew up the "Guide to the Mileage Distances of the Road Network of the Country", to meet the needs of officials and private individuals, to facilitate the work of the Financial Control Services of the Ministries and Public Services in general, and to facilitate the issuing of mileage certificates between municipalities and communities in the country. The guide includes tables showing the kilometric distances of the capital cities of the NUTS II prefectures of the country from Athens and the distances of cities, villages, and settlements of each prefecture from its capital (YPEXODE, 2006; (Tsiotas, 2016). In technical terms, road transport networks belong to the family of infrastructure networks (Barthelemy, 2011; Tsiotas, 2021), because the road links that make up them take place on built surfaces and constitute national infrastructure projects. According to the Presidential Decree 401/93, the road network is classified into the following categories, with the following main criteria (Tsiotas, 2016): (*i*) The main national road network: this is the part of the national road network that connects the main urban centers with each other and the country with other territories, either directly or through the intervention of ferries; (*ii*) Secondary national road network: means that part of the national road network which connects major national roads with each other or with major urban centers, ports, airports or places of outstanding tourist interest, or which are roads which have been upgraded to the main national road network; (*iii*) Tertiary national road network: this is the part of the national road network that has been replaced by new national road network markings or serves travel to areas of archaeological, tourist, historical or development interest; (*iv*) Primary provincial road network: is the part of the provincial road network that connects urban centers with the national road network, as well as areas of archaeological, tourist, historical or developmental interest; (*v*) Secondary provincial road network: is that part of the provincial road network which connects municipalities or communities outside the capital of the county with each other. In the same presidential decree (401/93), the classification of the national road network into primary, secondary, and tertiary networks is made according to the above criteria and by a decision of the Minister of YPEXODE, after the agreement of the Public Works Council and published in the Government Gazette. In addition, the classification of the provincial road network into primary and secondary is made by a Decision of the Minister and a recommendation of the General Secretary of the Region, following a proposal of the locally competent Prefects and the concurring opinion of the Prefectural Public Works Council, and is published in the Government Gazette (Tsiotas, 2016).

According to the data available in the database of the Hellenic Cadastral and Cartographic Organization (OKXE, 2015), the national and provincial road network of Greece has a total length of 35,860 km and serves all 51 capital cities of the Greek Kapodistrian prefectures. Figure 4 shows the mapping of the Greek road network and its central nodes in terms of betweenness centrality. As it can be observed, the places structured to undertake the major traffic load in the road network nationwide are located in the east coastal forehead of the country, shaping a characteristic S-type linear pattern (Tsiotas et al., 2013) illustrating the spatial dynamics of regional development in Greece. Today, Greece has about 1900 km of motorways, and with the completion of the sections under construction; it is expected to exceed 3,100 km (YPEXODE, 2006). The main road axes in Greece, as derived from the Strategic Plan for the Development of Transport Infrastructure in Greece for the year 2010 (MINFIN, 1993; Tsiotas, 2016) and the codification carried out by the Ministerial Decision, with protocol number DMEO/o/7157/e/1042 (YPEXODE, 2008).

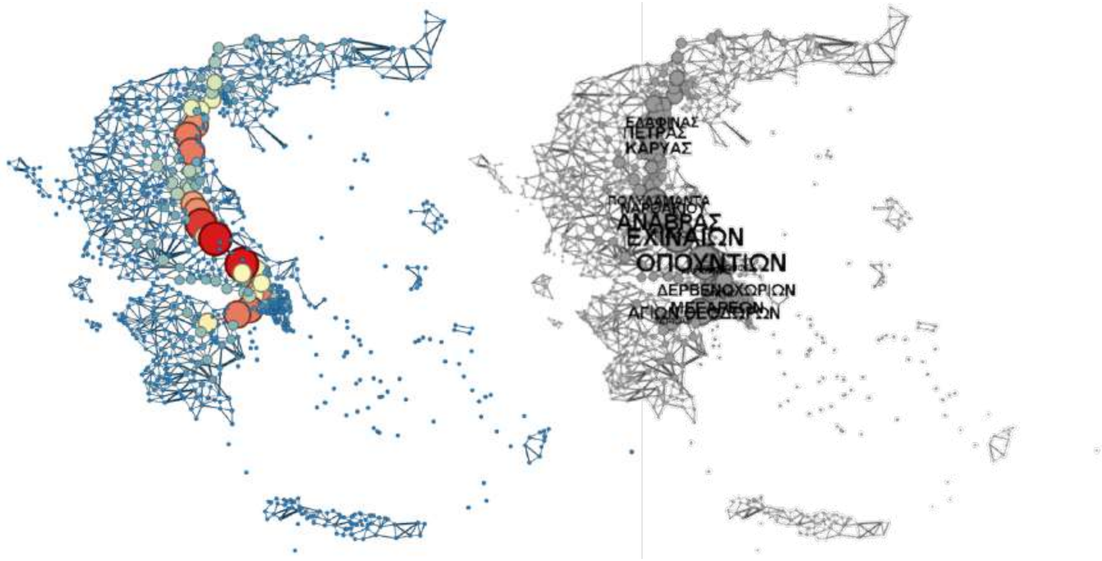

Figure 4. Graph model $G_{(1115,2264)}$ of national and provincial road transport network in Greece. Nodes (shown proportional to their betweenness centrality) represent cities and links represent road connections (database source: OCSE, 2005; Tsiotas, 2021; database labels are only available in Greek).

In particular, the main roads in Greece are described in brief as follows (YPEXODE, 2006, 2008; Polyzos et al., 2014; Tsiotas, 2016): (*i*) The *Patras - Athens - Thessaloniki - Euzoni – PATHE/ΠΑΘΕ motorway* (Codification: A_1, A_8). It has a total length of 770km, and is the main road axis of mainland Greece, running through six (out of 13) NUTS II regions. The PATHE connects the three most populous cities of Greece (Athens, Thessaloniki, Patras) and along it a grid of the most important urban centers and settlements of the country, with a population of more than 50% of the total population; (*ii*) The *Egnatia Motorway* (A_2). It is arranged almost perpendicular to the PATHE, it has a total length of 670km and runs through five NUTS II regions of Greece. Its construction started in 1997, except a common 26 km with PATHE (which was built before 1994). The Egnatia Motorway starts from Igoumenitsa (Thesprotia) and ends at the exits of Kipoi and Kastania (Evros), running through the whole geographical area of Northern Greece, as well as the periphery of Epirus. As a project, it connects most of the urban centers in the northern part of Greece; (*iii*) The *Ionian Motorway* (A_5). It starts from Kalamata (Messenia) and runs along the geographical area of Western Greece, ending at the Greek-Albanian border. The Ionian Motorway has a designed length of 424 km (200 km completed) and crosses three NUTS II regions. The completion of the Ionian Road is expected to form the backbone of the transport infrastructure of Western Greece, upgrading the quality of transport and promoting regional development; (*iv*) The *Central Greece motorway* (A_3, E_{65}). With a total length of 175km, it runs from Lamia to the Egnatia Motorway; (*v*) The *Peloponnese Central Axis* (A_7). It serves exclusively the Peloponnese region, with a total length of about 200km. It starts from Corinth and extends to Kalamata, branching off vertically to Sparta; (*vi*) The *Northern Axis of Crete* (A_{90}). With a total length of about 300 km, the axis covers the northern part of Crete, from Kastelli (in the west) to Sitia (in the east), passing through all four capitals of the NUTS III prefectures of the island (Chania, Heraklion, Agios Nikolaos, and Rethymnon).

In operational terms, the road network in Greece undertakes a large load, which is increasing over time. Figure 5 shows the time evolution of the number of vehicles registered for circulation in the country in the period 1990-2010, along with the estimated number of passenger vehicles number based on the 2020 trends (YPEKA, 2011; ELSTAT, 2018).

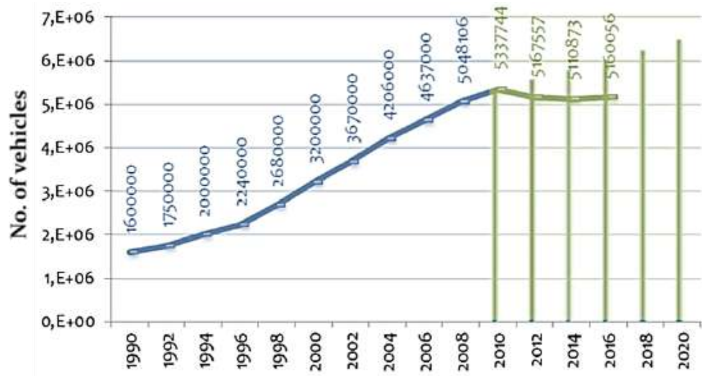

Figure 5. Number of passenger vehicles in circulation in Greece. The values of the bars are the YPEKA's forecast for the number of passenger vehicles in 2011 (Sources: YPEKA, 2011; ELSTAT, 2018).

In terms of load, the road network in Greece in 2010 served approximately 155 passenger vehicles/km of the national and provincial road network in Greece. This number is particularly high, considering that the length of 155 private vehicles in a row is more than 650m. Finally, according to the Hellenic Statistical Authority (ELSTAT, 2008), of the vehicles registered for the first time in 2006-2007, 67% were passenger cars, 11.5% were trucks, 0.25% were buses, and 21.10% were motorcycles. These values indicate the distribution of the type of vehicles making regular use of the Greek inter-regional network, which provides further information on its structure and operation.

3.2. Railway network

According to the Hellenic Railways Organization – OSE/ΟΣΕ (2015a), the history of Greek railways begins in 1869 when the inauguration of the train for the start of the Thiseio (Athens) - Piraeus service took place. Fourteen years later (1882), the Athens-based joint-stock company called "Athens - Piraeus - Peloponnese Railways" (SPAP/ΣΠΑΠ) was established. In 1884, the Thessalian Railway was inaugurated with the first route between Volos and Larissa. Seven years later (1890), the Railway Company of Northwestern Greece (SVDE/ΣΒΔΕ) was founded, which inaugurated the operation of the Messolonghi-Agrinio (Aetolia-Acarnania) line. Until the beginning of the 20th century, rail transport in Greece was carried out under the auspices of regional organizations, without the supervision of a central state body. To meet this need, the Hellenic State Railways was founded in 1920 as a legal entity under public law to consolidate the previously active regional railways of the Hellenic State and their reconstruction. This process was completed in 1965, and six years later (1970), the Hellenic Railways Organization (OSE) was established in its present form, to organize, operate, and develop the country's rail transport (Tsiotas, 2016). The modern history of OSE can be traced back to the operation of the first electrified railway line between Thessaloniki and Idomeni (Kilkis) in 1997, while eleven years later, in 2007, the organizational division of the Infrastructure from the Railways Management was carried out, with the creation of the companies EDISY SA (ΕΔΙΣΥ ΑΕ) and TRAINOSE SA. The latter became independent from the Group in 2008, being directly subordinated to the Greek State. At the beginning of the current decade, the absorption of the former subsidiary EDISY SA by OSE SA was completed, which marked the immediate implementation of the new institutional framework for the restructuring and modernization of OSE. In 2011, a rationalization of the costs, human resources, and organizational structure of the Agency took place, resulting in positive operating results for the first year, compared to previous years (Tsiotas, 2016). In 2012, OSE's operating result was also positive for the second consecutive year, and the new organizational structure was implemented, which regulated the separation of the rolling stock maintenance business and its absorption by the newly established Hellenic Railway Rolling Stock Maintenance Company - EESSTY SA (ΕΕΣΣΤΥ ΑΕ), the transfer of OSE's rolling stock to the State or a public entity and the transfer of the shares of GAIAOSE SA to the Greek State.

In technical terms, rail transport networks belong to the family of infrastructure networks (Barthelemy, 2011). According to OSE (2015b), a railway network (Figure 6) is defined as "the entire railway infrastructure managed by the company responsible for its installation and maintenance". The railway network in Greece serves 28 (out of 51) capital cities of Greek NUTS III prefectures.

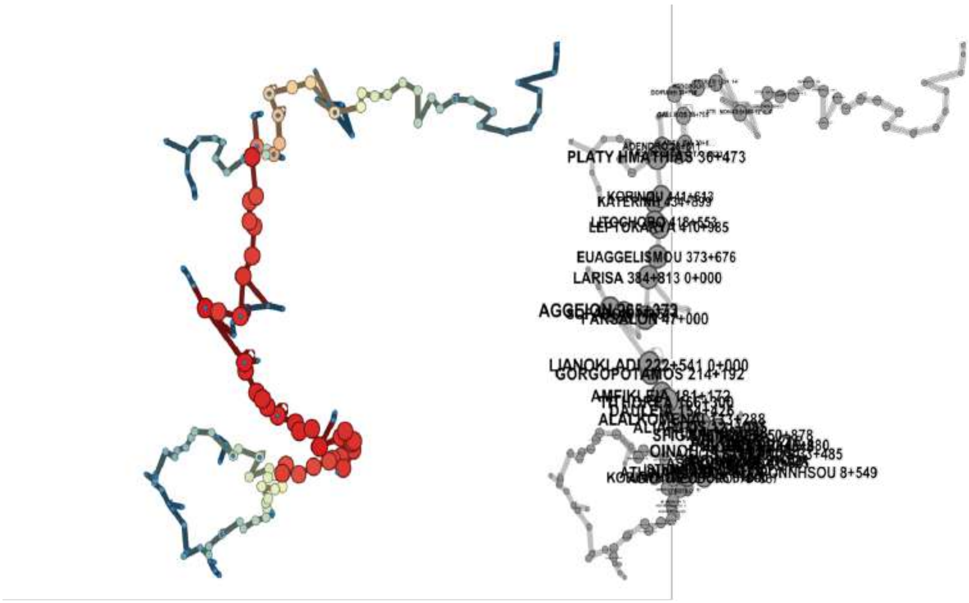

Figure 6. The graph $G_{(179,168)}$ of the rail transport network in Greece. Nodes (shown proportional to their betweenness centrality) represent rail stations and links represent rail routes (source: geodata.gov.gr, 2010; Tsiotas, 2017; own elaboration).

In the Agency's Network Statement (OSE, 2015b), the concept of the path is defined as "the capacity of the infrastructure required to move a train between two locations in a given time", which corresponds to the concept of the path (Barthelemy, 2011) in terms of complex network analysis. Further, the concept of a transport hub is defined as "a specific geographical location/station in the network that serves to provide traffic and/or customer (passenger and/or freight) services". Since the last decade (OSE, 2013), OSE's railway network has a total length of 2,773 km, of which 2,265 km correspond to active lines, 321 km to a suspended network, and 187 km to a discontinued network, as shown in Table 2.

Table 2

The OSE Network

Route type	**Length** (km)			
	Active Network		**Deactivated**	**Total**
	In commission	*Temporarily Suspended*		
Standard width, single, electrified	82	0	0	82
Normal width, single, non-electrified	1,200	34	74	1,307
Normal width, double, electrified	355	0	0	355
Standard width double non-electrified	168	0	0	168
Metric width	393	275	113	782
Combined range	29	0	0	29
Width 0.75m	22	0	0	22
Width 0.60m	16	12	0	28
Σύνολο	**2,265**	**321**	**187**	**2,773**

(source: Tsiotas, 2016)

The maximum speed of traffic within the network is 160km/h, applied in 18% of the railway network. In 18% of the rail network a speed of less than 79km/h is applied, in the rail network's 40% a speed of 80-119km/h is applied, and in the remaining 24% a speed of 120-159km/h is applied (OSE, 2013). According to the Network Statement of the Organization (OSE, 2015b), the total number of nodes served by the Greek railway network includes border, terminal, passenger, and freight stations. Border stations are the network's connection points with the respective railway networks of neighboring countries, terminals are the termination nodes of the railway infrastructure, and passenger and freight stations are the hubs for passenger boarding and freight loading respectively (Tsiotas, 2016). The operation of the Greek rail network is subjected to priority criteria for specific services (OSE, 2015b), to ensure the provision of appropriate transport services, taking into account the social importance of the priority service for the excluded ones. The main priority criteria are to serve first of all intercity lines, then suburban lines, then regular passenger lines, and finally freight lines. Finally, the rolling stock of the railway network is divided, according to its mechanical role, into traction (wagons) and trailers (wagons). In turn, traction rolling stock is divided, according to its economic role, into passenger and freight rolling stock (OSE, 2013).

3.3. The maritime network

In the Greek etymology (Mandala, 1988), the Greek synonym of maritime (ακτοπλοϊκός) derives from the compound words coast (ακτή) + sailing (πλους), literally referring to sailing near the coast and (more generally) to maritime transport between ports within the same country. Along with walking, coastal shipping was probably the earliest mode of transport in coastal areas, since the construction of floating platforms and ships did not require the invention of the wheel (Tsiotas, 2016). Navigation in coastal shipping is essentially "coastwise", namely the (geographical) ship position is determined each time by visual contact with the geomorphology of the land and with the additional use of aids (such as compass, nautical charts, lighthouses, etc.). Coastal navigation is included in all types of maritime transport because the beginning and end of a voyage always refer to a land location, i.e. the place of origin and destination (Tsiotas, 2016). Greece is a Mediterranean country with a long tradition of maritime transport, due to its geographical location and geomorphology, as well as to the restless spirit of the Greeks, who from ancient times have been inclined towards adventure and knowledge.

Geographically, it is located in the intersection of two continents (Europe, Asia) and three seas (Black Sea, Mediterranean, Adriatic) and is covered by the Aegean archipelago, which has more than 1,350 islands and islets, of which more than 230 are inhabited (Psaravtis, 2006; Tsiotas and Polyzos, 2015a). The Greek geomorphology has favored the development of a strong navigation system, and as a result, it is now included among the world's strongest maritime powers. Dating back to Homer, information is being drawn from the works of Homer that substantiates the power of Greek navigation at that time. Even the prevalence in international terminology of words such as nautical, nautilus, nave, etc., indicates the prominent importance of Greek navigation and its considerable influence worldwide.

In technical terms, Greek-owned merchant shipping consists of Greek-owned ships registered either under Greek or foreign flags, with a fleet of over 3,400 ships (weighing more than 1 teratonne - 1ttn) of all types and a total capacity of almost 10^8 gtn (gigatonnes). Greek shipping has been ranked (for many decades) amongst the top positions of the world's major shipping powers, holding about 5% of the registered fleet capacity worldwide (YNA, 2015a,b). The Greek-flagged fleet currently numbers over 1,400 vessels, with a total capacity of almost $3.3{\cdot}10^7$ gtn, placing the country in the top-10 world ranking, in terms of the capacity of the shipping fleet. At the European level, the Greek merchant fleet occupies the first place and has a capacity share of approximately 25% of the European fleet and about 40% of the total capacity of the EU merchant fleet. The age of ships registered in the Greek registries is relatively half of the worldwide fleet, indicating a modernization trend of the Greek fleet (YNA, 2015a). Furthermore, Greek ocean-going merchant shipping is active at an international level, serving more than 95% of the fleet's capacity to the transport needs of third countries, an activity known internationally as cross trade. Finally, Greek registered ships employ a significant number of workers, more than 25,000 (YNA, 2015b. The infrastructure of Greece's coastal transport network is labyrinthine, due to the Greek rich maritime geomorphology, which requires the servicing of numerous destinations. In particular, on an annual basis, the operation of the Greek coastal network is specialized in meeting the needs of the residents of the Greek islands and freight traffic, while during the summer period, it is also charged with seasonal tourism, which multiplies the coastal traffic and the operational needs of the coastal infrastructure (Tsiotas and Polyzos, 2015a). According to Tsiotas and Polyzos (2015a), the Greek maritime network counts 229 ports (Figure 7), from which almost half exclusively develop freight activity. The modeling and study of the Greek maritime network is particularly complex since the route determination is a result of the private initiative of the numerous shipping companies and is regulated by the rules of the free market (Tsiotas, 2016). The seasonal variation of ferry traffic is particularly important, depriving many routes of the Greek coastal transport network, resulting in issues of management of the barren routes that are subsidized on a case-by-case basis by the state to maintain transport and communication with remote and arid areas (Tsiotas and Polyzos, 2015a).

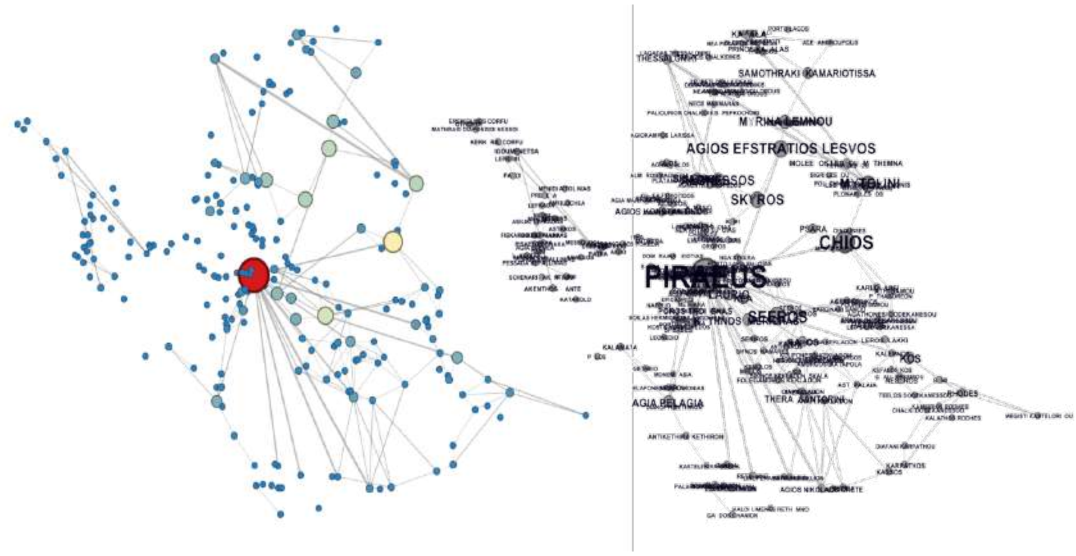

Figure 7. Graph $G_{(229,231)}$ of the maritime ferry network in Greece. Nodes (shown proportional to their betweenness centrality) represent ports and links represent ferry routes (source: Tsiotas and Polyzos, 2015a; own elaboration).

The port of Piraeus plays a key role in the operation of Greece's coastal shipping network. In particular, Piraeus hosts more than 1,200 foreign shipping companies, which manage the entire Greek-owned fleet (more than 3,200 seagoing vessels under the Greek flag), employing more than 12,300 people in their activities. In addition, Piraeus port is home to numerous companies related to shipping, as well as to shipping-related activities (such as charterers, shipyards, shipyards, agencies, catering and fuel companies, maritime courts, etc.) (YNA, 2015b). According to Law 2932/01 and European Regulation 3577/92/EEC, Greek and Community shipowners can freely operate their vessels in maritime cabotage, on routes of their choice, depending on their business initiative. Vessels are operated annually - with exceptions considered on a case-by-case basis - following a declaration submitted by the shipowners within the first month of the year, indicating the desired routes to be served during the scheduling period from 1 November of the same year to 31 October of the following year (YNA, 2015c). Within this context, state control is limited to verifying the existence of the legally required routing conditions and ensuring the protection of the public interest. In particular, the competent Ministry (Ministry of Maritime Affairs and the Aegean) has the possibility, exceptionally and to the extent necessary, to intervene in the free movement of ships, in cases where issues of safety of navigation in ports and order in the land zone arise, but also in cases where the regular provision of services on specific routes is impeded (YNA, 2015c). On routes not selected for service, based on the business criteria of the shipowners, calls for public service contracts of up to 12 years are issued. The invitations to tender are issued based on the opinion of the Maritime Transport Council, which is composed of representatives of the professional and social bodies involved in the shipping sector and of local and county authorities (Tsiotas, 2016). By the decision of the Minister, following an opinion of the Council, public service obligations may be imposed on shipowners concerning ports, regularity, continuity, capacity to provide transport services, seafarers' logbook, and manning (YNA, 2015c). Finally, issues relating to the labor force of ships are covered by the provisions of Greek legislation. Those seafarers who do not hold Greek nationality are required to be certified as Greek. The Competition Commission is responsible for competition issues in maritime cabotage (YNA, 2015c).

3.4. Greek aviation network

According to Fragoudaki (2000), the business of commercial air transport began in Greece in 1931 with the operation of a single air carrier, the Hellenic Air Transport Company (EES/ΕΕΣ), which operated a fleet of four Junkers G24s, each with twelve seats. With Eleftherios Venizelos, the Prime Minister of Greece, as its first passenger, EES operated for nine consecutive years until the beginning of World War II, serving a total of 6,690 domestic passengers. In 1946, after the end of World War II, air operations resumed, this time by a different company, and in 1947 three additional air carrier licenses were granted. In 1951, the Greek government decided to merge these three companies to create a national carrier, while in 1955, in an attempt to overcome the financial problems that arose, it granted the exclusive right to operate domestic air transport to the tycoon Aristotle Onassis, by selling the exclusive right to operate domestic air transport, creating a monopoly in the operation of Greek air transport. This concession included all flight operations, helicopter flights, aircraft repair, and maintenance and ground handling services. This event marked the beginning of the historical journey of Olympic Aviation (Tsiotas and Polyzos, 2015b). In 1975, the Greek government regained full ownership of Olympic Airways from Onassis, continuing the established monopoly of national air transport. One of the main consequences of this monopoly was the restriction of the operation of charter flights, which - among other things - were deprived of the right to provide services starting in Greece and were obliged to serve incoming tourists to their destination by making a stopover in Athens and transferring to a domestic Olympic flight. Due to these restrictions, Athens Airport received over 70% of international arrivals during that period (ETEM, 2010; Tsiotas, 2016). Since the 1980s, the Greek state gradually began to recognize the importance of charter airlines in the tourism and general economic development of the country, relaxing the existing restrictions on their operation. In particular, in 1982 the airports of Lemnos, Lesvos, Mykonos (in the Aegean Sea), and Zakynthos (in the Ionian Sea) were allowed to host the first international charter flights. In addition, in the context of harmonizing national legislation with the relevant EU directives and regulations, in 1992, PD.276/91 was passed, which marked the beginning of the liberalization of national air transport. This Presidential Decree allowed flights from Greece to destinations in EU member states, as well as the operation of unscheduled domestic flights by Greek private airlines. However, the final liberalization of air transport took place shortly afterward, when the government withdrew Olympic Airways' monopoly on scheduled domestic flights, first in 1996 for routes within the mainland and then in 1998 for the Greek islands (ETEM, 2010; Tsiotas and Polyzos, 2015b).

Olympic Airways operated under a monopoly for almost 35 years, based in Athens. During the time under state ownership, it developed two subsidiaries, the first of which operated as the main carrier and the second as a Low-Cost Carrier (LCC). During the period 1976-1999, the company underwent 30 top management changes, each with an average life span of 9 months, and its strategic orientation was largely driven by social and political motivations. Indicative actions of government interventions in the management of Olympic Airlines were the operation of regular flights to remote and isolated areas, such as small islands and areas with insufficient alternative transport coverage, and the offering of tariff privileges, such as ticket discounts, to selected social groups (Fragoudaki, 2000; Tsiotas and Polyzos, 2015b). Aegean Airlines was founded in 1987 under the name Aegean Aviation, with its headquarters in Athens. In 1992 it was the first private Greek carrier to obtain a pilot's licence and in 1994 it began operating VIP flights around the world with a fleet of privately owned small aircraft. In 1999, the company was officially inaugurated with the first flights from Athens to Thessaloniki and Heraklion, using 2 privately owned large aircraft. In 2001 it merged with another private company, Cronus Airlines, increasing its fleet and airline network. In 2004, Aegean Airlines homogenized its fleet by retaining two aircraft types and in 2005 it further increased its fleet by entering into a partnership with one of the largest German airlines. In 2007 Aegean Airlines was listed on the stock exchange and in 2008 it further increased its fleet, obtaining ISO certification. In 2010, it became a member of a major global airline alliance network (Star Alliance). The continuous growth, combined with the aforementioned pathologies of its competitor Olympic Airlines (formerly Olympic Airways), and the introduction of the economic crisis in Greece, led Aegean Airlines, in October 2013, to make the acquisition of Olympic Airlines, which marked a new era in the domestic aviation market (Tsiotas and Polyzos, 2015b).

In Greece, in the period after 2000, a total of 10 small companies were active, mainly operating occasional charter flights. Today, three LCC companies are operating in the domestic air transport market, Sky Express, Astra Airlines, and RyanAir. Sky Express is based in the city of Heraklion, Crete. It was founded in early 2005 by a consortium of two investors who were former members of Olympic Airways. In July 2005 Sky Express started charter and cargo flights, air taxi services, emergency medical services, excursions, and tours. The company operates from its main base at Heraklion Airport, with over 20 destinations (Tsiotas, 2016). Astra Airlines is based in the city of Thessaloniki. It is an LCC company supported by a Greek travel agent and started operating in the domestic airline market in 2008. Today it operates in the Greek market with regular annual flights, from Thessaloniki and Athens, having 10 main destinations (Tsiotas and Polyzos, 2015). Finally, the RyanAir LCC company of Irish interests operates in the European air market. It is based in Ireland (Dublin) and its operational base is Stansted Airport in London. Founded in 1985, the company has developed a fleet of 300 aircraft and operates to more than 110 destinations in Europe, making it the largest European low-cost airline. In 2010 it started operating from Greek airports to European destinations, while in the summer of 2014, it launched domestic flights from Athens and Thessaloniki to Chania and Rhodes, which are currently seasonal.

In technical terms, there are currently 45 airports in Greece (Figure 8), of which 39 are active and the remaining 6 are suspended. Of the 39 airports in operation, 34 are state-owned and managed by the Hellenic Civil Aviation Authority (HCAA), 4 are owned by local authorities but managed by the HCAA, while Athens' Eleftherios Venizelos airport is operated under a concession to the private company Hochtief and is due to become state-owned after the expiry of its contractual operating period. In addition, 28 airports are located in island regions, while only 11 are located on the Greek mainland, which indicates the competitiveness of the air transport mode over the maritime transport mode and also reflects the increased volume of the country's tourism needs on the islands. In particular, 73% of all foreign tourists visiting the country arrive by air, while 60% of the available tourist accommodation is located in the island territory (ETEM, 2010; Tsiotas, 2016).

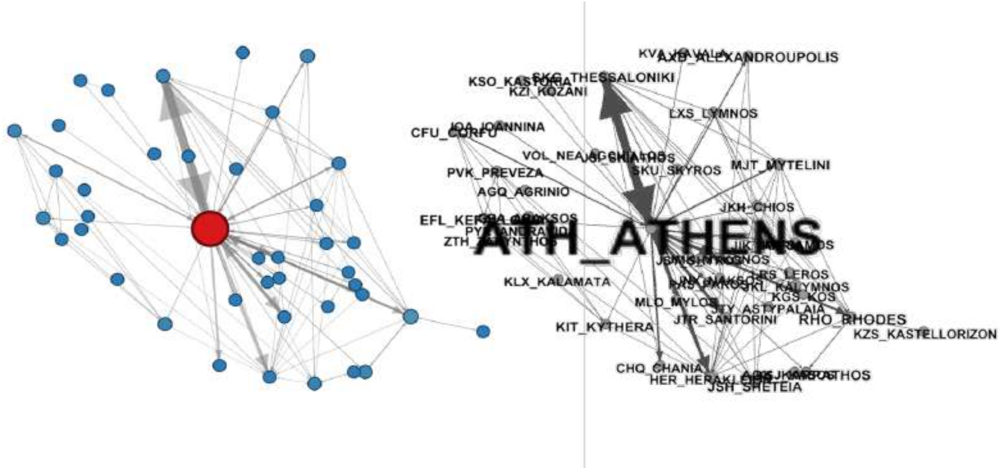

Figure 8. The graph $G_{(41,231)}$ of the air transport network in Greece. Nodes (shown proportional to their betweenness centrality) represent airports and links represent flight routes (source: Tsiotas and Polyzos, 2015b).

In terms of the geography of flights, 15 of the 39 active airports are designated as international, 11 domestic, while 13 are occasionally designated points of entry to and exit from the country. Figure 9a shows the evolution over time of the number of active airports in Greece over the period 1978-2008, which shows a doubling of island airports serving domestic traffic and a tripling of island airports serving international traffic, while the corresponding situation for mainland airports shows a subtle increase. In 2008, over 40 million passengers traveled to Greece, of which 31.23% were domestic and 68.77% international. Furthermore, of the total volume of flights in that year (Figure 9b), approximately 39.42% were covered by charter flights (ETEM, 2010). According to the Community airport classification system (HCAA, 2013), Athens Airport is a category A airport (annual traffic of more than 10 million passengers), which serves 39.79% of the country's total passengers. Heraklion Airport is a category B airport (annual traffic of 5-10 million passengers), serving 13.39% of the total traffic. Furthermore, 5 airports (Rhodes, Thessaloniki, Corfu, Chania, Kos, Corfu) are category C airports (with an annual traffic of 1-5 million passengers), handling 34.84% of the traffic. Finally, 32 Category D airports (with annual traffic of less than 1 million passengers), handle 11.99% of traffic. Several of the Category D airports owe their operation to the subsidies granted through the Public Service Obligation (PSO). The above categorization shows that the Greek aviation landscape is characterized by a high degree of concentration, with the two largest airports in the country, Athens and Heraklion, accounting for more than 50% of all passenger traffic (Tsiotas, 2016; Tsiotas et al., 2020). On the other hand, several large airports operate to serve local needs, without always ensuring their economic viability (ETEM, 2010).

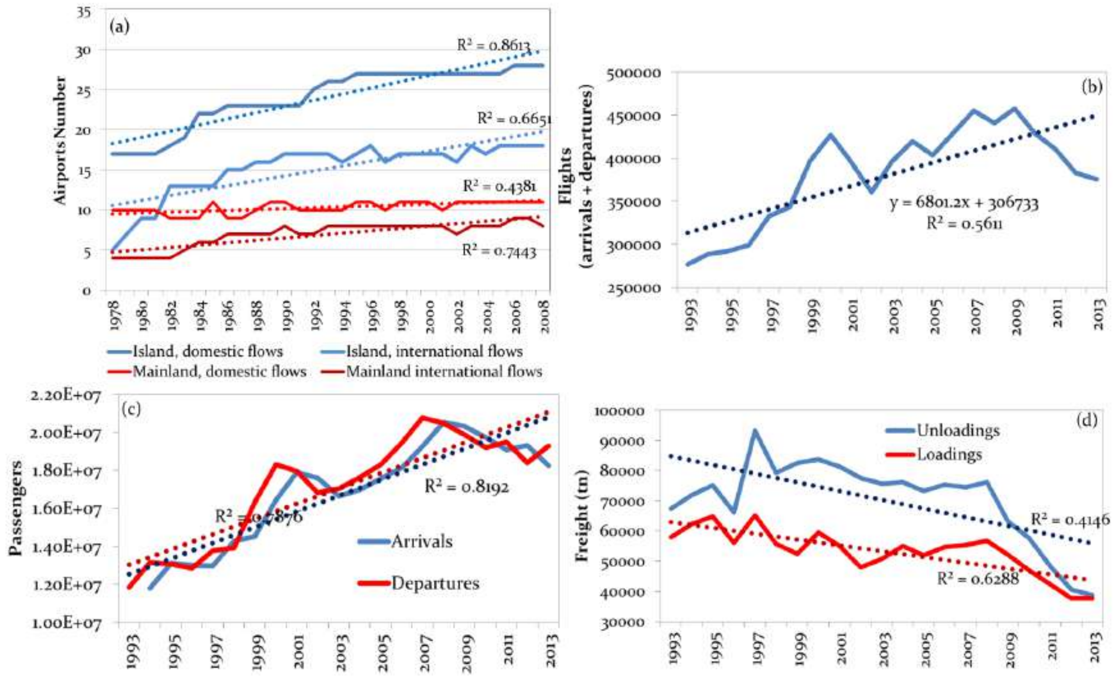

Figure 9. (**a**) Number of Greek airports in operation for the period 1978 – 2008; (**b**) Aircraft traffic over time (arrivals + departures) at all active airports in Greece, 1993-2013; (**c**) Air passenger traffic evolution at all active airports in Greece, 1993-2013; (**d**) Air cargo traffic evolution at all active airports in Greece, 1993-2013 (sources: ETEM, 2010; HCAA, 2013; Tsiotas, 2016).

As shown in Figure 9b, air traffic (aircraft traffic) in Greece has increased by 50% over time (since 1993), but it is evident that it has been affected by the onset of the economic crisis (since 2009), recording a decrease of 18%. In addition, air passenger traffic (Figure 9c) has shown an increase of more than 80% over time but has also been affected by the onset of the crisis, with a decrease of 10% over the same period. By contrast, air freight traffic has declined by 60% over time (Figure 9d), with the rate of decline increasing during the crisis. According to these data, air traffic in Greece seems to be specialized in passenger services, as freight transport is decreasing over time. This is apparently due to the competitiveness of maritime transport as a mode of freight transport in Greece (Tsiotas and Polyzos, 2015b; Tsiotas, 2016), which lags in terms of speed but outperforms in terms of transport costs, and the relatively short sea distances that exist in the Greek seas.

4. Empirical analysis

In this section, an empirical analysis is carried out to establish the existence of a correlation between transport infrastructures and their socio-economic environment. The analysis is based on the construction of a multivariate linear regression econometric model, which expresses the level of welfare of the counties (dependent variable y) as a function ($y = f(x_1, x_2, ..., x_n)$) of a set of independent variables ($x_1, x_2, ..., x_n$) related to the transport infrastructure and the socio-economic context of the counties of the country. The variables used in the analysis are shown in Table 3 and are grouped according to their relevance into three categories, socio-economic, transport network variables, and mixed variables (containing information from both of the previous two categories).

Table 3

Variables participated in the empirical analysis

Variable	Symbol	Description
Dependent Variable		
Y	WELF	Welfare level of the prefecture's population.
(*i*) Socioeconomic (SE) Variables		
X_1=SE_1	T_{GDP}	Participation of the prefecture's tourism in the national GDP.
X_2=SE_2	B_{SEC}	Participation of the prefecture's secondary sector in the national GDP.
X_3=SE_3	C_{SEC}	Participation of the prefecture's tertiary sector in the national GDP.
X_4=SE_4	EDU	Level of education of the prefecture's population.
(*ii*) Network (N) Variables		
X_5=N_1	$ROAD_{DENS}$	Road network density. Calculated by the ratio of the length of the road network to the region's area.
X_6=N_2	$RAIL_{DENS}$	Rail network density. Calculated by the ratio of the length of the road network to the region's area.
X_7=N_3	PORTS	Number of ports in a region.
X_8=N_4	AIRPORTS	Number of airports in a region.
(*iii*) Mixed Socioeconomic and Network (SEN) Variables		
X_9=SEN_1	TPP	Total population potential of a region. Calculated by the ratio of population to the distance of a region to its own and neighboring markets. It expresses the potential influence of markets in a region.

Sources: Tsiotas and Polyzos (2015a,b); Tsiotas (2017); Polyzos, 2019; Tsiotas, 2021

The welfare level (WELF) is chosen as the dependent variable in the econometric model because it is considered to be a more representative indicator of the level of development of a region than, for example, GDP, which is expressed more in terms of economic growth (Polyzos, 2019). The method used in the econometric model is the backward elimination method (BEM) (Norusis, 2004; Walpole et al., 2012) in which the process starts with the set of available variables, producing a sequence (series) of subsamples with successive elimination of the most statistically insignificant variable (p-value > 0.1) in each cycle. The method terminates at the point where all the remaining variables are statistically significant for the model. For the set $\mathbf{X}=\{X_1, X_2, ..., X_9\}$ of dependent variables in Table 3, the model sequence the $(Y_k)_{k\geq 0}$ is described by the following mathematical relations:

$$\left(Y_k\right)_{k\in\{1,\dots,n\}\subseteq\mathbf{N}}\left|Y_k = \sum_{i=1}^{9-k+1} b_i \cdot X_i + c_k \cdot \mathbf{1}\right.$$
$$\begin{cases} \mathbf{X}_9 = \{X_1, X_2, ..., X_9\}, \\ X_i \in \mathbf{X}_{9-k+1}, \\ \mathbf{X}_{9-k} = X_{9-k+1} - \{\mathbf{x}_p\} \\ X_p \in \mathbf{X}_{9-k+1} : P[b(X_p)=0] = \max\{P[b_i = 0] \geq 0,1\} \end{cases} \quad (1),$$

where Xi, i=1,....,9, is any variable in Table 3 of length 51 (each corresponding to one value of the variable for a particular NUTS III region). The results of the multivariate BEM analysis are shown in Table 4. The determination (see sub-table a) of the model is R^2=0.638 and expresses that 63.8% of the variability of the independent variables is described by the model (i.e., the variability of the dependent variable).

Table 4

Results of the econometric model for the welfare level of Greek prefectures

a. Summary

Model	R	R^2	Adjusted R^2	SE of estimation
Backward Elimination (6th loop)	0.799	0.638	0.607	12.59

b. Coefficients(a,b)

Model		Non-standardized coefficients		Standardized coefficients	t	Significance
		B	Std. Error	Beta		
6	(constant)	11.710	6.258		1.871	0.068
	T_{GDP}	-0.018	0.007	-0.537	-2.743	0.009
	EDU	0.696	0.190	0.597	3.671	0.001
	PORTS	1.763	0.332	0.564	5.315	0.000
	$ROAD_{DENS}$	0.051	0.026	0.274	1.965	0.056

a. Response/dependent variable: WELF

b. Predictor/independent variables: TPP, TGDP, EDU, B_{SEC}, C_{SEC}, PORTS, AIRPORTS, $RAIL_{DENS}$, $ROAD_{DENS}$

As shown in Table 4b, the statistically significant variables involved in the final model are tourism product (TGDP), education level (EDU), number of ports (PORTS), and road density (ROADDENS) of the counties. The relationship of the variable TGDP is negative in the model and expresses that regions with an increased tourism product tend to have a lower level of welfare. The other variables have a positive contribution and express that regions with a high level of welfare tend to have a higher level of education in the population, a larger number of ports, and a denser road network. Overall, it can be observed that two of the four variables involved in the econometric model describe transport network infrastructure, which outlines the importance of the transport infrastructure category in shaping the variability of the dependent variable (level of prosperity). As can be seen from the values of the standardized coefficients, this contribution is of the order of 60% of the positive contribution of the dependent variables in the model. The above analysis seems to validate the previous overview and highlights in quantitative terms the contribution of transport network infrastructure to the economic and regional development of the country.

5. Conclusions

The importance of transport in the economic life of Greece is evident in many aspects of its existence and activity, such as its administrative structure; the allocation of resources; and its productive constitution. In this light, this article attempted to highlight this importance by examining longitudinal and cross-sectoral statistics describing some fundamental macroeconomic indicators and measures. The focus of the study was placed on transport infrastructure and transport networks, which constitute a fixed structural capital that extends, in different forms, throughout the country. The networks studied are the road, rail, maritime, and air transport networks of Greece, focusing both on their geometry and technical characteristics and on their historical, traffic, and political context.

In the part of the empirical analysis, an econometric multivariate linear regression model was constructed that described the welfare level of the counties as a function of a set of independent variables related to the transport infrastructure and the socio-economic context of the counties of the country. The analysis revealed the significance of the transport infrastructure variables in the model, both in terms of their number and size, which suggests the importance of the transport infrastructure category in shaping the variability (as described by the model) observed in the level of well-being of counties. This importance is measured in the model as positive, expressing that regions with a higher level of prosperity generally tend to show an improved picture in their road and port transport infrastructure. However, under a combined reading of the approaches in this paper, it is recognized that how transport networks contribute to the promotion of regional development is governed by a high degree of complexity and takes place in combination with the other development factors of a region (geographical location, concentration economies, sectoral composition of local production and employment). As the previous analysis has shown, the productive base of the Greek regions appears to be structured in such a way as to benefit positively from road and port infrastructure. The notable absence of aviation infrastructure in the model outlines the existence of a development model based on basic infrastructure.

In addition to the focus on the case of Greece, the literature and empirical study conducted in this paper highlighted some key conceptual and theoretical axes regarding the relationship between transport networks and economic and regional development. First, it became apparent that transport networks reflect in their structure information that describes the society using them. In this light, the study of transport networks can provide information on the socio-economic needs met by a country's transport infrastructure and on the mechanisms that have worked diachronically to overcome spatial constraints. It then became apparent that the structure of transport networks is a fixed resource for economic, social, and regional development so their study can provide information on the development dynamics of a country, both at national and regional level. The ultimate aim of the article was to highlight, from a macro perspective, the structural and functional dimensions that make up the concept of transport networks, the need to consider them together in scientific research, and the various aspects of the study of transport infrastructure and networks.

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STRATEGIC MANAGEMENT DECISIONS IN THE CONTEXT OF FOREIGN DIRECT INVESTMENT. THE ROLE OF INSTITUTIONS AND ECONOMIC DETERMINANTS

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Abstract

Emerging markets have grown in importance as investment and corporate objectives because of globalization. Multinational corporations use foreign direct investment (FDI) as a strategical investment decision to gain a competitive advantage. The purpose of the study is to investigate the role of formal and informal institutional determinants of FDI and how multinational Companies (MNCs) base their strategic investment concerning the institutional environment of emerging and developing markets. Consulting the existing literature in relation to the quality of institutions and their relevance and impact on foreign direct investment strategies and investment decision process this study includes and analyze all institutions (Political, Regulatory, Economic and Cultural) that have an impact on the FDI management strategic investment decision. Herewith the study came with concrete findings and recommendations for potential international investors, local institutions but also organization involved with investment promotion. Based on the relevant theory and primary research findings five research questions and hypotheses were developed to address the research problem "Does institutional and economic determinants impact the strategic investment decision? The study results found that institution environment role on the FDI exist, and these effects include not only countries and regions but also the sector specific industries. When considering from strategic management perspective they are significant enough to dictate investment decision choice and strategies for selecting the country market that offers institutional and economic context that is in the best interest of the foreign investors. The results obtained are specific for a particular case and limited in the scope, so they cannot be applied to some other countries and regions. However, these results yield important theoretical and practical implications for international companies and policymakers throughout the region. For this purpose, interviews have been conducted including four experts representing international companies with the country, and in two different regions (Canada and Ukraine).

Keywords: Foreign direct investment (FDIs), Institutions, MNCs, MNEs, developed countries, developing countries, Globalization, Emerging markets
JEL Classification Codes: F21, F30, G20.

1. Introduction

Private capital will continue to be in search of new markets, and genuine investment strategies for competitive advantages that are becoming more challenging for multinational investors were complex institutional, economic, and cultural features and arrangements requires unique approach. Multinational Enterprises carry out FDI in emerging markets to take competitive advantage on their ownership and specific location advantages through executing the most suitable forms of entry strategies in international markets. Although emerging markets present a chance for expansion they cannot be treated as a single market due to their vast geographic size, different cultures and different consumer population (Paul et al. 2020, p. 245). However, the distribution of FDI inflows between countries and sectors is asymmetric. Zhao and Decker (2004, p. 4) categorize these determinants into country specific factors (cultural distance, institution, currency rate, etc.), industry specific factors (market size, market structure, indus try type, etc.), and product specific ones (product type, maturity, sale service, etc.). Luo (2002, p. 443) further classify those factors into four levels: (1) national level; (2) industry level; (3) company level; and (4) project level. Douglas and Jepsen (2014, p. 444) found considerable heterogeneity in the causes and characteristics of FDI across sector, notably industrial investment is volatile and drawn to less democratic regimes, investment in natural resources, on the other hand, prioritizes better democracy and property rights protection, whereas FDI in services is related with governmental budgetary prudence. Kumari and Sharma (2017, p. 674) in the research found that market size, trade openness and human capital have a positive association with FDI inflow. Each and every country have a different political infrastructure and economic performance, concerning the availability of resources, technological and infrastructure devel opment. According to Paul et al. (2020, p. 253) infrastructure quality, trade cost meas ured by tariff and non tariff barriers, institutional quality measured by effective rule of law, political stability, regulatory quality and control on corruption are significant determinants of FDI in EMEs. MNEs are exposed to uncertainty when they enter a foreign market. They need a clear knowledge and information of a country specific political, institutional and sector specific market information (e.g., Infrastructure quality, infla tion, political stability, exchange rate, natural and human resources) in order to have a realistic and information based decision for an investment. Expressed as hypothesis: *the higher the quality of governance and infrastructure (e.g., government effectiveness, regulatory quality, rule of law, transport, and energy) the more FDI inflows at the aggregate level for all sectors (e.g., primary, secondary tertiary) in the host country.*

Null hypothesis: *When companies in emerging markets commit to strategically evaluate and classify institutions (political, economic, and cultural) and create entry strategies decisions based on this information, their performance decreases.*

2. Research Questions

Following on from this starting point, the master's thesis deals with the companies' strategic management decision making in the context of foreign direct investment in the developing and emerging markets and the role of institutional factors in the investment strategies. From an institutional standpoint, Wang and Li (2018, p. 1330) explained how the governance environment and market determinants influence foreign investors' strategic decision, depending on a country's economic and institutional development stage. Kolstad & Villanger (2008, p. 530), focused the research on the service sector FDI suggesting that political economy characteristics may have an impact on FDI flows in the service sector, and institutional quality and democracy appear to be more essential than general investment risk or political stability for FDI in services. According to Kolstad & Villanger (2008, p. 530) the following research question can be derived from this typology: Which institutional factors can increase the FDI in flows in specific market sectors enabling MNEs investment managers to construct their entry strategies? Expressed as a hypothesis: *The better business friendly institutions (e.g., effective rule of law, regulatory quality, lower Corruption) the more FDI inflows in all sectors (e.g. manufacturing, services) of the host Country.* Michael A. Hitt (2016, p. 206) studied the reasons why institutional context influences international investment strategies of multinational enterprises. He noted that because certain regulations are targeted at specific industries, regulatory institutions may limit the availability and usage of resources within such industries.

As a result, a multi-country research might investigate the link between countries' formal institutions, industry dynamism, and business strategy within industries. According to Michael A. Hitt (2016, p. 206) the following research question arises: what effects have country regulatory institutions on multinational investment strategic decision? Expressed as a hypothesis: the higher level of corruption, trade cost, fiscal burden, government control over wages and prices, monetary policy burden in the host economy, insufficient property and intellectual right protection, the lower level of FDI and less managerial decision to invest in the host country**.** Biglaiser and Staats (2010, p.519) conducted a survey with investors in order to find out what factors they thought were most crucial when making an investment decision. The findings are consistent with the premise that democratic political institutions that promote the rule of law, the protection of property rights, and a functioning court system are essential for promoting investment safety. Contrary to popular belief, investors tended to give less significance to factors such as democracy alone, respect for human, political, and civil rights, most economic concerns, security, and proximity. According to the Biglaiser and Staats (2010, p.519) the following research question arises: what is the impact of political institutions on the investment decision and strategies in the emerging markets? Expressed as a hypothesis: *the better democratic political institutions who affirm* the *rule of law, the protection of property rights, functioning court along with the promoting civil liberties, human rights, freedom of speech, religion, and right to vote, the more Inward FDI managerial decisions to invest in the hosting countries.* The possible drivers of foreign direct investment in both developed and developing countries were examined in research by Saini et al. (2018, pp. 348). Their findings demonstrate that in different countries show a range of outcomes. Gross fixed capital formation (GFCF), trade openness, and efficiency indicators were shown to be positively correlated with FDI in developing countries, whereas policy related drivers (GDP growth, trade openness, and freedom index) were sought after by FDI in developed nations. According to Saini et al. (2018, pp. 348). the following research question can be derived from this typology: What is the impact of economic determinants on FDI strategic management decisions by multinational companies? Expressed as a hypothesis: *the better performance of economy / e.g., developed human capital, market openness / size, stable interest rates, and modern infrastructure and technology, the more investments decisions from foreign investors.* Zhang et al. (2020, p. 316) in their qualitative study identified some key informal institution in south pacific developed country and show how host country informal institutions distinctiveness have a substantial impact on the behavior of expatriates and MNE firm level strategy. By identifying four local informal institutions, including the universalistic and impersonal government enterprise relationship, the rights based CSR (corporate social responsibility), the zero minute overtime norm, and giving health and safety the highest priority in the workplace. Furthermore, findings show that informal institutions in host nations are just as crucial as formal institutions and national cultures in host countries for MNEs. Informal institutions define societal expectations and attitudes, impact interactions and relationships, and shape behavior and management styles. An MNE cannot fully comprehend the local institutional context unless it has a correct understanding of informal institutions. An improved awareness of informal institutions in host nations might assist MNEs in making the correct decision and avoiding embarrassing misunderstandings and errors. According to Zhang et al. (2020, p. 316) the following research question arises: what is the impact of culture (Informal institutions) on investment strategies for MNEs? Expressed as a hypothesis: *the more investment companies invest in distant markets with different culture distance the higher the need for successful strategies and comprehensive assessment of probable investment decisions.*

3. <u>Literature Review</u>

The Role of Institutional on Foreign Direct Investment Strategic Decision

Countries' institutional environments are complex and are composed of several formal and informal institutions. The role of Institutions is essential in a market economy in order to support the effective functioning of the market mechanism, such that firms and individuals can engage in market transactions without incurring undue costs or risks (Peng, 2008, p. 920). North (1991, p. 97) defines institutions as human invented constraints consisting of structural, economic, political and social issues. Indeed, institutions represent the formal and informal rules of the game in which different players and economic actors interact and` perform actions to maximize their profits and returns. Due to globalization, emerging and developing markets have become important targets for investment and business (Fornes and Butt Philipp, 2011, p. 98). Three types of formal institutions appear to be important to managers including regulatory, political, and economic institutions. Reflecting continued globalization and internationalization efforts by firm's scholarly attention to institutions continues to surge. The study from Saini and Singhania (2018, p. 348) found that in the developed countries market size, trade openness and freedom index are essential determinants of FDI and for developing countries, trade openness, gross fixed capital formation and efficiency variables are important determinants of FDI. To measure and analyse the formal institutions and its effects on Foreign Direct Investment, Holmes et al. (2013, p. 531) integrates prior research from multiple disciplines to identify and assess the impact of a country's formal regulatory, political, and economic institutions. According to Holmes et al. (2013, p. 531), it is hypothesised that the more integrated business friendly and balanced formal institutions (regulatory / e.g. promoting a more friendly business environment (e.g. "providing and promoting public goods and creating laws to protect private property"), political / e.g. democratic political system (e.g. "transparency, reduced political uncertainty, adequate government allocation of a country's resources"), economical / e.g. monetary, fiscal and capital availability, unemployment rate (e.g. "stable interest rates, money supply, inflation and workforce population without a job available"), collectivism / e.g. social membership integration (e.g. "the rights of individuals, their participation in government, the distribution of resources, and other civic concerns"), future orientation / e.g. emphasized long term outcomes (e.g. "investing in long term growth opportunities") the lower the negative impact on international firms and MNC / e.g. FDI inflows (e.g., services and manufacturing investments) intending to invest in the domestic market. Paul et al (2020, p. 245) looked into identifying factors of institutional determinants of FDI in most important emerging economies. This study was the first to analyse the sectorial institutional determinants of Inward FDI in the emerging economies using data from World Bank, Index of Economic Freedom. They came into conclusion that infrastructure quality, trade cost (tariff and non tariff barriers), institutional quality (effective rule of law, political stability), regulatory quality and control on corruption are significant determinants of FDI for MNEs. These factors influence FDI inflows disproportionately in the three major sectors – primary, secondary and tertiary. Sabir et al. (2019, p. 1) studies institution quality impact on Foreign Direct Investment analysing data from countries with low, middle, and high income, and their findings conclude that institutional quality has a positive impact on FDI for all countries. A study conducted by Saha et al. (2022, p. 10828) on the inflow of FDI in lowermiddle income countries suggest that low corruption levels and regulatory quality strengthen FDI inflow whereas elevated rule of law, voice and accountability diminish it in lower middle income countries. According to United Nations Conference publication on Trade and Development (2020, pp.465-468) during the years 2018 and 2019 the FDI inflows in developing countries were almost half of the total foreign investments, whereas share of FDI inflows in lower middle income countries was just below double digits, and the reason for these low levels of investments were low level of income percapita, low literacy rate, and higher population growth. Buchanan et al. (2012, p. 88) found that countries preoccupied only with stable macroeconomic environment and neglect or have inadequate institutional reforms would not be effective in attracting foreign investments. Walsh and Yu (2010, p. 5) also analyse the market size related with larger demand and lower cost due to economies of scale and potential grow prospects will be more attractive to inflows of capital. Wei (2000, p. 1) investigates the corruption level and the increase tax rate on MNEs in a host country concluding that these two factors hinder inward foreign direct investment (FDI), and multinational firms see tax increase only to foreign companies as another form of intentional barrier by host country institutions. Tintin (2013, p. 287) investigates the significance of the traditional and institutional determinants from six east European countries and their impact on future investors from (EU-15, US, Japan and China) and the findings suggest that GDP size, trade openness, EU membership, and institutions (measured by economic freedoms, state fragility, political rights, and civil liberties indices) and their findings show a significance and positive relation on FDI inflows in these countries and the these factors differ between across future countries investors. Academics (e.g., Emako and Menza 2022, p. 1) have also studied political stability and regulatory quality in the developing countries and found that these two institutional elements have very important impact on FDI. However, they also looked into civil liberty like voice and accountability to be associated negatively for foreign capital and proposed language policies allowing one or two foreign languages to be officially recognised. Chen and Jiang (2022, p. 1) investigated 42 G20 countries and explained the relationship of institutional quality and foreign direct investments, show that institutions quality related to trade openness, technological innovation and accelerated industrial structure attract foreign capital investments. Moreover, abundance of natural recourses together with stronger financial sector strengthen the promoting role of institutional quality in attracting FDI**.** Hence the following question arises**:** in which institutional, macroeconomic and business environment countries receive more FDI. Hypothesized as follows: *the better* countries' institutional and macroeconomic performance (e.g., low corruption, effective rule of law, stable inflation, stable financial sector, and friendly business environment) *the more* foreign direct capital inflows from foreign investors. As an important factor to be considered by investors is also financial sector crises and in this regard Peres et al. (2018, p. 637) investigated the significance of the financial crises in both developed and developing countries and confirmed that FDI is negatively affected by unstable financial market in the host country. They also explained in their findings that in addition to the weak structure of institutions, infrastructure of a country and the size of the market also play an important role. Jurčić et al. (2020, p. 44) focused on establishing the relationship between non economic determinants with foreign capital investments in Croatia and analysed in parallel with economic determinants in different periods of economic cycle. Their results come to a conclusion that institutional determinants are not of much important factors in relation to FDI inflows comparing to economic determinants such as GDP per capita and average gross wage.

4. **Research Design**

This master's thesis was written using a qualitative research approach. The study's ob- jective is to emphasize the importance of investment decisions and the strategy that must be designed to implement these investments, where the involvement of formal and informal institutions is essential in the decision to invest in emerging markets and the implementation of these strategies. Qualitative research has the advantage of allowing for a deep analysis of phenomena that are out of scope for quantitative research (McNulty et al. 2013, p.192). This study has a qualitative component that involves semi structured in depth interviews with experts in addition to a review of the literature. The selection of the interview experts for this study was based on companies within a country that operate in the service sector. All sizes of companies were included. The selected organizations have pursued investments in emerging economies and adopted FDI strategies into their practices. Four of the 9 experts approached via LinkedIn provided positive feedback and indicated their readiness to conduct interviews. The chosen experts come from a variety of backgrounds and operate in diverse fields. Their primary responsibilities, however, are associated to implementing FDI investment strategies created to ensure investments in the country in which they operate. The interviews were performed in English during the period of February 2023. According to Crouch and McKenzie (2006, p. 483), qualitative research based on interviews typically seeks to explore aspects of social life that go beyond outward appearances and obvious meanings. In this instance, the researcher must be actively engaged in the study domain, cultivate continuing, constructive relationships with respondents, and thoroughly examine the research challenge through theoretical reflection. In connection with the theoretical background of FDI Investment strategy and institution impact in constructing specific country entry mode, the following research questions arise for the present study:

1. Which institutional factors can increase the FDI inflows in specific market sectors enabling MNEs investment managers to construct their entry strategies?
2. What effects have country regulatory institutions on multinational companies' investment strategic decision?
3. what is the impact of political institutions on the investment decision and strategies in the emerging markets?
4. What is the impact of economic determinants on FDI strategic management decisions by multinational companies?
5. what is the impact of culture (Informal institutions) on investment strategies for MNEs?

Based on the subject and the research topics, guiding questions were created to serve as a link between theoretical preliminary considerations and qualitative research methodologies. The following guiding questions were derived:
1.Do you think that having weak regulatory institutions (corruption, contract and property rights, foreign investment restrictions, government control over wages and prices, government restrictions on industry, Informal markets) affect MNE strategic decisions and company attitudes toward strategic foreign investment?
2.In which institutional economic and macroeconomic (nominal GDP, exchange rate, total foreign debt, unionized work force, industry work force and unemployment rate) context companies consider investing in emerging markets?
3. How do the political Institutions (civil liberties, executive political restrictions, political constraint, and political rights) impact the Investment decision by MNCs Mangers Respectively Inward FDI?
4. Whether informal institutionsculture (morals, values, conventions, norms, traditions and believes) has an impact on Multinational Companies investment decisions and strategy building?
5. In your perspective do regulatory institutions influence the mode of MNCs choice of investment (wholly owned, joint venture and greenfield investment)?
6. Based your experience do political and economic institutions have a role on of MNCs in investing in emerging markets (wholly owned, joint venture and greenfield investment)?
7. In your experience whether cultural distance have an impact on the entry investment mode of MNCs (wholly owned, joint venture and greenfield investment)?
The aforementioned guiding questions may be used to generate hypothetical approaches that highlight the significance of integrating institutions into the strategic management strategies and decisions of businesses in an ever changing and competitive global economic environment.

5. **Data Collection**

In the current study, data were collected by conducting semi structured interviews with professionals working in the different fields of service industry who represent investments from abroad. English has been the language of choice for all interviews. According to Yin (2016, p. 54), A primary source of data that is relevant to the research can be directly addressed by conducting interviews. Utilizing interviews allowed for in depth discussion and comprehension of the effects of foreign investment strategies and the role that institutions play in a company's investment success. This type of interviewing has also made it possible to more thoroughly examine some of the underlying reasons and assess the reliability of the replies. Semi structured interviews can be chosen to give interviewees some latitude to express their ideas, to draw attention to areas of particular interest and expertise they may feel they possess, to allow for more in depth probing of some responses, and in particular to draw out and resolve apparent contradictions (Horton et al. 2004, p. 340). The chosen experts hold a variety of positions within their organizations, mostly in managerial positions related to service industry like financial management, trade, and foreign property management. They were selected according to their extensive understanding of the subject, significant expertise in foreign investment management, and time spent working on various multinational investment companies. The specifics of the questions have to take these variations into account given the various expertise each interviewee may possess. As a result, based on the position, skill, and kind of activity of the organization, the interview questions were adapted to each interviewee. Each interview lasted, on average, 30-40 minutes, depending on the topic of discussion by conducting anonymous research, confidentiality of the statements of the interviewees was also ensured. An overview of the experts consulted is shown in the table below. In order to provide light on the background and qualifications of the experts who were questioned, roles held by interviewees within the companies are specified and listed.

Eperts	Positions	Interview Date	Interview Nethod	Interview Length
Expert 1	Country/Region CFO	11/2/2023	Phone Call	27 min
Expert 2	Vice Presindent	13/02/2023	Phone Call	36 min
Expert 3	Auditing Mananager	9/2/2023	In Person	45 min
Expert 4	Country Operating Manager	9/2/2023	In Person	40 min

Table 2: Experts Background Interviewed

5.1 Data Analysis

For this study, a qualitative content analysis was conducted on the semi structured interview data using a set of categories in accordance with Schreier's (2012) technique. All interviews were conducted in English. After conducting the interviews, they were processed for the qualitative content analysis. Such an approach enabled the researcher to comprehend the study problem more clearly and provide a more thorough response. Coding guidelines have been created in order to distinguish between the categories. In light of this, the researcher studied the transcript and underlined any passage that looked relevant. Following that, the established categories were reevaluated, and the transcript's material was organized using a color scheme. In addition to summarizing and paraphrasing certain remarks in the researchers' own words, some have been explicitly cited. The key findings included a discussion and reflection on the obtained results.

5.2 Main Findings

The findings from the conducted interviews will be provided in this section. The 7 interview guide questions are evaluated using the previously specified category system.
Q1: Do you think that having weak regulatory institutions (corruption, contract and property rights, foreign investment restrictions, government control over wages and prices, government restrictions on industry, Informal markets) affect MNE strategic decisions and company attitudes toward strategic foreign investment? Judicial system, Corruption, well regulated banking system, laws related to the intellectual property rights protection, international financial standardized reporting, trade laws and barriers, the informal economy rate, tax laws, minimal wages and the costs related to the workforce were mentioned as the main factors and reasons that have emerged in the current context and have driven companies to integrate and develop investment strategy approaches in their business decision to expand abroad. “Investors and multinational companies are increasingly aware of the impact of regulatory and administrative challenges concerning the emerging and developed markets. Companies in particular have recognized the seriousness of globalization challenges and they require from companies’ management to analyse and design adequate plans that presents real and pragmatic situation of these new emerging markets. I can say that western Balkans countries went through a very challenging transition period. Having sad that our company in the industry of beverages analysed thoroughly political stability and regulatory administrative environment and addressed in the investment strategy the main concerns particularly on the judicial system, banking, and the laws regulating the intellectual property rights” (Expert 1), “Second Businesses demand for expansion and they are aware of the difficulties shifting in a new market will bring costs and uncertainties. I would say we as financial service company are very focused on analysing and confirming weather a country has well regulated industry laws and aligned with international financial standardized reporting, if the government and related local admin-

istration holds accountable" (Expert 3). Expert 4 In answering this question explained that the company's main concerns to transfer his business operation in another country is mainly linked with trade laws and agreements, memberships in regional and international economic agreements, economic informality, and qualified workforce. "In fact, informality it concerns the most because it has an impact on our competitiveness and makes it harder to expand products and services in the market" (expert 4). Expert 4 further indicated that companies should two consider the contract implementation protection and disputes settlements should be a concern and addressed in their cost of doing business in emerging countries. "A valuable assessment before making an investment decision is prerequisite for a corporation intent to invest. Being alert and paying special attention on detailed country's regulatory aspect is cheaper and saves time and money. For example, in the industrialized nations, this regulatory aspect is safer and more effective, and our organization is more preoccupied to tax regulations, minimum wage requirements, labour expenses, and other industry barriers that may have an influence on the cost of investment. I believe in southern Europe our focus will fall more in the effectiveness of country juridical system and informality of the sector we intend to enter." (Expert 2).

Q2: In which institutional economic and macroeconomic (nominal GDP, exchange rate, total foreign debt, unionized work force, industry work force and unemployment rate) context companies consider investing in emerging markets?

Experts gave several arguments on the role of how economic and macroeconomic variables depending on the field of business operations can shape the decision and strategies by investors. Expert 1 indicated that all the economic factors play crucial role when deciding to expend in a new market. I am confident. In our case whenever we develop new investment plan we consult and present the country economic conditions in real terms gathering the information for the selected market and decide how we proceed further. Since GDP shows the purchasing power of an economy it is of high importance. Other factor we look on to it is foreign debt because it gives us a picture of a potential economic breakdown. Unemployment rate is also a concerning factor to be in our scope of analyses, since it may cause serious social unrests" (expert 1), "In emerging markets in most of the cases is harder to find and higher qualified workers. Unemployment rate also is a factor that shows that the countries educational system cannot respond to the specific industry requirements (Expert 3). Expert 4 explained that company's strategy is directly influenced by the market economic conditions: "Definitely. In fact, in the industry of technology, we consider that the strength of the economy that is shown through the purchasing power is an important determinant to incorporate in companies' investment strategy. Also, the professional working force that is qualified in the field of technology is important, since it determines the performance and the potential of a company to offer products and the services to the highest standards. Furthermore, one important element to examine is the specific market industry development, which determines the direction of the country's industry growth". Expert 2 further indicated that a healthy and strong economy in my opinion is evaluated through the purchasing power and the degree of unemployment of the market and companies interested to growth consider this as a key element in their plans to expend. You see this doesn't apply to a strong and developed economy. Very often the last two factors are less of concern because a strong economy indicates less unemployment rate, and the educational system is well established to respond the economic and market demands".

Q3: How do the political Institutions (Civil liberties, Executive Political restrictions, Political constraint, and Political rights) impact the Investment decision by MNCs Mangers respectively Inward FDI.

In answering this question, most experts seem to strongly acknowledge the existence of a positive and potential constraint relationship between political institutions and companies' investment strategic decisions. Expert 1 explained that in the strategy must be integrated the political environment of the country, since this are the most important information to be consider in order to have a map of political stability incorporated in the investment strategy decision. "Definitely. Without a political stability and the respect, the rights and basic liberties there is no economic perspective to be considered. If you think investing in a country as an international entity and you actually face political instability within or even between the regions, you won't be able to run your business normally. For example, in the two of East European Countries political situation changed drastically, and our company had to withdraw suffering enormous losses. Political destabilization creates chaos and fear for business" (Expert 1). Expert 3 high lighted the importance of the fundamental values and the adaptation of these values by countries. "Most definitely. The fundamental principle incorporated in country political government and municipality institutions are very much of concern for our future plans to join a market. International companies in financial service sector pay very close attention to the political situation and public rights because these values are also our fundamental values" (Expert 3). Expert 2 noted that the growth potential, political and social stability effect the decision of their investment. "Yes, there is direct correlation between these two aspects. In the developed countries political system is likely predictable also rights and freedoms of society are well regulated, since we actually operate in North America, we face no such problems, but we plan to expend this year in western Balkan country, and we are looking to that comprehensively. However, the outcome will greatly depend on how we can coordinate and cope with country business rules and policies" (expert 2). Expert 4 stressed that the clarity of economic orientation of a country enable companies how to approach the new market. "Yes, definitely. Both political environment and free market are the two most influential and interrelated to our foreign investment. As the political stable state in our experience adopt free market regulations" (Expert 4).

Q4: whether informal institutions culture (morals, values, conventions, norms, traditions and believes) has an impact on Multinational Companies investment decisions and strategy building.

In responding to this question, most experts appear to firmly believe that there is an association between culture and Multinational Companies investment in the foreign markets and strategy decisions. Expert 1 explained that the integration of culture diversity in the strategy is actually ensuring that the investment successfully met the market needs: "Definitely cultural implications play important role in a particular market. For example, religion is an important factor to consider, since in some religions particular products are not consumed such as alcohol and other products. In some markets there is already established a form of nurture, consumer behaviour and the products that are newly introduced face a longer time of acceptance. So, I think integrating culture values, norms and traditions is business wise thinking for long term success of market expansion" (Expert 1). Expert 2 highlighted the importance of coordination among home country management team and local staff and feeding multiculturalism in the company. Yes, definitely. Depending on the country specifics, affirming culture traditions, norms, gets you close into comprehending more market specific demands and doing so your strategy fits and the investment is more prone for success. For example, in North America, multiculturalism is highly valued and very present in almost every public office and private sector. The same it applies to products services offered from every corner of the globe. However, it is important also to emphasize when it comes to work culture local native employees refuse long working hours and whenever they can avoid work related pressure. Expert 3 indicated that the implementation of culture in the business investment strategy allows companies to meet market needs:" Further more, companies that initially incorporate culture in the investment strategy are more likely to fulfil the needs of the market and enjoy competitive advantage amongst their peers". He continued by stressing that because such a strategy involving culture as an important determinant is focused on long term gains, it enables businesses to experience long term benefits. "Knowing in advance the culture of the society will enable us to avoid potential misunderstandings and building long term relationship". Expert 4 emphasized the significance of having a cultural investment strategy plan in relation to customer satisfaction. He demonstrated how such an approach might help businesses create a sustained competitive edge by addressing customers' needs. He illustrated his assumption with an example: "due to the fact that in certain regions, access to technology to a specific group of people is not the same as in others we plan the rang and category of products and services for a specific market and culture specific needs.

Q5: In your perspective do regulatory institutions influence the mode of MNCs choice of investment (wholly owned, joint venture and greenfield investment)?

From the answers of the experts, it was clearly indicated how important it is to have entry mode strategy or to discriminate the institutions feedback to choose what sort of investment firms to make. They believe that the investment strategy incorporating and identifying clearly regulatory institutions in deciding to enter in to the emerging and developing economies have a positive impact on of multinational investment choice. Expert 1 noted that specific market regulatory conditions company develops entry investment plan. “Based on the level of political and regulatory satisfaction in a certain country or market, we select whether to enter as a lone investor or to partner with an other national firm to invest jointly. In case when market conditions are firmly established, we participate as a completely owned subsidiary or as a greenfield investor. Second when perceived high trade restrictions and uncertainty we follow the strategy by joining local partners as a safer strategy. Expert 4 stated that the industry features and trade regulatory situation together with market share and service product availability are the most important factors to consider in a market specific entry form: “My belief is that the industry in which our firm works determines the preferred investing strategy. Our major goal is to capture a significant portion of the market for the goods and services we provide. We decide what type of investment to make based on market dynamics and market demand for the goods and services. If our goods and services are in short supply, we enter the market as a greenfield investment; but, if we see fierce rivalry, we go for a different strategy by partnering with a local company that already has a strong customer base and industry expertise”. According to the expert 3 the only crucial element for expending in a foreign market is perceived satisfactory regulatory environment.” Our choice to join a certain market and our strategic investment is completely dependent on the political and regulatory landscape of that country. As the nature of our firm's investments is sole or entirely equity based, if market circumstances are not favourable, we wait until they permit us to enter the market”. Whereas expert 2 stated that regulatory institutions are always looked closely because of the nature of our services: “In well established markets, we often choose to engage as a greenfield or equity investor”.

Q6: Based your experience do political and economic institutions have a role on of MNCs in investing in emerging markets (wholly owned, joint venture and green field investment)?

Most of the experts who responded to this question affirmatively acknowledged that market political and economic environment are strongly related with the strategy and the form of the investment multinational companies’ choice. Expert 2 explained that integration of these two very important determinants by international investors is of high importance to the investment strategy's success: “Beyond question. Our experience tells us that political and economic factors are very important when deciding whether or not there is a chance to join a new market. Politics tend to be less accessible and less easy to comprehend in developing market countries for the most part. A higher level of bureaucracy is typically seen in the public institutions. But access to institutions and the services they provide is less difficult in developed economies, which reduces the cost and time required for our activities significantly. So, when choosing a market to enter as a greenfield, we tend to choose those that provide a better level of political administrative and economic predictability” (Expert 2). Expert 1 highlighted the political clarity, disputes and volatility of country should be incorporated into the company’s business investment strategy in order to improve the overall scope in the investment implementation plan. “Yes definitely. Foreign businesses evaluate their chances of joining a certain market. My own experience tells me that the political climate affected our company significantly when we implemented investment initiatives. There are political factors involving conflicts across country regions and regional conflicts that influence our company's overall commercial operations. Challenges to doing business in these emerging markets on an economic level are another issue. As a result, our investments are more vulnerable to these situations since we are unable to forecast with precision when and how these disputes may emerge. As these events do occur when we consider participating in these marketplaces, we must be cautious of our investment strategy. Under these circumstances, we take unpredictability and other potential costs into account while preparing our strategy. In these conditions, entering as a totally owned or joint venture investment is the most suitable business entry” (Expert 1). Expert 4 pointed out that political and economic institutions are important stakeholders who have an impact on the performance of investments: “Yes, there is a direct correlation between these. In order to join a market, we must analyse the political and economic climate of the host country and based on the information we acquire, we plan our way of investing. Generally, we decide to join venture our investment if we conclude that the political situation is not very stable, and the economic environment is unpredictable. However, expert 3 stressed that companies need to ensure that country political and macroeconomic assessments are based and not handled by third parties:

“In my experience, in some instances, the information gathered by contracted agencies did not accurately reflect the true and factual scenario. This better demonstrates the fact that we are the organizations that are contracted in many instances to evaluate and find facts and data that are required by various investors, where in some cases we witnessed observations and findings from contracted firms that had significant inconsistencies.

Q7: In your experience whether cultural distance have an impact on the entry investment mode of MNCs (wholly owned, joint venture and greenfield investment)?

In answering this question, the experts explained the multiple ways in which including culture in the investment strategy and understanding their norms and values can have a positive impact the investment decision mode and implantation of planed investment. Expert 2 explained that the integration of culture diversity and values is actually how serious companies approach markets culture distant to their home country planning to deploy their capital investment in the host country. “Definitely. You won't succeed in your investment strategy by disregarding this important component and having a vague understanding of how culture affects your investment. We believe strongly that cultural component of society is of high significance to our business. As a result, we focus our investment also according to the culture of the country. While our line of business activity in property management is highly recognized and accepted in western countries, it is lesser understood and known in eastern and other European countries. As a result, we focus on investing in Northern American countries like Canada and the US for our line of business. Taking all the aforementioned factors into account, if we are to join the market of a developed country, we do so as partnerships or totally owned entity. Expert 3 stressed that companies need to ensure that to learn and adopt in the culturally different business environment should be considered as seriously comparing to other economic and political factors of importance: “We only have one option because of the nature of our firm, which is equity owned, and that is to become accustomed to the cultural and national differences. As a result, we work closely with our partners to accomplish this aim and train our local management staff to adhere to cultural norms and values”. However, expert 1 explained that knowing the traditions, beliefs, and vices of a particular market helps us prepare the range of products we provide there, and as a result, this influences our strategy on how we approach a market with diverse cultural norms: “Definitely. What the market dictates in the east, where culture and religion limit a group of consumer products, differs substantially from the category of products that we supply in Western European and American markets”. Furthermore, Expert 4 addressed the cost that cultural distant markets can bring in doing business in these countries and the strategy to be employed. This involves too the marketing strategy design for product service labels and advertising considering a culture you are operating”. If these cultural differences result in a greater cost to our investment, we take a different strategy by partnering with a local firm that is already well established and understands the culture of that market”.

6. **Conclusion**

Emerging markets represent significant investment and economic opportunities as a result of globalization, challenging investors and business. Multinational companies are embracing investment strategies involving market institutional and economical elements in their investment decisions as a viable and long-term way to remain competitive in emerging economies. The objective of this study was to determine and identify the influence of countries institutional determinants on strategic investment decisions in order to improve perspective investment business performance. The results reported the importance of adopting country specific institutional factors into investment strategies in determining the business investment success. Specifically, a significant correlation was found on country specific institutions and characteristics and the impact they have on the investment choice by MNCs. Therefore, this study contributed to existing studies by demonstrating the positive effects of adopting these strategies on organizations plans for FDI in the emerging markets. In addition, this present work aimed to expand the focus on multinational investment corporation on the decision-making process and in relation to factors that confines their strategies and how the investors address these new emerging investment opportunities with many unknowns and possibilities. This study further examined the roles of country market and industry specific regulatory, political, economic, and cultural dynamics, and relationship between these factors with investment entry mode of choice, by not simply analysing the institutional factors but also investigating how investment managers identify the key factors and include them on the strategy and possibly FDI decision to invest in certain institutional context. The results provided new insights as to why it is important to take into account the aforementioned institutional antecedents to support the effective implementation of the investment process in a distant country, entry decision and entry FDI strategy in relation with given institutional realty and other economic and social parameters. Based on these conclusions, companies should engage in investments in new emerging markets, create a comprehensive strategic plan to join, understand and incorporate all aspects of a country targeted for investment and make a decision to diversify they foreign investment capital portfolio in the benefit of the company. Subsequently, the results supported all the hypotheses regarding the investment strategic decision process in relation with the institutional environment selected for investment. Nonetheless, it should be mentioned that this study was constrained by the small sample size, sectors chosen, and resources accessible to the researcher. The findings should not be generalized, and they may be biased. Furthermore, this study opens opportunities for future research to cover broad sectors, particularly in contexts where other factors such as different industries, natural resources availability and other factors involving environmental regulations can impact the implementation of investment strategies and decision to enter foreign markets, resulting in different outcomes.

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PUBLIC DEBT AS A DETERMINANT OF THE ECONOMIC GROWTH IN KOSOVO

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Abstract
This article investigates the impact of public debt on economic growth in Kosovo. By analyzing secondary data, we aim to determine whether increasing public debt levels have stimulated or hindered economic growth. The study employs an econometric model to quantify this relationship, providing valuable insights for policymakers and economists. The findings suggest a nuanced impact of public debt on economic growth, with implications for fiscal policy and sustainable development strategies in Kosovo. Empirical results suggest negative relationship between public debt and economic growth controlling for other determinants of growth trade openness, total investment, current account balance and primary balance. The results also confirmed the existence of a "U inverted" relationship between public debt and economic growth.

Keywords: public debt, economic growth, determinant, Kosovo

JEL Classification Codes: H63, E60, O10, O40

1. **Introduction**

Public debt has long been a contentious issue in economic policy discussions. For developing countries like Kosovo, understanding the relationship between public debt and economic growth is crucial for crafting effective fiscal policies. This study examines the role of public debt in shaping Kosovo’s economic trajectory over the past 14 years, a period marked by significant economic and political changes. By focusing on this period, we aim to provide a comprehensive analysis that can guide future policy decisions. The macroeconomic implications of public debt gained huge public attention in the last two decades in many countries and regions around the world, and especially in the European countries. The reason behind this is the enormous and continuously growing level of indebtedness that occurred after the latest financial crisis in 2008. The crisis began in late 2007 as a combination of liquidity crunch, expansionary fiscal stimulus programs, recapitalization of banks and led to dramatic increase in public debt level. These implications have raised serious concerns about the fiscal sustainability and potential negative impact on the financial markets and economic growth in all European countries. The empirical investigation of the impact of public debt on economic growth was initiated by Sachs (1984, 1988), Cohen and Sachs (1986) and Krugman (1988) who advocated that countries with higher debt levels face difficulties in taking additional or new loans and therefore need to increase taxes to finance their debt obligations. In turn, the increased taxes will have negative impact on investments, accumulation of capital and thus will deteriorate the economic growth of the country. The deterioration of economic performance due to an increase in public debt of the country is known as public debt overhang theory (Reinhart and Rogoff, 2012) In the coming decades, many authors addressed the issue of the optimal debt level and its macroeconomic implications, whether by introducing theoretical models or conducting empirical analysis. Among the first group of economists, Aiyagari and McGrattan (1998) developed a model for the US economy and concluded that the governments should maintain an optimal public debt level at about two-thirds of the gross domestic product. Their finding was later confirmed, among others, by Flodén (2001), Desbonnet and Weitzenblum (2012) and Dyrda and Pedroni (2016). On the other hand, Röhrs and Winter (2016) and Chatterjee, Gibson and Rioja (2017) argued that more beneficial government behavior is to accumulate funds instead of generating public debt. The second group of economists has come to the general conclusion that the debt to growth relationship is non-linear, as debt has a positive imact on economic growth until a certain threshold, and after that begins to decrease the economic growth. In line with this, Reinhart and Rogoff (2010) found that across both developed countries and emerging markets, the high debt level (90 percent and above) is associated with notably lower growth rates. Similar results were found by Afonso and Jalles (2011), Cecchetti, Mohanty and Zampolli, (2011) and Baum, Checherita-Westphal and Rother (2012). Although the global financial crisis in 2008 prompted vast academic and economic debate on the relationship between public debt and economic growth, most of the empirical studies that investigate the impact of public debt on economic growth mainly focus on the most indebted peripheral Eurozone countries, while the other countries from Central and Southeastern Europe remained slightly neglected. In that regard, the specific aim of our paper is to empirically examine the impact of public debt on the economic growth performance in the Kosovo.as a country from Southeastern Europe. We analyzed Kosovo, because this country may provide an interesting case study. Namelly unlike other countries, Kosovo is known as a country with low public debth of 17% of GDP.Regarding the history of debt it is known that Kosovo had a public debt inherited from the time of former Yugoslavia amounting to 220.6 million euros. Kosovo got this fund on behalf of the debt from the World Bank. Eventually,in 2009 Kosovo managed to begin to apply the services for processing the external debt, which according to the agreement, the debt must be returned to the World Bank until 2031. In Kosovo even the internal debt started to function, which began to be realized through the issuing of bonds. Kolgjeraj and Vokshi (2017). With a tendency of development and strengthening of economic activity in the country, accompanied always with positive economic growth from year to year and if we consider the path of development of public debt over the years we can say that the low level of debt reflects high accountability because with the conditions that are offered to us today it is not too difficult to get into debt Kolgjeraj and Vokshi (2017). In our case, if we compare the public debt to GDP then we notice that the public debt has a very low percentage in relation to GDP, this situation shows accountability and macroeconomic stability, also helped by the relevant institutions of the country which had set fiscal rules through the Law on Public Financial Management in Kosovo. Now it is clear that each state conducts various economic analyses to see how the public debt would affect the economy, on this basis the country is normally focused on creating social and economic stability, not to worsen the situation in country. According to Law for Public Debt in Kosovo, the limit of the public debt should not exceed the level of 40 % of Gross Domestic Product (GDP). The contribution of this paper is multiple. Firstly, he deals with a small volume of economic literature on the Kosovo economy. In conditions of a significant deterioration in the country's fiscal position and a steady increase in public debt, the attention of economists and the public on this subject is growing, although economic literature is still scarce. Secondly, the theoretical adjustment of the dynamics of the debt to actual developments of the Kosovo economy is a good basis for further analysis and its assumptions and claims can be included in the development of theoretical models of the general as an explanation for the behavior of the states. Thirdly, labor analysis can be a useful material when creating governments documents and economic strategies, where findings can serve as a benchmark when creating future macroeconomic policies. The structure of the paper is as follows. After the Introduction, in Section 2 will be given an overview of the empirical literature that deals with this issue. Sources of the data employed as well as methodology are presented in Section 3. Section 4 presents the empirical results and section 5 concludes the paper and gives policy recommendations.

2. Literature review

The relationship between public debt and economic growth has been extensively studied, with varying conclusions. Keynesian economics suggests that public debt can stimulate growth through increased government spending, especially in times of economic downturns. Conversely, neoclassical economists argue that high levels of public debt can crowd out private investment, leading to slower growth. Studies on emerging economies often highlight the importance of the debt threshold, beyond which the negative effects outweigh the benefits. In the context of Kosovo, limited research exists, making this study particularly relevant. In this section we present a brief sublimate of empirical literature concerning the relationship between public debt and economic growth. In the literature there are empirical studies that analyze the impact of public debt on economic growth, both on individual countries such as Smyth, and Hsing (1995) in the USA, Egbetunde (2012) in Nigeria, Balassone et al. (2011) for the case of Italy and in the panel set of countries. (Clements et al. (2003) Reinhart, and Rogoff (2010) Schclarek (2005) among the others). According to Bilan and Ihnatov (2015) the empirical literature dealing directly with the effects of public debt on economic growth became more consistent only in recent years, in the context of the adverse European and international developments. Namely, previous empirical studies focused on developing countries, especially those with low incomes due to their dependency on foreign capital investment (Krugman, 1988; Weeks, 2000; Patillo et al.,2002; Karagol, 2002; Schclarek, 2004). Abbas and Christensen, 2007) pointed out several reasons that explain this situation: a) until recently the size of public debt has not been assessed as problematic in most developed countries, b) the lack of comparable datasets for a large number of countries; c) public debt was mainly considered as an endogenous variable and not as an exogenous one, whose size affects macroeconomic outcomes. The results of most of empirical studies are mixed and inconsistent, differing upon the group of countries and the time framework of the analysis, and research methodology. Namely, while the first studies on public debt and economic growth such as Modigliani (1961), Diamond (1965) sustained that an increase of public debt always contributed to economic growth, more recent work (Pescatori, Sandri и Simon, 2014; Eberhardt и Presbitero, 2015) has presented different results. Bearing in mind the purposes of our study, in sequel of the paper we will focus only on studies that cover primarily the countries from Central and Southeasteern Europe and Kosovo. Ferreira (2009) analyzed the relationship between public debt and growth of per capita GDP for a group of OECD countries, over the period 1988 - 2001. Based on the VAR methodology and Granger causality test, he found that there was bidirectional relationship. Namely higher GDP growth rate reduces public debt but, at the same time, an increase of the latter negatively affects economic growth. Časni et al (2014) analyze the long run and short run relationship between debt and economic activity in Central, Eastern and Southeastern European countries, and uses pooled mean group estimator for the period for 2000 and 2011. The empirical results show that public debt has a statistically significant negative impact on the growth rates both in the short and the long term. Based on their findings, they have recommended the development of policies aimed at increasing exports, long-term investments, as well as supporting fiscal consolidation in order to boost economic growth. Mencinger et al (2014) empirically analyze the transmission mechanism regarding the short term impact of public debt and growth in panel dataset of 25 member states of the EU. They divided a sample of EU countries into subgroups of the so-called 'old' member states, covering the period 1980–2010, and NMS, covering the period 1995–2010. Their results in all models indicate a statistically significant non-linear impact of public debt ratios on annual GDP per capita growth rates. Further, they have concluded that the threshold value for the 'new' member states is lower than for the 'old' member states Bilan and Ihnatov (2015) have investigated a non-linear (quadratic) relationship for a panel of 33 European countries (28 European Union Member States and 5 candidate countries to European accession) over the period 1990-2011. Their results show the presence of a too wide a debt threshold at the level of 45-55 % of GDP. In doing so, it came to the conclusion that the benchmark threshold is lower in the less developed countries of the analyzed group (eg Bulgaria and Romania), and it is entirely lower than in the more developed countries of the European Union. Gál and Babos (2014) conducted a comparative analysis of the effects of public debt on economic growth in Western European and EU NMS of the European Union for the period 2000 - 2013 and came to the conclusion that, although the NMS are less indebted, the high levels of public debt are much more harmful to them, so keeping debt under control is particularly important for these countries. In analyzing the application of panel analysis on the effect of public indebtedness on economic growth with the involvement of 11 countries from Central and Eastern Europe in the period 1994 - 2013. Dinca and Dinca (2015), using time-fixed effects regression for the 1999-2010 period explores the relationship between the ratio of government debt to Gross Domestic Product (GDP) and the per capita GDP growth rate for a sample of 10 former Communist countries, members of the EU 27. In their model they used ten independent variables: gross government debt as a share of GDP, openness of the economy, nominal short-term interest rate, government fixed investments, government fixed investments, population growth rate, gross fixed capital formation, government revenue, gross national savings and labor productivity. Their results show that only four variables have a statistically significant impact upon the GDP growth rate: gross government debt as share in GDP, nominal short term interest rate, openness of the economy and total government revenue as percentage of GDP. They also found that the government debt turning point is around 50%. If the government debt to GDP ratio exceeds this level, it could generate a negative impact on the GDP growth rate. Kolgjeraj and Vokshi (2017) ware analysed impact of public debt using simple regression. They were concluded that public debt has an impact on economic growth in Kosovo and this increase is estimated to be a negative impact, but in a very small degree, and it does not have any visible effect on the economy. Balaj and Lani (2017) were analyzed impact of public expenditure on economic growth of Kosovo over the period 2000-2016. They were used is the OLS model. The overall conclusion of the paper is that all public expenditures dealt with in the econometric model do not have an impact on economic growth of Kosovo, so public expenditure for the period 2000-2016 has had unproductive characteristics that did not have a direct effect on economic growth of Kosovo, but only the effect of internal consumption for non-economic purposes Bajrami et al. (2020) aimed to investigate the relationship between public debt and economic growth. According to recent surveys, transition countries tend to see positive impacts on GDP growth when public debt constitutes 30-50% of GDP; however, surpassing this threshold often leads to negative consequences for economic growth. The study focused on assessing the current status of public debt and its potential effects on the Republic of Kosovo. Employing an empirical approach, the researchers utilized the R program to analyze data and discern the influence of public debt on economic growth in Kosovo. Through the VAR model, the study evaluated the impacts of public debt, government expenditure, gross fixed capital formation, and gross saving on economic growth in Kosovo spanning from 2008 to 2018. The results indicated that Kosovo achieved higher growth rates when the public debt-to-GDP ratio fell within the range of 10% to 30%.

3. Methodology

This study uses secondary data from various sources, including the World Bank, International Monetary Fund (IMF), and Kosovo's national statistics agency. The analysis covers the period from 2008 to 2022, encompassing key economic indicators such as GDP growth, public debt levels, inflation, and investment rates.

3.1 Model Specification

To empirically analyze the impact of public debt on economic growth, we use a linear regression model where GDP growth is the dependent variable, and public debt, along with other control variables such as inflation and investment, are the independent variables. The model is specified as follows:
GDP Growtht=β0+β1Public Debtt+β2Inflationt+β3Investmentt+ϵt\text {GDP Growth}_t = \beta_0 + \beta_1 \text{Public Debt}_t + \beta_2 \text{Inflation}_t + \beta_3 \text{Investment}_t + \epsilon_tGDP Growtht=β0+β1Public Debtt+β2Inflationt+β3 Investmentt+ϵt
where β0\beta_0β0 is the intercept, β1,β2,β3\beta_1, \beta_2, \beta_3β1,β2,β3 are the coefficients for the respective variables, and ϵt\epsilon_tϵt is the error term.
In this study we follow research directions of (Bilan and Ihnatov 2015; Checherita and Rother 2010), and we will adopted quadratic form. The general model to be estimated is of the following form:

$$Y_{c,t} = \alpha + \beta_1 b_{c,t} + \beta_2 b_{c,t}^2 + \varphi k_{c,t} + \sum_{i=1} \mu_i \mathbf{Z}_{c,t} + \gamma_c + \varepsilon_{c,t},$$

$$Y_{c,t} = \alpha + \beta_1 b_{c,t} + \beta_2 b_{c,t}^2 + \varphi k_{c,t} + \sum_{i=1} \mu_i \mathbf{Z}_{c,t} + \gamma_c + \varepsilon_{c,t}, \quad (1)$$

where $Y_{c,t}Y_{c,t}$ is the annual percentage of GDP growth, $b_{ct}b_{ct}$ and $b_{ct}^2 b_{ct}^2$ are the linear and square regressors of public debt as a % of GDP, $\mathbf{Z}_{c,t} = \{eb_{c,t}, cab_{c,t}, ob_{c,t}, pb_{c,t}\}$ $\mathbf{Z}_{c,t} = \{eb_{c,t}, cab_{c,t}, ob_{c,t}, pb_{c,t}\}$ is a set of control variables, $\gamma_c\gamma_c$ is a set of fixed effects of years, $\beta_1\beta_1$, $\beta_2\beta_2$, $\varphi\varphi$ и $\sum_{i=1}\mu_i\sum_{i=1}\mu_i$ are the regression coefficients $\alpha\alpha$ is an intercept, $\varepsilon_{c,t}$is an intercept, $\varepsilon_{c,t}$ is the error term.

The dependent variable in our model is represented by the growth rate of per capita GDP of the same year. Factors that we use as control determinants, include the following:

Public debt. The interaction between public debt and economic growth is rather complex because public debt influences the economic growth dynamics and the economic growth rates impact the size of public debt Časni, Badurina and Sertić (2014). According to (Cantor and Packer, 1996) higher rates of economic growth facilitate the public debt burden. Public debt sustainability depends on its ability to raise revenue which decreases when economy experiences a downturn. The private sector default has adverse effect on economic activity and increases public debt when private borrowing is backed by discretionary fiscal policy (Cecchetti et al., 2011). Public debt may have positive as well as negative impacts on economic growth. In less developed countries, governments use public debt as an imperative tool to finance its expenditures. Economic growth can be increased by effective and proficient utilization of resources to achieve macroeconomic goals. However, if the public debt is not properly utilized, it would restrict economic growth and become the biggest curse for the economy. The investment is the second determinant that we will use in our model. For these determinants we expect a positive impact on economic growth. According to (Ugochukwu and Chinyere, 2013). Capital accumulation "refers to the process of amassing or stocking of assets of value, the increase in wealth or the creation of further wealth." Namely investment in capital stock increases the capacity for production, which also increases national income. In macroeconomics, consumption and fixed investment are the main indicators, which encourage the aggregate expenditure. Thus, the increased aggregate expenditure will fuel the growth. The third determinant that we will use is trade openness. This indicator in the economic growth literature was sometimes used as a major determinant of growth performance (Sachs and Warner, 1995). According to Edwards (1998), trade affects economic growth through several channels: technology transfer, exploitation of comparative advantage, and diffusion of knowledge, increasing scale economies and exposure to competition. In addition, Romer (1993) claimed that the countries have higher possibility to implement leading technologies from other countries if they are more open to trade. Furthermore, Chang, Kaltani and Loayza (2005) emphasized that trade promotes the efficient allocation of resources through comparative advantage, allows the dissemination of knowledge and technological progress, and encourages competition in domestic and international markets. Bearing this in mind we expected a positive effect on economic growth for this determinant. The next determinant that we will use is current account balance. The current account balance as a broader measure that includes the trade deficit and is itself a part of a broader measure, the balance of payments. The balance of payments is the sum of all transactions between a nation and all its international trading partners. In addition to the trade deficit, the current account deficit includes factor income and financial transfers. The last determinant is the buget balance. It is expressed by budget balance in% of GDP. Fatima, Ahmed, Rehman (2012) claimed that the balanced fiscal budget is necessary condition in order to achieve sustainable economic growth. According to the Keynesian model, the budget deficit would have a positive impact on economic growth. Namely if increased government expenditure or tax cutting are the reasons for budget deficit, then customers would have more money and the marginal propensity to consume would increases. This leads to the increase in output and demand of money. Given the strong potential for endogeneity of the debt variable, especially reverse causation (low or negative growth rates of GDP per-capita are likely to induce higher debt burdens), Bilan and Ihnatov 2015, we have resorted to instrumental variable estimation techniques. More specifically, the estimators we have used in our paper are GMM estimators. Based on previous studies (Patillo et al., 2004; Checherita and Rother, 2010), we have instrumented the debt and debt squared variables through their time lags (up to the 5th lag). The Hansen test allowed us to test the statistical significance of the instruments selected. Consider the model above is a square and assumes a non-linear influence of the debt on the economic growth, ie the existence of a threshold of debt in which the direction of the influence of the debt on the economic growth, which depends exclusively on the values of the coefficients $\beta_1\beta_1$ and $\beta_2\beta_2$. Namely we took into consideration the possibility that the relationship between public debt and economic growth is not a linear one, but rather concave curve type ("Laffer" type). This allows us to determine the maximum affordable public debt that does not have a negative impact on economic growth, according to relation

$$b^* = -\beta_1/2\beta_2 b^* = -\beta_1/2\beta_2. \tag{3}$$

3.2. Data Source and Sample Characteristics

Our study dataset consists data of Kosovo for the period 2008 – 2022 using quarterly data. The selected determinants are mostly used in the literature (Clements et al., 2003; Kumar and Woo, 2010; Checherita and Rother, 2010). Therefore, we will use GDP per capita growth as a measure of economic growth. As control determinants we will use: investment, trade, current account balance and buget balance. The Data are obtained from World development indicators (WDI) database and, Kosovo Agency of Statistic.Table 1 presents the descriptive statistics for all the variables used in the regressions. Key figures, including mean, standard deviation, min and max value are reported. This is generated to give overall description about data used in the model and served as data screening tool to spot unreasonable figure.

Table 1 Descriptive statistics

	GDPPC	PD	INV	OPEN	CAB	PFB
Mean	3.094	10.92	26.57	22.68	-16.89	-0.990
Median	3.179	10.30	25.88	22.50	-12.41	-1.35
Maximum	5.249	17	30.7	25.02	-6.11	3
Minimum	1.325	5.51	23.2	19.84	-32.9	-2.4
Std. Dev.	0.906	3.786	2.124	1.084	9.481	1.224
Observations	56	56	56	49	56	49

Source: Autor's calculation

From the Table 1 we can notice that during the analyzed approach Kosovo has constant growth, measure by GDP per capita, Public debt shows differences ranging from the minimum 5.51% of GDP, to 17% of GDP. The remaining determinants during the analyzed period do not have any significant deviations, with the exception of current account balance where it ranges from -6.11% to 32.9%. However, we should bear in mind that, this determinant has a larger standard deviation with 9.48 compared to other determinants.

Table 2 Correlation matrix

	GDPPC	PD	INVESTMENT	TRADE	CAB	PFB
GDPPC	1					
PD	-0.378	1				
INVESTMENT	0.311	-0.536	1			
TRADE	0.196	-0.263	0.815	1		
CAB	0.825	0.403	0.500	0.416	1	
PFB	-0.369	-0.278	-0.151	-0.378	-0.407	1

Source: Autor's calculation

Between GDP per capita and government debt there is a negative correlation (-0.378), while it is somewhat stronger between gross investment and government debt (-0.536). A weaker negative correlation is also found between the government debt and openes of economy (-0.263), and between the public debt and the primary budget (-0.278) deficit, which suggests that higher debtedness leads somewhat to a larger budget deficit as a consequence of interest payments for repayment of debt

4. Empirical Results

The regression analysis reveals a complex relationship between public debt and economic growth in Kosovo. During the initial years (2008-2012), an increase in public debt correlates with higher GDP growth, suggesting that government borrowing was effectively used for growth-enhancing expenditures. However, in the subsequent years (2013-2022), the impact of public debt on GDP growth diminishes, indicating a possible threshold beyond which additional debt may hinder growth due to increased debt servicing costs and reduced fiscal space for productive investments. The control variables also show expected effects: inflation negatively impacts growth, while higher investment rates correlate with higher GDP growth.Next in Table 3 we reports the empirical estimations of Equation (2) and (3) for effect of public debth on GDP growth in Kosovo during the 2008-2016 period, using the generalized method of moments (GMM) . The results indicate the high robustness of our results, given that in all specifications, regardless of their specs, variables generally retain their economic and statistical significance.

Table 3 Estimation Results

	(1)	**(2)**	**(3)**	**(4)**
PD	4.446*** (0.494) [8.985]	4.410 (0.462) [11.86]	3.624** (0.572) [6.330]	5.481** (0.462) [11.86]
PD^2	-0.051** (0.023) [-6.512]	-0.078 (0.019) [-11.75]	-0.083** (0.020) [-8.781]	-0.085** (0.019) [-11.75]
INV	1.284** (0.130) [9.821]	1.269** (0.144) [10.84]	0.910*** (0.176) [5.170]	1.563 (0.144) [10.84]
OPEN		0.256* (0.081) [2.705]		
CAB			0.054* (0.018) [2.859]	
PFB				0.219*** (0.081) [2.705]
α	-55.10 (6.073) [-9.072]	-49.33 (6.198) [-10.97]	-39.60 (8.071) [-4.907]	-68.02 (6.198) [-10.97]
Maximum affordable public debt	36.2	31.5	27.75	34.24
Hansen test	0.586	0.745	0.361	0.527
R^2	49	83	63	68

Source: Autor's calculation

*,**and***indicates test statistic is significant at the 10%, 5% and 1% level.

Standard errors in () and t-statistics in[ ]

First from the Table 3, it can be seen that the coefficients of the public debt variable always have positive values, while those associated to public debt^2 always have negative ones, implying that the functional relationship linking the growth rate of GDP to the size of public debt is one of concave type, admitting the existence of a maximum value. According to the assumption of the oversized threshold of debt, its presence is determined in all regression equations. The results of our paper confirm the findings of other recent empirical studies on the situation of developing countries, where belong in Kosovo, although the maximum public debt ratio we've identified is lower than the one of Greenidge et al. (2012), of about 55% of GDP, or Bilan and Ihnatov 2015 of about 44%. The result also suggests that the legal upper limit of debt of 40% of Gross Domestic Product is correctly set. A possible explanation for this situation lies in the much lower credibility that Kosovo enjoy from potential creditors, investors, etc., which makes the negative effects of a high public debt to occur more rapidly than in the case of developed countries. Thus, the effects on economic growth of lower willingness of foreign creditors and investors to provide capital, due to the higher risk they perceive when public authorities' debt is important, are more unfavorable. Of the statistically significant debt ratios, the positive influence ranges from 3.624 in the equation (3) where the control variable took the current account balance to 5.481 in the equation (4), indicating that the rise in the level of government debt below the threshold of 1 pp. on average causes an increase in GDP per capita by about 3-5%. The height of the positive influence is largely followed by the degree of concurrence of the growth function with respect to the debt, so the function expressed in equation (1) is characterized by the greatest concurrency, with the estimated regression coefficient being -0.083, while the function in the equation (3) has the smallest concave with a rated coefficient of -0.051. Gross investment as a measure of investment in the economy has a statistically significant impact on economic growth in equations (1) - (4), but the intensity of such impact in each of these equations is different, largely due to the estimated effect of other variables included in the equations. Positive statistical significance at a level of 1% was assessed for all control variables. Thus, the increase of 1 pp. would cause GDP per capita growth of about 0.20 per cent in the primary budget balance, about 0.26 per cent in trade, and about 0.05 per cent in the current account balance. The ratio of the estimated debt coefficients was determined to indicate a higher concurrency in the conditions of its more pronounced positive impact, but it is not proportional, and hence there are differences in the height of the break-even debt threshold, which ranges from 27.75% in the equation (3) in which the current account balance is taken as the control variable of up to 36.2% in the equation (1) which is without control variables. This finding suggests that the greater scope with the inclusion of control variables leads to a division of the positive impact on the growth of multiple players and thus a reduction in the breakthrough threshold. In other words, the knowledge of the positive influence of other growth factors significantly reduces the efficiency of borrowing, and this is why it has a weaker effect and the breaking threshold is achieved at a lower level.

5. Conclusion

This study highlights the dual role of public debt in Kosovo's economic growth over the period from 2008 to 2022. While moderate levels of debt have supported economic expansion, excessive debt levels pose risks to sustainable growth. Policymakers should therefore aim for a balanced approach, ensuring that borrowed funds are channeled into productive uses while maintaining fiscal discipline to avoid the pitfalls of excessive indebtedness. Future research could explore the qualitative aspects of public debt management and its long-term implications for Kosovo's economic stability. The assessment of the function of the economic growth in relation to the government debt for the period 2008 - 2022 points to its concordance, which leads to the conclusion that there is a too wide threshold of the debt to which it has a positive and over which has a negative impact on the economic growth. The results confirmed the existence of a „U inverted" relationship between public debt and economic growth, with a maximum debt threshold of about 36.2% to 27.75% of GDP. After this threshold, public debt is expected to negatively affect the economic growth rate, due to higher interest rates, fear of public debt unsustainability and severe budgetary consolidation measures. In the basic model without control variables, the height of the break-even debt threshold is set at 36.2%, while when the controlling current account balance is used, it is 27.75%. In the equations with the investments and primary balance as the control variables for public finances, the break-even debt threshold is set at 36.2%. These results means that the Law on Public Debt of Kosovo allows room to the country to borrow up to 40 percent of GDP However, this threshold was found to be more than twice lower compared to the developed EU coutries. This results is due the fact that Kosovo enjoy lower credibility, higher vulnerability to shocks and depend more on external capital transfers. Furthemore, the empirical results suggest negative relationship between public debt and economic growth controlling for other determinants of growth (trade openness, total investment, current account balance and primary balance). This inverse debt-growth relationship is in line with previous empirical research and confirms the research hypothesis. As a direction for future researchers that would deal with this problem, it would be to examine the impact of other determinants that were not included in our model, such as population growth, inflation, , exchange rate. In addition, future researchers could include a longer or different time period and to include other countries in order to compare what is the impact of public debt on economic growth.

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THE CULTURE AND ORGANIZATIONAL PERFORMANCE: THE CASE OF FAMILY HEALTH UNITS IN THE ALGARVE REGION

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Abstract

Background and Aim: Considering the changes within organizations and their constant needs for internal and external adaptation, the study of organizational culture has been seen as a determining factor for the management of organizational behavior and, at the same time, a foundation in the process of decision making. This study aimed to analyze and compare the profile of the organizational culture of Family Health Units of two different models of organizational management. Based on the Competing Values Framework Model (CVF), the Organizational Culture Profile of the Family Health Units of models A and B was analyzed, in order to identify the type of organizational culture predominant in the units with different performance indices, analyze the discrepancies between the current and ideal culture and the cultural profiles generated by two professional groups. **Methodology**: A quantitative, cross-sectional study of the type described was chosen. For this purpose, two data sources were used, the Organizational Culture Assessment Instrument, translated and adapted to the portuguese language, applied to a total of 99 professionals, doctors and nurses, from various Primary Health Care Units, and the Primary Health Care Identity Card database, where data on performance indices were extracted. **Conclusion**: Certain cultural characteristics such as: dominant characteristics, organizational leadership, employee management, internal cohesion, organizational principle and success criteria must be readjusted in order to meet the challenges and objectives associated with management models organizational structure and, consequently, promote change and the success of the USF.

Keywords: Organizational Culture; Performance; Organizational Change; Organizational Culture Assessment Instrument.
JEL Classification Codes: I10, 130

1. Introduction

With the constant changes in health services, it is essential to maintain the competitiveness, sustainability, effectiveness, market positioning, and positive organizational climate of health organizations. It is crucial to adopt various management models, as there is no single appropriate management model, but rather multiple complementary models that adapt to the needs of organizations (Mateus, 2021). The management of organizational culture has become increasingly pivotal in organizations and can play a fundamental role in the performance of health organizations due to the complexity of challenges posed by health sector reforms. These reforms entail increased responsibilities for managers, the adoption of new competencies by professionals, the achievement of positive and measurable results through contracting practices, client satisfaction, and quality of care (Leone et al., 2014). The reform in Primary Health Care (PHC) has led to organizational changes and the adaptation of professionals to constant changes, with organizational culture being intrinsic to the practices of the organization. In this context, it is important to study the role that organizational culture plays in health organizations. Understanding the significance of organizational culture within an organization is only possible by identifying the predominant and desired types of culture (Lourenço et al., 2017).

In this context, the present study aims to identify the prevailing organizational culture and the ideal one according to the perceptions of respondents, doctors and nurses of Family Health Units (USFs), with two distinct organizational models – Model A and Model B, using the CVF of Cameron and Quinn (2006) as a theoretical reference. To achieve this aim, the following specific objectives were outlined: 1) Identify the type of organizational culture that predominates in Family Health Units with different organizational models; 2) Analyse the discrepancies between the current and preferred culture; 3) Analyse the cultural profiles generated by the different professional groups in the USFs under study – Nurses and Doctors; 4) Identify the cultural characteristics represented by the CVF that best address the challenges and objectives associated with the organizational models of the USFs; 5) Based on the comparative analysis of the cultural profiles identified in the different USFs, formulate the necessary actions to achieve the changes needed to improve management practices. Based on the study's results, it is expected to contribute positively to the development of this field of knowledge, particularly in terms of recognising the values that guide professionals and identifying the need for cultural change in the different organizational models of the USFs.

2. Literature Review

2.1. Culture and Organizational Change

The constant concern for people within their work environment led to the development and interest in the study of organizational culture in the 1980s. The organizational and management models of American companies were showing signs of fatigue and were being surpassed by the highly competitive and efficient Japanese companies (Gomes, 2000; Robbins, 2005). It became crucial to identify what was underlying this threat, with studies revealing that the advantage lay in the existing culture (Gomes, 2000).

Organizational culture serves as a guiding principle for how the organization conducts its business, defining its reason for existence. Thus, when cultural values are established, the means to achieve the organization's mission are also defined. Organizations reflect a combination of cultures; however, in some organizations, a particular cultural typology is dominant. The great challenge for managers is to balance these cultural types so that the organization can achieve its objectives. Therefore, managers should have a broad vision and multidisciplinary knowledge to help employees reach their goals in a participative and personally satisfying organizational climate. Managers must lead in a proactive environment, adopting appropriate management principles and tools, and keeping employees informed about the company's objectives (Mateus, 2021).

Whenever there is a change in the organization, all individuals are confronted with the impact it may have on their attitudes. For change to be meaningful, the organization must be able to achieve the proposed results without negatively affecting individuals. Organizations must consider the commitment of individuals to the culture and proper change management. According to Grant et al. (2005), organizational change is the transformation to which an organization is subjected and can impact its culture. It is a flexible process that shapes and influences attitudes and behaviours.

Organizational change produces a significant socio-cultural impact, promoting appropriate outcomes that increase individual and group satisfaction and, consequently, performance (Rodriguez et al., 2020). According to Kotter (2012), organizational change is a process that can add value to the organization but can also be seen as a threat, potentially generating conflicts and thus becoming a barrier to change itself. Therefore, the greatest challenge of change focuses on the people within the organization and the change in behaviours. Changing behaviours requires a corporate effort, making it a difficult task to achieve (Junior, 2003). Junior (2003) also notes that organizational culture is dynamic and mutable. Its understanding and analysis are essential for better management of organizations, allowing the development of strategies to achieve better results in implementing changes in organizational structures.

In the context of healthcare, Leone et al. (2014) state that managing organizational culture is seen as necessary in the context of healthcare reforms, with evidence suggesting that organizational culture can be a significant factor in the performance of healthcare organizations.

2.2. Performance of Organizations and Culture

Health organizations face constant changes in their environment. In a highly competitive and ever-evolving climate, developing, implementing, and utilizing appropriate performance evaluation and management systems are fundamental challenges for their success. The contribution of human capital to creating competitive advantages within health organizations has sparked interest in practices that motivate, measure, and improve performance. Performance management aims to develop an environment of opportunities and motivation so that employees can grow and contribute to achieving organizational objectives (Zhang & Zhu, 2012). In this context, the performance of organizations, particularly health organizations, has been considered a significant topic in the literature, indicating the extent to which organizational objectives are achieved through indicators that measure efficiency and effectiveness (Zhang & Zhu, 2012). Lebas (1995) states that performance is the potential for the successful implementation of future actions to achieve objectives. Performance evaluation allows the identification of the level at which the organization stands and should be assessed in terms of productivity and flexibility, being adapted to each situation and individual. The success of an organization's culture can result from various factors: committed and motivating leaders, the alignment of organizational culture with the organization's strategy, and the support and collaboration of all stakeholders (employees and leaders) (Gover et al., 2015). In this line of thought, Jacobs et al. (2013) argue that organizational culture can affect an organization's performance through a fusion of values, beliefs, and norms, shaping and adjusting employees' behaviour and interactions, as well as influencing decision-making ability, teamwork, learning capacity, and the setting of strategic objectives that can impact performance. According to Dixon-Woods et al. (2014), health organizations should emphasize developing people-centred cultures rather than task-centred ones, valuing good practices and reinforcing behaviours that enhance the quality of care, user satisfaction, and the well-being of health professionals. A cultural shift in health organizations is essential, and top management must lead this process of positive and constructive change for the future. In this regard, given the current demands for healthcare reform in Portugal and the context of organizational changes arising from the implementation of new management models, understanding the cultural profile of organizations is relevant and useful. Culture can contribute to the effective management of organizational change and, consequently, to the organization's success (Cruz & Ferreira, 2012).

2.3. CVF

The CVF has been widely used and cited in various scientific studies, and this study focuses on this model. Based on the model by Quinn and Rohrbaugh (1981, 1983), Cameron and Quinn (2006) propose a combination of the two axes, resulting in four quadrants, each representing different criteria of organizational effectiveness. The model developed by Cameron and Quinn (2006) allows for the evaluation of organizational culture by identifying four types of culture: Clan Culture, Adhocracy Culture, Hierarchy Culture, and Market Culture. Each type of culture has its main characteristics associated with different values and organizational models according to six dimensions of analysis: Dominant Characteristics; Organizational Leadership; Management of Employees; Organizational Glue/Strategic Emphasis; Organizational Climate/Internal Cohesion; and Criteria of Success. The dimension of dominant characteristics relates to employees' perception of their workplace and, depending on the cultural orientation, it can be a personal and pleasant environment or a structured and rule-bound one. Organizational leadership pertains to how the leader is perceived, whether as a parental or entrepreneurial figure, or alternatively, as organized or competitive. In terms of management of employees, this dimension seeks to understand how employees relate to their work management and whether it focuses on the individual or the group. Organizational glue/strategic emphasis is understood through group cohesion, placing loyalty, rules, and procedures at the extremes. The penultimate dimension, organizational climate/internal cohesion, evaluates the degree of employee commitment and their perspectives on the organization. The last dimension, criteria of success, clarifies whether success results from group development or efficiency and market penetration. The convergence of these six dimensions expresses the cultural values and assumptions of a given organization (Cameron & Quinn, 2006). According to Cameron and Quinn (2006), Clan Culture focuses on the internal organization and flexibility, and is based on familial values. It is characterized by participation, teamwork, knowledge sharing, and group cohesion, where all employees contribute to a common goal. In this type of culture, leaders play roles based on trust and loyalty, the work environment is governed by cohesion, and professional progression is seen not as a source of profit but as a means of valuing and increasing responsibility. These cultural characteristics, when developed, enhance greater employee engagement in professional activities. Adhocracy Culture focuses on the external environment and flexibility. It is based on a dynamic, entrepreneurial, and creative workplace, with objectives centred on growth and resource acquisition, and its effectiveness criterion is market share and business volume. Leaders are seen as innovative and willing to take risks. It is grounded on the principles of innovation and adaptation to change, aimed at creating new products to encourage and maximize creativity, entrepreneurship, and flexibility (Cameron & Quinn, 2006; Parreira, 2015). Hierarchy Culture is internally oriented and characterized by stability, where individuals accept authority, rules, and imposed procedures, and leaders are conservative and organized, expecting employees to perform their activities according to pre-established standards. The management style ensures job security, predictability, and relationship stability, and rewards are allocated according to the position each individual holds in the organization (Cameron & Quinn, 2006; Chung et al., 2012; Parreira, 2015). Market Culture is oriented towards the external environment, performance, control, and results, focusing on productivity and efficiency. Individuals and leaders are competitive and productive, with success resulting from the definition of ambitious goals and measurable objectives. This type of culture should not be defined as a company's orientation towards the market or marketing. The company itself is the market, focusing on the external environment, customers, and partners, and being results-oriented. The organizational climate is characterized by competition and goal achievement, and rewards are given according to the objectives reached (Cameron & Quinn, 2006; Chung et al., 2012; Yesil & Kaya, 2013). The CVF provides a set of tools that guide leaders in changing the organization through mechanisms that enhance performance. Its aim is to create a strong and unique culture to reduce uncertainty, establish social order—doing what is expected, perpetuate values and norms across generations, create collective identity and commitment, and build a vision for the future. The model is useful in organizing and interpreting organizational phenomena, serving as an important tool for diagnosing and changing culture, thereby improving organizational performance. It is also valuable for researchers studying organizational culture (Cameron & Quinn, 2006). The CVF is the theoretical model of reference for this study to analyze the organizational culture profile of Family Health Units (USF) with different organizational models. According to Cameron and Quinn (2006), it is a precise, comprehensive, and practical model involving twelve dimensions with a focus on long-term organizational effectiveness, based on the analysis of the current and desired culture. Its advantages include ease of application within a reasonable time frame and being a validated instrument supported by empirical literature.

3. Methodology

The present study focuses on identifying the current organisational culture and the ideal culture according to the perceptions of the respondents, doctors and nurses of Family Health Units (USF) with different organisational models, with the aim of formulating strategic recommendations for cultural change. A quantitative cross-sectional approach was followed, using a questionnaire survey as the main data collection instrument. A survey-based investigation was chosen due to its low cost, ease of execution, and quick return of the obtained data (Aragão, 2011).

3.1. Sample

The target population of this research study consists of 99 professionals, including nurses and doctors from the Family Health Units (USF). The sample was obtained through a non-probabilistic and intentional sampling process, meaning that elements were deliberately selected by the researcher. This indicates that the selection of study participants was not based on 'representativeness' but on a set of specific purposes (Bryman, 2014). With the aim of conducting a descriptive analysis of the cultural profile of USFs with two distinct organisational models based on the perceptions of doctors and nurses, a deliberate selection of USFs and professionals to be involved in the study was made. Additionally, the criterion of choosing the geographical areas where the USFs are located was considered. Besides these criteria, accessibility and proximity of the analysis units were also taken into account. From this sampling process, 99 professionals, including doctors and nurses, were involved in the study, with 15 from USF R., 16 from USF F., 13 from USF Al., 13 from USF O., 16 from USF G., 14 from USF M., and 12 from USF N (data obtained from the BI-CSP portal in 2021). After administering the questionnaires, a response rate of 47% was obtained from USF R., 81% from USF F., 38% from USF Al., 46% from USF O., 31% from USF G., 93% from USF M., and 67% from USF N, resulting in an overall response rate of 58%, which corresponded to a total of 57 responses (as shown in Table 1). Thus, the study sample consisted of 57 professionals from the Family Health Units. A população alvo do presente estudo de investigação corresponde a 99 profissionais, enfermeiros e médicos das USF.

Table 1 - Response Rate of the USFs

Family Health Units								
	USF R	**USF F**	**USF Al**	**USF O**	**USF G**	**USF M**	**USF B**	**Total**
Questionnaires Delivered	15	16	13	13	16	14	12	99
Questionnaires Received	7	13	5	6	5	13	8	57
Answer Rate (%)	47%	81%	38%	46%	31%	93%	67%	**58%**

Source: Own elaboration

3.2. Instruments and Procedures

In order to identify the predominant type of organizational culture in units with different performance indices, analyze the discrepancies between the current and ideal culture and the cultural profiles generated by two professional groups, a questionnaire survey was used applied to doctors and nurses from the target Family Health Units (USF) and the Primary Health Care Identity Card (BI-CSP) database available on the BI-CSP Portal. For this purpose, the present study was based on the Organizational Culture Assessment Instrument (OCAI) developed by Kim S. Cameron and Robert E. Quinn (1999). Thus, an OCAI questionnaire was used, translated, validated and used in studies carried out in the health field by the author Sofia Cruz in 2013. The instrument consists of forty-eight closed-ended questions, with a Likert-type agreement scale and five response options (1 corresponds to strongly disagree, 2 to disagree, 3 to neither agree nor disagree, 4 to agree and 5 to strongly agree), whose coding of responses was done so that higher values meant greater agreement. Respondents were asked to respond to instrument I regarding the current organizational culture in their USF and instrument II, with the same questions but referring to the organizational culture considered ideal.

This questionnaire survey was pre-tested and applied to ten nurses from the Continuing Care Unit (UCC), from January to February 2021, in order to obtain suggestions for improvement regarding the presentation of the questionnaire, response time and interpretation of questions. After validating the pre-test, data collection proceeded, obtaining a total of 57 completed questionnaires. As for the reliability of the instrument, it should be noted that the results of the present study are between 0.8 and 0.9. The minimum value of this study is 0.89 and the maximum value is 0.91, thus confirming good internal consistency. The authors Pestana & Gageiro (2014) point out that Cronbach's alpha is one of the most used measures for verifying the internal consistency of a group of variables and varies between 0 and 1, with internal consistency considered inadmissible with alpha < 0.6, weak between 0.6 and 0.7, reasonable between 0.7 and 0.8, good between 0.8 and 0.9 and very good > 0.9. The secondary data used in this work was extracted from the BI-CSP Database. The General Performance Index (IDG) data for the studied USFs are public and available on the BI-CSP online platform (Ministry of Health, 2021). The BI-CSP provides information on the weighting of each indicator, in an attempt to assess its relative importance, being provided by the Central Administration of the Health System (ACSS).

In the present study, the option was to use the results for the month of October 2021, so they coincide with the period of data collection through the questionnaire surveys. To achieve the objectives of the study, descriptive statistical analysis was used, through SPSS Statistics 26 Software. With the results obtained, a comparison was made of the types of current and ideal organizational culture, allowing the identification of the cultural characteristics represented in the CVF that best meet the challenges and objectives associated with the organizational models of the USFs.

Ethical issues were always present and respected from the beginning of the study process, with the elaboration of a formal authorization request to the Health Ethics Commission (CES) of the Regional Health Administration (ARS). The favorable opinion issued by the entity triggered the application of the questionnaires and informed consent, respecting the voluntary and confidential participation of respondents in the target USFs.

4. Results

4.1. Socio-Demographic Characterization of USF Professionals

The present study focused on USF model A and USF model B in the intervention area, with a total of seven USFs. According to data from the BI-CSP portal in 2021, the population of these USFs consists of a total of 99 nurses and doctors. Regarding the type of unit, 40.4% of respondents work in a USF-A and 59.6% work in a USF-B. 22.8% belong to USF F and an equal percentage to USF M (22.8%), 14.0% work at USF B, 12.3% at USF R, 10.5% at USF O, 8.8% of professionals work at USF G, and 8.8% at USF Al. Regarding gender, the sample is not balanced, with a significantly higher representation of females (75.4%) compared to males (24.6%). Concerning the professional category, 36.8% of respondents are general and family medicine doctors, 5.3% are medical residents, 57.9% are nurses, and 28.1% of nurses are specialists. In terms of age, 29.8% of participants are between 30 and 39 years old, 35.1% are between 40 and 49, and 35.1% are over 50 years old.

4.2. Characterization of the USF Performance Index

Regarding the IDG of each USF, USF O has the best IDG at 66.4%, followed by USF R at 64.9%, USF M at 62.4%, and USF B with an IDG of 59.2%, these being USFs with a type B organizational model. The model A USFs have a lower IDG than model B, with USF F having the best IDG among model A USFs (50.8%), followed by USF G with 45.0%, and USF Al with 33.3%.

4.3. Organizational Culture Profile by Unit Type

To describe the organizational culture profile of the target USFs, the perceptions of participants were analyzed, considering the values based on the relative weight of the dimensions of each cultural typology, as shown in Table 2. Regarding the Dominant Characteristics dimension, the Hierarchical and Market Cultures are predominant in model A and model B USFs, respectively. Model A USF professionals perceive the current dominant characteristics as being of the Hierarchical Culture type (43.5%), while professionals from model B USFs mostly identify with the Market Culture (70.5%). When analyzing the dominant characteristics that professionals would like to see developed in the USFs, it was found that model A USF professionals prefer to see dominant characteristics of the Market Culture type (82.6%) implemented, while those from model B USFs prefer to maintain the current characteristics - Market Culture (85.3%). Concerning the current Organizational Leadership dimension, respondents from model A USFs consider that the organizational leader has characteristics of all culture types: Clan Culture (47.8%), Adhocracy Culture (47.8%), Market Culture (47.8%), and Hierarchical Culture (47.8%). In model B USFs, they identify the leader as having cultural characteristics of the Market Culture type (70.5%). In terms of perceptions of the desired leader, it was found that model A USFs preferred a leader with characteristics of two culture types, Market Culture (74.0%) and Hierarchical Culture (74.0%), while model B USFs chose a leader with characteristics of the Hierarchical Culture type (97.0%). Regarding the current Management of Employees style dimension, it can be seen that in both model A and model B USFs, the existing management style is of the Clan Culture type (39.1% in USF-A and 67.6% in USF-B). When analyzing what they would like to see implemented, the two models differ, with model A USFs preferring to maintain the same Clan culture type management (82.6%), but model B USFs preferring the Hierarchical Culture type (91.2%). Concerning the Internal Cohesion dimension of the health units, different positions can be observed. Respondents consider that the internal cohesion of model A USFs is of the Hierarchical Culture type (65.2%), while model B USFs have an internal organizational cohesion of the Market Culture (67.7%) and Hierarchical Culture (67.7%) types. When asked about the ideal internal cohesion, professionals would like model A USFs to be of the Clan Culture (87%) and Market Culture (87%) types. Model B USFs intend to maintain the Hierarchical Culture (94.2%). Regarding the Organizational Principle dimension, it was found that in both model A and model B USFs, an organizational principle of the Hierarchical Culture type is lived (65.2% model A USF and 70.6% model B USF). As for what they would like to see in their unit, model A USFs would prefer the Adhocracy Culture type (78.3%) in this dimension, while model B USFs consider maintaining the same organizational principle they currently have, Hierarchical Culture (97.1%). In the Success Criteria dimension, it appears that in model A USFs, the current success criteria are considered to be of the Clan Culture type (52.2%), while in model B USFs, the success criteria are integrated into the Clan Culture type (64.7%) and the Hierarchical Culture (64.7%). Concerning the ideal success criteria considered by the units, it appears that both model A and model B USFs would like to maintain criteria of the Clan Culture type (82.6% USF-A and 97.1% USF-B).

Table 2 - Organizational Culture Profile by Unit Type

		USF Model A		USF Model B	
		Current	Ideal	Current	Ideal
Dimensions of the Organizational Culture	**Dominant Features**	Hirarchical (43,5%)	Market (82,6%)	Market (70,5%)	Market (85,3%)
	Organizational Leadership	Clan (47,8%) Adhocrática (47,8%), Market (47,8%) Hirarchical (47,8%)	Market (74,0%) Hirarchical (74,0%)	Market (70,5%)	Hirarchical (97,0%).
	Employee management	Clan (39,1%)	Clan (82,6%)	Clan (67,6%)	Hirarchical (91,2%)
	Internal Cohesion	Hirarchical (65,2%)	Clan (87,0%) Market (87,0%)	Market (67,7%) Hirarchical (67,7%)	Hirarchical (94,2%)
	Organizational Principle	Hirarchical (65,2%)	Adhocracy (78,3%)	Hirarchical (70,6%)	Hirarchical (97,1%)
	Success Criteria	Clan (52,2%)	Clan (82,6%)	Clan (64,7%) Hirarchical (64,7%)	Clan (97,1%)

Source: Own elaboration

4.4. Organizational Culture Profile by Professional Category

Based on the information collected from the OCAI questionnaires applied to USF model A and USF model B, the perceptions of nurses and doctors regarding the current and ideal culture were compared, as shown in Table 3.

In the dimension "Dominant Characteristics" perceived by nurses and doctors, it was found that nurses perceive the current dominant characteristics as being of the Market Culture type (66.7%), and doctors consider that the current dominant characteristics are of the Hierarchical Culture type (54.1%). When analyzing the type of dominant characteristics, they would like to see implemented, it was found that nurses want dominant characteristics of the Market Culture type (84.8%), and doctors want the Adhocracy Culture type (87.3%).

Regarding the "Organizational Leadership dimension", nurses consider that the organizational leader has characteristics of the Market Culture (69.7%). Doctors identify the leader as having cultural characteristics of the Market Culture type (50.0%) and Adhocracy Culture type (50.0%). When addressing perceptions of the desired leader, it was found that both nurses and doctors prefer a leader with characteristics of the Hierarchical Culture type (84.9% nurses and 91.6% doctors).

In the current "Management of Employees dimension", it can be seen that both nurses and doctors consider that the existing type of management is of the Clan Culture type (60.5% nurses and 50.0% doctors). When analyzing what they would like to see implemented, the two professional profiles differ. Nurses would like management to be of the Hierarchical Culture type (84.9%), but also with Clan characteristics (84.8%), while doctors would like to see the following types of management implemented: Clan Culture (87.5%) and Adhocracy Culture (87.5%).

Regarding the "Internal Cohesion dimension" of the professional profiles, similar positions can be seen. Both nurses and doctors consider that the current internal cohesion is of the Hierarchical Culture type (63.7% nurses and 70.9% doctors). When asked about the ideal internal cohesion, nurses would like internal cohesion to maintain characteristics of the Hierarchical Culture type (87.9), while doctors would prefer the Clan Culture type (91.6%) and Market Culture type (91.6%).

In the “Organizational Principles dimension” experienced by nurses and doctors, it was found that both nurses and doctors consider the organizational principle to be of the Hierarchical Culture type (63.6% nurses and 75.0% doctors). As for what they would like to have in their unit, in this dimension, nurses would like to maintain the cultural characteristics of the Hierarchical type (87.9%), and doctors would like the Clan Culture type (91.7%).
In the “Success Criteria dimension”, for nurses, the current success criteria are considered to be of the Clan Culture type (63.7%), and for doctors, the success criteria are integrated into the Hierarchical Culture type (62.5%). Regarding the ideal success criteria, it is found that both nurses and doctors would like to have success criteria of the Clan Culture type (90.9% nurses and 91.7% doctors).

Table 3 - Organizational Culture Profile by Professional Category

		Nurses		Doctors	
		Current	Ideal	Current	Ideal
Dimensions of the Organizational Culture	**Dominant Features**	Market (66,7%)	Market (84,8%)	Hirarchical (54,1%)	Adhocracy (87,3%)
	Organizational Leadership	Market (69,7%),	Hirarchical (84,9%)	Adhocracy (50,0%) Market (50,0%)	Hirarchical (91,6%).
	Employee management	Clan (60,5%)	Hirarchical (84,9%) Clan (84,8%)	Clan (50,0%)	Clan (87,5%) Adhocracy (87,5%).
	Internal Cohesion	Hirarchical (63,7%)	Hirarchical (87,9%)	Hirarchical (70,9%)	Clan (91,6%) Market (91,6%)
	Organizational Principle	Hirarchical (63,6%)	Hirarchical (87,9%)	Hirarchical (75,0%)	Clan (91,7%)
	Success Criteria	Clan (63,7%)	Clan (90,9%)	Hirarchical (62,5%)	Clan (91,7%)

Source: Own elaboration

5. Discussion of Results

After a detailed analysis of the verified data in the previous graphs and with the aim of addressing the study's objectives, it becomes essential to interpret the results based on the CVF. Regarding the perception of the current dominant characteristics in the different organizational typologies, the Hierarchical type culture is evident in Model A Family Health Units (FHUs), which means they are highly structured units where people are guided by norms and procedures (Cruz & Ferreira, 2012). As for the Model B FHUs, what characterizes them is competition and emphasis on performance, the predominant characteristics of the Market culture type. In this cultural typology, the definition of goals is essential, and compensatory rewards are allocated according to the number of objectives achieved (Chung et al., 2012). This aligns with the organizational model of these FHUs, which present greater organizational evolution and a more demanding level of contracting, performance, and institutional incentives. Financial incentives are added to the base salary guaranteed by the State to professionals of Model B FHUs if they meet the objectives they set out to achieve; if not, they do not receive them (ACSS, 2020). Comparing the current perceptions with those they would like to see implemented, it appears that both FHUs consider the dominant characteristics advocated by the Market typology to be ideal. It is understood that Model B FHUs intend to maintain their identity through what characterizes them, but they also wish to change in certain characteristics, namely in the dimension of organizational leadership and management style. However, Model A FHUs desire characteristics different from their current ones, namely in dominant characteristics, internal cohesion, and organizational principle. It is presumed that this is due to the desire of these FHUs to evolve to the Model B organizational model (ACSS, 2020). Leadership plays a crucial role in directing and motivating employees, by integrating the needs of individuals with the goals of the organization (Mateus, 2021). Regarding the perception of the organizational leader, it appears that model A USFs do not have a leader with unique characteristics, but rather a multiplicity of characteristics that aligns with the four types of organizational culture: Clan, Adhocracy, Market, and Hierarchy. The results show that the role of the leader in model A USFs does not seem to have a strong identity at the cultural level, as they possess traits from different cultural typologies. Although the organic structure of typologies A and B is similar, the perception of organizational leadership is distinct in the two typologies. Model A USFs aspire to have a productive and competitive leader, of the Market Culture type, and concomitantly, an efficient leader with organizational and coordination abilities, of the Hierarchical Culture type. But they also desire a leader who is seen as a parental figure, a mentor and facilitator of the Clan Culture type (Monteiro & Valente, 2007; Cruz & Ferreira, 2012). In terms of employee management style, it is clearly visible that both model A USFs and model B USFs consider that the current management style is characterized by teamwork, consensus and participation – the Clan culture type. Model A USFs maintain the same choice for their ideal, while model B USFs intend to have a management style focused on security, employment, compliance, predictability and stability of relationships, characteristic of a Hierarchical management type (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012). With regard to internal cohesion, some incongruities are observed in the responses of respondents from model A USFs and model B USFs. In model A USFs, organizational cohesion is maintained through policies, formal rules and procedures – the Hierarchical culture type. However, they aspire to a cohesion that values loyalty and mutual trust, with a high degree of commitment to the unit – the Clan culture type, but at the same time valuing performance and achievement of objectives, reinforcing competitiveness and success – the Market culture type. Model B USFs, on the other hand, consider that cohesion has characteristics of the Market culture type, valuing performance and results, but with formal rules, policies and stability – the Hierarchical culture type, and it is these latter characteristics that they aspire to maintain in the future (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012). The organizational principle in force in both typologies is exactly the same. Both Family Health Unit (USF) model A and model B consider that the organizational principle/strategic emphasis present is of the Hierarchical type, emphasizing formal principles, rules and stability, maintaining effectiveness, efficiency and control. As for what they perceive for the future, model B USFs would like to maintain the same cultural characteristics, however model A USFs idealize highlighting the acquisition of new resources and challenges, experiences and opportunities – Adhocracy culture type (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012).

Regarding the current success criteria, model A USFs consider clan-type performances, focusing on people, human resource development and teamwork, and idealize maintaining this in the future. In addition to considering having success criteria like model A USFs, model B USFs also think that success is defined based on efficiency, with cost planning and control being crucial, essential characteristics of the Hierarchical type. However, they would like to maintain success criteria of the Clan type only (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012). Both USFs are directed towards stability, control and centralization. However, Cruz and Ferreira (2012) concluded that in the USF model the clan culture stands out and the hierarchical culture is the least prominent, which contradicts the results of this study. In the present study, in model A and B USFs, there is a predominance of typologies oriented towards control, stability and centralization, Hierarchical Culture and Market Culture types, with the exception of the following dimensions: organizational leadership, employee management and success criteria. When analyzing the results of cultural profiles by professional category, it appears that the perception of the dominant characteristics in force falls on the Market culture type perceived by nurses. They consider being competitive and working towards very result-oriented objectives, and this is the perspective they idealize maintaining in the future. As for doctors, they currently perceive that the units have characteristics of the Hierarchical culture type, are highly structured and people are guided by norms and procedures. However, they consider the entrepreneurial, dynamic and creative spirit, where risk is assumed - Adhocracy culture type - as ideal (Monteiro & Valente, 2007; Cruz & Ferreira, 2012). On the other hand, Sasaki et al., (2017) in their study found that doctors consider the Clan and Hierarchical cultures to be dominant. Nurses strongly identify with the Hierarchical culture.

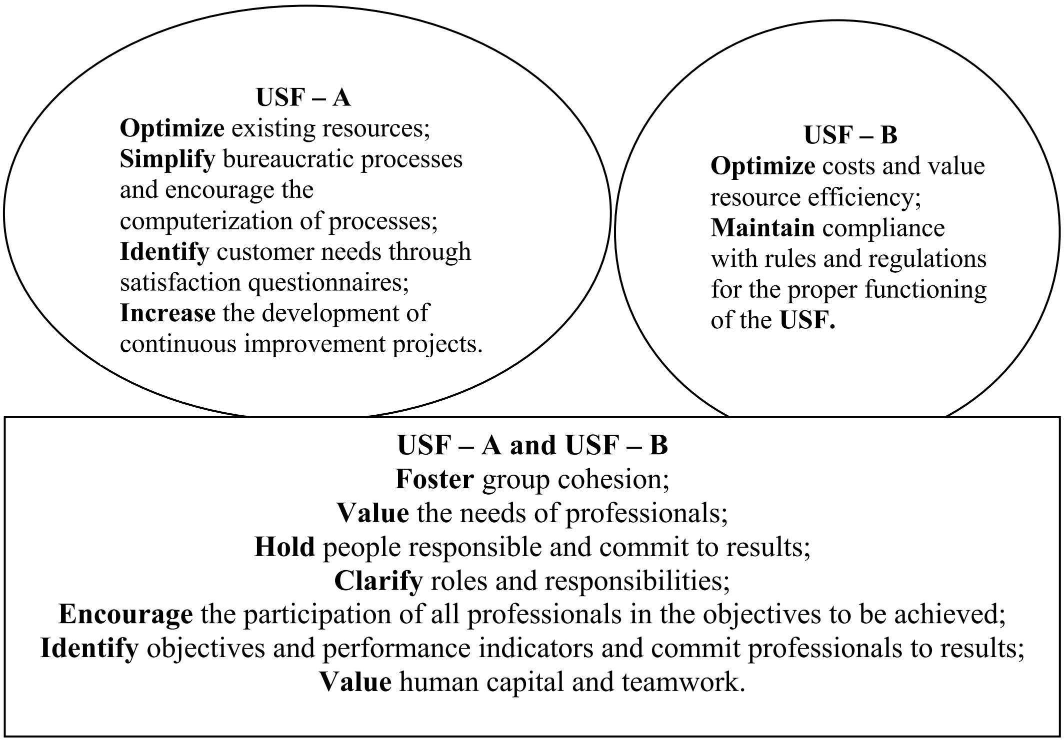
Regarding the perception of the organizational leader, it appears that nurses and doctors consider the leader to have Market-type characteristics, where leadership is oriented towards an objective, competitive, and results-driven approach. Doctors also add to organizational leadership attributes related to adhocracy, where leadership is oriented towards entrepreneurship and innovation. On the other hand, both professional profiles agree that the ideal leadership could be of the Hierarchical type (Monteiro & Valente, 2007; Cruz & Ferreira, 2012). With regard to the management style, it is clear that both professional profiles consider that the type of management is characterized by teamwork, consensus and participation – the Clan type. When assessing the ideal management style, it is noted that doctors maintain their initial position, adding to management attributes of individual initiative, innovation, freedom and originality, while nurses would like to see hierarchical management assumptions focused on job security, compliance, predictability and stability of relationships implemented (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012).

Regarding the internal cohesion dimension, what is considered current by nurses and doctors is internal cohesion with hierarchical characteristics, valuing formal rules, policies and detailed procedures. These particularities wish to be maintained in the future by nurses, while doctors aspire for cohesion based on loyalty, cohesion and teamwork (Clan culture), focused on production and results (Market culture) (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012). The current organizational principle/strategic emphasis is shared by nurses and doctors, who consider that in their units emphasis is placed on stability, with effectiveness, efficiency and control being important, assumptions of the Hierarchical culture. However, their responses differ in what they consider ideal. Nurses maintain the same position, the Hierarchical culture, but doctors would like importance to be given to personal valorization, based on trust, openness and participation, qualities inherent to the Clan culture. (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012). Regarding the current success criteria, we have nurses agreeing that success is defined based on human resource development and teamwork and commitment (Clan culture) and that is what they intend to maintain in the future. Doctors consider success based on efficiency, with planning and cost control being crucial, essential characteristics of the Hierarchical type, but they would like to put into practice Clan-type success criteria (Cameron & Quinn, 2006; Monteiro & Valente, 2007; Cruz & Ferreira, 2012).

5.1. Necessary Recommendations to Achieve Cultural Change

Within the scope of this study, it was not possible to analyze the reasons that led to the discrepancies between the current and ideal culture, however it is verified that the professionals of the USFs desire changes in the organizational culture in most dimensions of the OVC (Cameron & Quinn, 2006). The USFs reflect and desire a combination of cultures. The great challenge for those who manage is to balance the cultural types, so that each of the USFs achieves its objectives. Thus, managers should have a generalist vision and multidisciplinary knowledge so that professionals can achieve their goals in a participatory and personally satisfying organizational climate. Managers must exercise leadership in a proactive environment, adopting appropriate management principles and instruments, keeping people informed about the objectives to achieve the desired results and improve performance (Mateus, 2021). In order to balance the different cultural forces desired by all stakeholders, the following strategic actions are suggested to the studied USFs (according to Figure 1), based on the desired cultural profiles.

Figure 1 - Strategic Actions



6. Conclusions

The present study on organizational culture aimed to understand the profile of the organizational culture of the Family Health Units (USF) with different organizational models and, as such, it was important to identify and analyze their cultural profiles and formulate strategic actions based on the comparative analysis of the cultural profiles identified in the different USFs studied, with a view to achieving the necessary changes for improving management practices. In this sense, it was possible to reach the following conclusions:

- The CVF and the Organizational Culture Assessment Instrument (OCAI) proved to be adequate and consistent for identifying the type of organizational culture that predominates in the USFs with different organizational models, for analyzing the discrepancies between the current and preferred culture, analyzing the cultural profiles generated by the different professional groups of the target USFs, and for identifying the cultural characteristics represented by the model that best meets the challenges and objectives of the USFs;
- The proposed objectives were met, making it possible to characterize the predominant organizational culture in Model A and Model B USFs. The study results revealed that the professionals of Model A USFs identify the Hierarchical culture as predominant and the professionals of Model B USFs perceive the Market culture as dominant. The study also showed differences in perceptions between the two professional groups, with nurses identifying the Market culture and doctors considering the Hierarchical culture as the predominant ones. However, the discrepancies between the current (existing) culture and the preferred (ideal) culture indicated that the professionals, despite wishing to maintain these cultures in certain dimensions, prefer to work in an organization with characteristics of the four cultural typologies;

- Certain cultural characteristics should be readjusted to enable change within the organization and foster the success of the USFs;
- To achieve change, the USFs want a combination of the four cultural types that should be aligned with the professionals' expectations and the environment in which the organization operates (Cameron and Quinn, 2006). The four desired cultural typologies are based on stability, control and flexibility, evidencing teamwork with a commitment to efficiency and achieving results and organizational goals.
- For change within the USFs, it is necessary to develop strategies to balance the various cultural typologies, to drive change and improve USF performance, through a participative organizational climate and personal satisfaction, with organized leadership, adopting appropriate management tools, keeping people informed and involved to achieve the desired culture and improve performance.

6.1. Study Limitations

The study limitations include: i) The use of Likert-type scales may have influenced the respondents' answers. In this regard, it is recommended to use ipsative scales to assess organizational culture. Ipsative scales allow respondents to provide more accurate responses by assigning higher scores to each item according to its importance; ii) Organizational culture is characterized only from the perspective of nurses and doctors, therefore, future research could consider technical assistants; iii) The fact that it is a cross-sectional study, which does not allow establishing causal relationships since it does not prove the existence of a temporal sequence.

6.2. Suggestions and Knowledge Transfer

It is suggested to conduct studies that seek to understand and relate the influence of other factors, such as leadership, that affect the performance of the units, as well as to analyze the existence of correlations between the variables of organizational culture and performance. In addition, the study could be expanded to other units of Aces Central or other Aces of the National Health Service. Finally, it is considered that the present research work contributed positively to the development of the topic of Organizational Culture in the context of the performance of Public Health Units and, mainly, to raise awareness among managers and/or future managers for reflection and for the importance of knowing the values that guide professionals and identifying needs for cultural changes in the different organizational models of Family Health Units.

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SOCIAL PROTECTION IN GREECE AND SUSTAINABLE DEVELOPMENT LEAVING NO ONE BEHIND

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Abstract

Sustainable development leaving no one behind and social protection in line with its institutional framework are crucial for the well-being of local communities. The literature shows, however, that a general and growing recognition of sustainable development alone does not provide equal opportunities to different segments of society. Our research found that in Greece regions and local communities clearly have an important role to play in the development of new social protection policies for sustainable and inclusive growth. The key challenges for defining inclusive and sustainable development for social protection policies in Greece are highlighted. Reforms are proposed for inclusive and sustainable development policies that are likely to contribute to regional and local social protection. The conclusions identify key reform principles that will promote a holistic social protection policy in the context of local sustainable development leaving no one behind.

Keywords: Social Protection, Inclusive Sustainable Development, Sustainable Regions, Sustainable Cities,

JEL Classification Codes: R10, Q01, Q50, G10, G30, H10, H30, H70

1. Introduction

Social exclusion or the perception of exclusion can cause certain groups of citizens to be excluded from participation in the market, social services and employment, at the cost of both citizens themselves and the economy. According to empirical studies and the World Bank's operational actions, social mobility and social inclusion should focus on increasing opportunities for all marginalized people to participate fully in markets, services, technologies and society as equal citizens. The persistent social discrimination and social exclusion of the most marginalised citizens in a society have a high cost to both people and the economy. Globally, the loss of wealth in human capital due to gender inequality is estimated at $160.2 trillion, and social protection programs prevent around 150 million people from absolute poverty (World Bank, 2017, 2021). Mensah and Casadevall's literature review on Sustainable Development analyzes and argues that the entire core issue of sustainable development around transnational and intergenetic equality is essentially based on three-dimensional distinct but interconnected pillars, namely the environment, economy and society. Decision makers must constantly take into account relationships, complementarities and trade-offs between these pillars and ensure responsible human behaviour and action at international, national, Community and individual level in order to maintain and promote the relevance of human development in the principles of sustainable development. However, they point out that more needs to be done by key actors, particularly the United Nations (UN), governments, the private sector and civil society organisations, in terms of policies, education and regulations, on the management of social, economic and environmental resources to ensure that everyone is towards sustainable development consciously (Mensah and Casadevall, 2019).

How the three dimensions relate to social exclusion can be illustrated by the following example. If a person in a particular area does not have a job (economic), he is likely to be poor and excluded from voting (social). If this happens, they are motivated to get involved in situations that destroy the environment, such as cutting down trees to light a fire to cook or keep warm (environmental). As his actions blend with those of others in his community and start cutting down trees, deforestation will cause a shortage of key minerals in the soil (environmental). If these elements are lost, residents will be deprived of the nutrients necessary for good brain function in order to learn new technologies, for example, to operate a computer, and this will reduce productivity (economic). If productivity declines, the poor will remain poor or become poorer and the cycle will continue (Mensah and Casadevall, 2019).

At the heart of the Global but European and National institutional and operational policy for Sustainable Development is now embodied the commitment of "inclusion", "for all – inclusive" or "leaving no one behind" or "trying to reach first those who are most behind". Deepening the definition of the term Inclusive Growth in the academic literature review, we also find that although most scientific articles talk about "Inclusive Growth [1] " and not "Inclusive Development[2]", most publications use both terms interchangeably (Gupta et al., 2015). In Klasen's view, "inclusive growth must take into account the full range of ways in which people are excluded from participating in and sharing the benefits of growth and development" (Klasen, 2010). Gupta and her partners add the environmental dimension to the concept of inclusive development"development involving marginalized people, sectors and countries in social, political and economic processes for increased human well-being, social and environmental sustainability and empowerment" (Gupta et al., 2015). Gupta and Vegelin also state that "the achievement of inclusive and sustainable development has been hampered by trade-offs in favour of economic growth, social well-being and environmental sustainability, which may also affect the Sustainable Development Goals (SDGs) adopted by UN member states in 2015. On the contrary, the concept of inclusive growth should place more emphasis on the social and environmental political dimensions of development" (Gupta and Vegelin, 2016). What does the political commitment to "leave no one behind" mean in practice? According to the OECD, it acknowledges that "there is no single answer to the question" (OECD, 2018). The

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operational action and institutional definition of the United Nations (UNDP) in its 2017 report on the "Strategy for Inclusive Sustainable Development" is broader and includes the outcomes and processes of inclusive development in the context of the theory of Stiglinz, Sen, and Fitoussi (2009). It [3] states that understanding inclusive growth must entail "the process of broadening people's choices by expanding their potential and opportunities in sustainable ways from an economic, social and environmental perspective" (UNDP, 2017). For the World Bank, inclusive growth and social protection "are vital and contribute to achieving the World Bank's dual goals of ending extreme poverty and enhancing shared prosperity." For the World Bank in each country, certain groups face obstacles that prevent them from participating fully in political, economic and social life[4]. "Without addressing the root causes of social exclusion and discrimination, it will be difficult to support inclusive sustainable growth and rapid poverty reduction" (World Bank, 2009, 2012, 2021). The IMF's 2017 study of G20 leader's states that "domestic policies are key to translating strong, inclusive growth into prosperity for all. Countries need to adopt policy frameworks that maintain sustainable growth with macroeconomic stability." The study urges leaders "Promoting inclusive growth requires measures to boost productivity and at the same time you need to make sure that higher growth does not come at the expense of social equity" (IMF-G20, 2017).

In the European Union, from the Lisbon Strategy, to the Europe 2020 Strategy, integrated guidelines have been produced to better specialise and achieve the objectives of the Inclusive Growth Strategy. Since 2016, the European Commission's reflection paper "Next steps for a sustainable European future: European action for sustainability" continues the Europe 2020 strategy and the European Council welcomed the European Commission's intention to publish in 2019 the reflection "Towards a Sustainable Europe by 2030". More specifically, three (3) Key Priorities of the Europe 2020 Strategy were identified, which include "Smart Growth", "Sustainable Growth" and "Inclusive Growth" and are now incorporated into the 2030 Sustainable Development Strategy and the Sustainable Development Goals (SDGs). In addition, the 20 principles of the European Pillar of Social Rights it is the beacon guiding us towards a strong social Europe that is fair, inclusive and full of opportunities. The European Commission has already presented several actions based on each principle of the Pillar, with additional actions planned to further strengthen social rights in the EU.

Despite the adversity, Greece remains fully committed to the 2030 Agenda. The 17 Goals are embedded in all its major binding political plans. Solid strategies are being launched, policies are being developed and institutional reforms are being designed to accelerate the full implementation of the RDPs and better recover them from the COVID-19 pandemic. The formulation of broader social protection policies, information. Awareness raising and education will be critical parameters in the success of the project, in order to create an overall social protection dynamic for the value of the goals of Greek Sustainable Inclusive Development. In the UN Opening Message welcoming our country to the club of countries committed to a national action plan for the adoption of the Global Sustainable Development Goals, Greece is determined to implement the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals, as it provides an ambitious and transformative framework for a new, a fair and sustainable development path that ensures a balance between economic growth, social cohesion and justice, as well as the protection of the environment and the unique ecological wealth of the country." Greece, in its report on the Sustainable Development Goals submitted and approved by UN bodies in 2018, states that "The unprecedented economic crisis has forced it to focus on economic policies that often create divergences instead of contributing to the achievement of sustainable development. Thus, the country had to balance the situation with the adoption of measures for fair development, while improving the business environment and encouraging investment, promoting the social and solidarity economy, supporting human capital, research and innovation, and enhancing sustainability in sectors such as agriculture, tourism and infrastructure. In the 2022 revised report, you indicate "Systemic challenges that have been escalating for decades are not favored by crises. Of particular concern are weak demographic rates, higher female and youth unemployment and a low track record on gender equality. In addition, the pandemic has led to long-overdue reforms in the health sector, justice and waste management systems have exceeded their operating limits causing social, economic and environmental complications... Several long-term challenges are showing significant progress. Among others, poverty, unemployment, poor housing, sanitation, income inequalities, early school leaving, women's participation in senior management, share of renewables in energy consumption, greenhouse gas emissions, road deaths and homicides... Attaching particular importance to the protection and support of the disadvantaged, the government in the last two years has adopted a number of National Action Plans (NAPs) and Strategies that incorporate the principle of leaving no one behind in public policies and reform measures. For the first time, NAPs on youth, children's rights, protection of children from sexual abuse, rights of persons with disabilities and those of LGTBQI+ were launched, together with updated strategies on gender equality and Roma."

2. The current situation in Greece

The global scientific and institutional community, the European Union and Greece at national, regional and local level may have developed and implemented social protection policies in the context of inclusive and sustainable development, but many debriefing studies of these policies show that insufficient results have been achieved.

The Hellenic Statistical Authority (ELSTAT) announces data on social protection receipts and expenditure for the year 2020, within the framework of the European System of Integrated Social Protection Statistics (ESSPROS). In total, social protection expenditure for the year 2020 was EUR 48 119 million. euro, corresponding to an increase of 4.3% compared to 2019. The largest share of expenditure concerns "old-age" benefits, which for the year 2020 accounted for 53.4% of the total social protection expenditure and showed an increase of 3.7% compared to 2019. In descending order, expenditure on "sickness/healthcare" benefits amounting to 21.2% of total social protection, shows an increase of 4.4% compared to 2019. In 2020, social protection contributions were €50,951 million. euro, showing an increase of 1.7%. compared to 2019. For 2020, it appears that 45.6% of total contributions came from social contributions (employers and employees), while 49.0% came from General Government contributions. For the year 2020, the total number of pension beneficiaries receiving main pension benefits without double counting was 2,472,758 persons compared to 2,506,608 in 2019, showing a decrease of 1,4%.

Based on the data of the Household Income and Living Conditions Survey (SILC) in 2021, the population at risk of poverty or social exclusion, according to the revised definition, amounts to 28.3% of the country's population (2.971.200 persons), presenting an increase compared to 2020 by 0.9 percentage points. The increase in the at-risk-of-poverty or social exclusion rate is due to an increase in the proportion of the population at low intensity labour (from 11,8% in 2020 to 13,6% in 2021) and the population at risk of poverty from 17,7% in 2020 to 19,6% in 2021. The risk of poverty or social exclusion is highest for children aged 17 and under (32.0%). The share of the population aged 18-64 living in households with low work intensity is estimated at 13.6% of the total population in this age group, an increase of 1.8 percentage points compared to 2020. The rate for men is 12.5% and for women 14.6%. The percentage of the population deprived of at least 7 goods out of a list of 13 goods and services is 13.9%, while the percentage of the population deprived of at least 4 goods out of a list of 9 goods and services is 14.8%. The S80/S20 ratio in 2021, with income reference period 2020, increased by 0.6 percentage points (compared to the previous corresponding period of 2019) and stands at 5.8. That is, the income share of the richest 20% of the population is 5.8 times greater than the income share of the poorest 20% of the population. Economic inequality among people aged 65 and over increased by 0.2 percentage points to 4.2 compared to 4.0 last year. Similarly, economic inequality among people under 65 increased by 0.7 percentage points to 6.4 compared to 5.7 last year. The Gini coefficient was estimated in 2021 at 32.4%, an increase of 1.0 percentage points over 2020. The above percentage is interpreted as follows: if we select 2 random individuals of the population, we expect their income to differ by 32.4% of the average equivalised disposable income. Since 1994, the year in which this investigation began overall inequality fell by 5.0 percentage points (37.4% in 1994). Also, according to the National Observatory for Disability in 2022, people with disabilities are estimated to constitute about 10% of the general population in Greece and only 10% of young people with severe disabilities are integrated into work. 71.4% of severely disabled young people aged 25-34 have never

worked. 46% of severely disabled young people up to 34 years old have not completed compulsory education. Only 13% of young people with severe disabilities aged 30 to 34 are tertiary graduates, while 45% of young people without disabilities have a university degree. 40.5% of severely disabled young people aged 16-24 and 64.4% aged 25-34 live in poverty and/or social exclusion.
In the Greek Regions, according to the 2020 OECD report on Greece's Regional Policy after 2020, it is noted that Greece's unique geomorphology affects the distribution of population and the high concentration of economic activities in urban areas. Compared to other OECD countries with large sparsely populated areas, comparatively more people live in rural areas in Greece and especially in remote areas with difficulty of access in cities. After the 2008 financial crisis, the Greek economy started to recover in 2017, showing a growth rate of 1.9% in 2018 estimated at 2.3% in 2019. Unemployment – although still high – fell from 27.5% in 2013 to around 17.3% in 2019. This course was halted due to COVID-19. However, the financial crisis did not affect all regions of the country in the same way. Greece now has the 9th highest indicator of regional disparities in GDP per capita among the 30 OECD countries. The largest decline in productivity, due to the 2008 crisis, occurred in remote islands but also in Western Greece and Attica. Attica, which contributed 48% of national GDP and 43% of employment by 2017, suffered a disproportionate blow during the crisis, with a decrease of about 10% of its total population. Together with Central Macedonia, it recorded a loss of more than half (58%) of the total jobs lost in Greece. These economic shocks have been so severe that some Greek lagging regions have converged with Attica's productivity level – which remains below its potential. However, this kind of regional convergence is considered wrong. According to the study's estimates, with an annual growth rate of about 2%, Greece will return to pre-crisis levels in 15 years. On the contrary, if Attica's growth rate reaches 3%, Greece's recovery period will be reduced by about half, to 8 years. Therefore, rebuilding Athens' productivity is crucial to boost Greece's national growth, particularly in the current context of the global COVID-19 slowdown. However, Attica's recovery should not be an isolated phenomenon. The balanced and extensive development of all Greek regions is essential. European Union (EU) resources have played an important role in the recovery process and will continue to be important in the future. They account for more than 80% of Greek public investment and, according to the study's analysis, it is estimated that between 2009 and 2018, every euro of Structural Funds in Greece generated an additional 64 cents of GDP (OECD, 2020).
The OECD study concludes that Greece has already undertaken an impressive number of structural reforms on a national scale since the outbreak of the global financial crisis (from pension and tax reforms to justice, labour market, public investment, social, energy and environmental policies) as well as reforms in terms of decentralization and strengthening of the two levels of local government. The country faces new development priorities, from promoting digitalization and improving business and operational ecosystems to addressing environmental challenges. At the same time, these new priorities must address existing societal challenges and reduce growing inequalities. The current COVID-19 pandemic is slowing down the recovery and putting the Greek economy at risk again. While the medium and long-term effects of the pandemic remain uncertain, the Greek government should coordinate policy action at local, regional and national levels in order to minimize job losses and business closures in the short and medium term.
According to the 2021 EU Report on the Sustainable Development Goals , Greece remains fully committed to the 2030 Agenda. The 17 Goals are embedded in all its major binding political plans. Greece is also listed as one of the two (2021) European Union (EU) countries that managed not to stray from any of the 17 Goals and remained in the cluster as one of the five (2022) that did not move away, improving its performance on SDGs 2, 7, 10 and 12 above the EU average within one year;

3. **Key challenges**

In the context of analyzing the results of institutional and operational strategies for social protection in the context of sustainable and inclusive growth, European countries perform internationally really well in terms of reducing income inequality, although developments differ in different EU states and national regional units. However, policymakers at both European and national, regional and local level need to additionally address social inequality, such as unemployment, poverty, disability more vigorously, especially youth unemployment.

In the World Economic Forum's 2017 WEF Inclusive Growth and Development report (2017) and its WEF Inclusive Development Index 2018, inclusive growth "remains more of a topic of discussion than an agenda for action." In a relevant research at European level on the anatomy of inclusive growth in Europe, Darvas and Wolff (2016) respond with specific remarks to the question "Why is inclusive growth important?": a) When assessing inclusive growth, poverty and income inequality are among the two most relevant indicators, although there are many others, including non-financial indicators. b) Their research shows that in most European countries children growing up in poorer and disadvantaged families tend to perform poorly in school compared to their peers from wealthier families. (c) Inequality and poverty also affect the prospects for social convergence between regions, generations and families belonging to different socio-economic groups. d) Higher income inequality is related to social mobility: children of poor families tend to become poor, while children of rich families tend to become rich. e) Literature research on the impact of income inequality over the long term shows that growth policies have mixed effects, but there is growing evidence that inequality was also a determinant of unsustainable rapid increases in many European countries. g) High levels of income inequality and poverty can also boost protest voting in referendums and elections. Econometric estimates reveal that in the UK's Brexit referendum in June 2016, income, inequality and poverty were factors that drove the "pro-Brexit" vote. The McKinsey Global Institute (MGI) survey, 'Testing the Resilience of the Inclusive Growth Model in Europe' in 2020, focuses on the prospects for inclusive European growth in the period up to 2030 and simulates the six major challenges that will address Europe's inclusive growth model as well as the European Social Pillar of the European Union (McKinsey, 2020). The overall conclusions of the study find that the principles and policies of inclusive growth in Europe as well as the European Pillar of Social Protection of the European Union are under threat. According to the McKinsey study, the main reasons are: a) The limited growth of middle income in recent years, b) The decline in trust in institutions (both EU and national), c) Dissatisfaction with mass migration, d) Security concerns as well as the resilience of global agreements, e) The rise of populist politics challenging the status quo.

In Greece, according to the Development Plan for the Greek Economy – Pissarides Committee Report in the operational strategies for inclusive Greek growth, several distortions in the social protection system have been identified. One problem is that the system consists of a multitude of different benefits (unemployment benefit, disability benefit, guaranteed minimum income, housing allowance, heating allowance, transport allowance, etc.) managed in a fragmented way, even after the digitalisation of processes. Another problem, according to the report, related to the complexity of the system, is that some benefits overlap with each other, as they aim to meet similar needs, but the conditions for different groups of people differ, creating inequalities. Moreover, according to the report, the current system does not ensure sufficient incentives for formal work. For example, the provision of the Guaranteed Minimum Income (GMI), but also of many other benefits, it is abruptly terminated once income exceeds a threshold. It is therefore often more advantageous for an EIO beneficiary to keep his family income just below the threshold, either without looking for extra work or working extra hours informally (undeclared), than to look for additional formal work. This problem also exists in other countries, but it is especially important in countries like Greece, where levels of tax evasion and self-employment are high. Also, particularly high priority should be given to supporting people with disabilities and integrating them more fully into economic life.

4. **The proposed reforms**

A global institutional policy and holistic operational strategy for social protection policies in the context of inclusive growth that has been integrated into EU policy and promoted to Member States in the context of European policies for Europe 2020 and for Sustainable Development 2030 can play a greater role in national policies in the Member States. In this context, social protection policies must be at the top of the Greek 2030 Agenda.

In their research on EU Member States and promoting inclusive growth in national policies, Darvas and Wolff (2016) report that fiscal, social, education and labour policies are almost exclusively national competences and are under the direct control of national policymakers, who face many challenges at regional level in particular. The main recommendations of the survey (a) Member States should foster social mobility. Early childhood education is key to social mobility and higher education is increasingly important for employment. (b) There are significant differences in the effectiveness of social assistance systems across Member States. Specific welfare systems are often not effective in reducing income inequality. The reform of welfare systems is particularly important for some southern European countries. (c) The question of the progressivity of the tax system is important for the Member States. The tax system often places a much greater burden on low-income households. d) Subsidising innovation and skills in most European countries should be increased. In addition, a criticism of the extent to which different sectors are protected in different countries could be a useful contribution to addressing certain problems. e) The key issue of regional policy and especially in local communities should be the tackling of unemployment (especially youth) which should also be an issue for national policies for the local labour market. g) The composition of fiscal consolidation, which is often biased towards young families and education. It was also often biased against investment, particularly in innovation and know-how. This has had a negative impact on growth while exacerbating social inequality.

The McKinsey Global Institute (MGI) survey, "Testing the Resilience of the Inclusive Growth Model in Europe" in 2020, focuses on the European Union's prospects for inclusive growth in the period up to 2030. In this research they propose three areas where European countries, the EU and the private sector should act, sometimes in coordination, to strengthen the resilience of Europe's inclusive growth model. The three critical areas where improvements are needed to strengthen the European inclusive growth model are: a) Ensuring the full implementation of the social mobility scenario, in particular by focusing on innovation and human capital. (b) Support measures to reduce social inequalities and launch a dialogue to improve social convergence in Europe. c) Update the parameters of Europe's Social Pillar to facilitate the implementation of the social mobility scenario, while rebuilding citizens' trust in institutions to ensure that they support the necessary policy measures. Their research has focused on these three areas because they are important enablers to support the social protection model and because the current gaps in Europe need to be filled urgently (MGI, 2020).

For policies to foster inclusive growth, in particular employment and social inclusion of societies, policymakers responsible for employment policies need to take into account the different needs, challenges and barriers faced by different risk groups in the labour market when developing policy tools or programme-level interventions. The main conclusions of the study are: a) Reduce the fragmentation of existing programmes. b) Standardise operational coordination between services that is vital to improve service delivery to the most vulnerable populations. c) Expand access to affordable childcare services (especially for children aged 0-3 years). (d) To highlight the inadequacies of existing programmes. e) To promote programmes concerning vulnerable groups. (g) Reach out more to those most in need. h) Seek to strengthen mediation services and reach out to private employers. i) Adapt the targeting and design of Active Labor Market Programs (ALMPs) (World Bank 2017).

According to the Development Plan for the Greek Economy, the need for immediate promotion of social protection interventions in four main directions and funding of relevant actions where necessary is important, is important. First, better targeting of benefits and other support measures that act as necessary "passive" forms of support. The consolidated benefit should be given to persons on low family incomes even if: work, and be designed to enhance motivation to work. Income should be calculated on the basis of family structure (e.g. number of children) and should be particularly targeted at families most in need, such as mothers or fathers with single children. The determination of the allowance, as well as its relation to total family income and wealth, should be made by a special committee with access to individual data (such as family budgets) and data from tax returns. Second, access to modern education and training programs that ultimately facilitate employment in high-value jobs, as "active" policies. Thirdly, improving infrastructure for physical and digital access. Fourthly, the implementation of laws against gender discrimination and equal opportunities. Policy measures that will improve transparency and efficiency in the public sector and the labour market are expected to benefit vulnerable groups, such as people with disabilities, even more than the population average. At the same time, however, targeted actions are needed to remove specific rigidities in areas such as education, vocational training, employment, digital connectivity and accessibility, health. As a general direction, it is important for relevant policies to follow the "social model" of approaching disability, which requires changes in the wider environment to take into account the needs and particularities of these people (Pissarides Committee Report et al., 2020).

5. Conclusions

According to the previous references, a proposal for the basic reform principles that will define a holistic policy for Social Protection in the context of Sustainable and Inclusive Development should include the following delimitation:

(1) Development of a common "vision" of Social Protection policies in the context of Sustainable Inclusive Development in many stakeholders to make the common "vision" a common "mission".

(2) Development policies should have objectives based essentially on three-dimensional distinct, but interconnected pillars, i.e. the environment, economy and society and require national and regional/local authorities to cooperate, work proactively, monitor, control and feed back into planning to achieve these objectives taking into account: (a) adaptation to global, national, regional/local development policies, (b) not to assume ex officio that positive social outcomes will automatically come through economic growth, and (c) that economic growth and social equity are based on sustainable management of natural resources.

(3) The benefits of development policies must be channelled holistically to all social groups, including the most marginalised "leaving no one behind", by promoting social cohesion policies and involving societies in development policy decisions.

(4) Development policies must take into account, within the framework of a holistic approach, the emergence of the "social/cultural and entrepreneurial culture" of each society.

(5) A key importance of holistic policy is the involvement and alignment of the efforts of "development actors" (governmental/self-governing bodies, universities/research bodies, businesses, chambers, business bodies, etc.) with those of "inclusion" stakeholders (governmental/self-governing bodies, universities/research bodies, social inclusion and cohesion bodies, NGOs, unions, etc.) in a commonly accepted holistic business strategy.

(6) The holistic business strategy should propose the procedures for "how" to implement social protection policies in the context of inclusive and sustainable development. By jointly agreeing definitions and measurements to monitor implementation progress, control and feedback.

(7) The holistic operational strategy of social protection policies to promote the sustainable management of natural resources in the context of national, European and global climate change policies and sustainable development goals.

An institutional and scientific focus on social protection policies in the context of sustainable and inclusive local development can be useful in increasing pressure on Member States and their regions, but it can also lead to frustration, such as perceived broken promises. For this reason, it is necessary to identify and delimit the failures that have led to economic distortions in institutional and operational development plans and widened social inequalities at local level, particularly in the employment of vulnerable groups, and to identify the main challenges for social protection policy within the framework of a holistic policy for sustainable and inclusive local development in regions of the European Union and to make informed proposals from local communities for the feedback of institutional and operational strategies at European, National, Regional and local level.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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THE INSTITUTIONAL IMPACT ON TOURISTIC INDUSTRY IN SOUTHERN EUROPEAN UNION COUNTRIES

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Abstract

The tourism industry in Southern European Union (EU) countries is a critical economic sector, significantly contributing to GDP and employment. This paper investigates the role of institutional factors in shaping the tourism industry in these regions, examining how governance, regulatory frameworks, and policy measures influence tourism development. The study focuses on evaluating the institutional impact on tourism through qualitative and quantitative analyses. The findings underscore the importance of effective governance and robust institutional frameworks in fostering a resilient and competitive tourism sector. This research explores the impact of institutional quality on tourism development in a panel of southern countries within the European Union over the period. Tourism development is evaluated using the number of tourist arrivals, with control variables such as GDP growth rate, inflation, higher education, quality of the environment, and trade, representing key determinants of tourism. Institutional quality is gauged using indicators of government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability. The study utilizes the Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators to assess the influence of these determinants on tourism development. The findings demonstrate a positive correlation between institutional quality and tourism, providing valuable insights into the role of institutions in tourism management and their impact on the sector.

Keywords: Institutional, economic growth, touristic industry, European Union

JEL Classification Codes: E60, O40

1. **Introduction**

The Southern European Union (EU) countries are renowned for their rich cultural heritage, scenic landscapes, and favorable climates, making them prime tourist destinations. Tourism is a pivotal industry in these countries, driving economic growth and job creation. However, the industry's performance and sustainability are significantly influenced by institutional factors. This paper explores how governance, regulatory policies, and institutional quality impact the tourism industry in these regions. Tourism has emerged as one of the globe's rapidly expanding and influential economic sectors, leaving an indelible mark that goes beyond the realms of mere travel and leisure. Its impact is felt across various facets of society, contributing significantly to employment, infrastructure development, cultural exchange, and overall economic growth. In a constantly evolving global economy, unraveling the complexities of tourist behavior has become imperative for the sustainable development of tourism destinations. At the core of this intricate web lies the critical role of institutions, encompassing government agencies, tourism organizations, local authorities, and non-governmental organizations (NGOs). These institutions play a multifaceted role in steering tourism development. They are the architects behind regulatory frameworks that ensure the safety, security, and environmental sustainability essential for the well-being of both tourists and local communities. Moreover, institutions facilitate economic growth by fostering an environment conducive to tourism entrepreneurs and investors, thereby stimulating economic development. Additionally, institutions are pivotal in promoting destinations, disseminating information, and elevating the overall tourist experience. The quality of institutions, therefore, becomes the foundational cornerstone upon which the success of tourism hinges. This study adopts a comprehensive approach by examining nine Mediterranean European Union (EU) countries: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Spain, and Slovenia. Together, these nations account for over 50% of global tourist arrivals and nearly 40% of tourism income, hosting some of the world's most sought-after destinations, including picturesque coastlines, historic landmarks, and vibrant cultural scenes (UNWTO, 2021a). Some of the world's most popular tourist destinations are located within the territory of the Mediterranean countries of European Union. France, Spain and Italy are ranked in the top 10 countries according to the number of tourist arrivals and generated income (UNWTO, 2021b). This selection allows for an exploration of diverse development stages and tourism market shares within the Mediterranean region. A distinctive feature of this research lies in its use of data from the World Governance Indicators (WGI), enabling a holistic assessment of institution quality and its implications for tourism and other economic sectors. In contrast to prior studies that often focused on specific regions or a limited set of indicators, this research adopts a more comprehensive perspective. By employing a wide array of institution quality indicators and analyzing standard variables such as tourist arrivals and tourism employees, this study aims to offer fresh insights into the competitiveness of tourism-related businesses in these Mediterranean EU countries. The anticipated outcomes seek to illuminate the pivotal role institutions play in the domain of tourism and their capacity to influence economic development through the tourism sector. Beyond its academic significance, this knowledge holds substantial implications for policymakers and stakeholders, guiding adjustments and strategic decisions to optimize the outcomes of tourism development. The subsequent sections of this investigation are structured as follows: Section II presents a concise review of pertinent literature on institutions and tourism development. Section III introduces the data used in the analysis along with stylized facts. Our econometric framework is outlined in Section IV. Moving on to Section V, empirical results are presented, accompanied by sensitivity checks to validate baseline findings and offer a more detailed analysis. Finally, Section VI concludes the study, emphasizing policy implications.

2. **Literature review**

Existing literature highlights the intricate relationship between institutional quality and tourism development. Institutions, defined as the rules and regulations governing economic activities, play a crucial role in shaping the business environment and influencing investor confidence. In the context of tourism, effective institutions can enhance destination attractiveness, ensure sustainable development, and mitigate risks associated with political instability and economic volatility. Studies have shown that countries with strong institutions tend to experience more robust tourism growth and higher levels of foreign direct investment in the tourism sector. Recent research underscores the pivotal role of institutions and their quality in steering tourism development. Studies conducted in the context of contemporary challenges, including the COVID-19 pandemic (Fahimi et al. 2018; Ghalia et al. 2019; Detotto et al. 2021), have delved into the intricate relationship between institutions and tourism outcomes. While these studies provide valuable insights, a discerning examination reveals nuances in their findings. Yap & Saha (2013) probed the impact of various indicators on tourism across 139 countries, revealing that the presence of natural and cultural heritage significantly altered the effects of determinants on tourism indicators. Notably, the impact of corruption on tourist arrivals varied with the presence of cultural and natural heritage. This finding underscores the complexity of factors influencing tourism and highlights the need for a nuanced understanding of their interplay. Gholipour, Tajaddini, and Al-Mulali (2014) explored the impact of civil liberties and responsibilities on outbound travel frequency, proposing that restrictive policies might lead individuals to seek experiences prohibited in their home countries. The study's confirmation of this assumption implies potential economic consequences for states with stringent policies. However, a thoughtful perspective would necessitate a comparative analysis of different regions to discern broader patterns. Balli et al.'s (2016) analysis of recent bilateral tourism flows from OECD countries to middle-to-low-income countries provided valuable insights into the influence of immigration, trade, and institutional quality. While the positive advertising effect of immigrants on tourism flows is noteworthy, a nuanced examination would involve comparing these effects across diverse regions and income levels to identify potential disparities. Ghalia et al. (2019) delved into political risk, institutional quality, and other determinants influencing tourist demand, emphasizing the importance of reduced political risk and enhanced institutional quality. A discerning approach would involve scrutinizing the generalizability of these findings across diverse regions and political contexts, acknowledging potential variations in the impact of political risk and institutional quality on tourism. Nassani et al. (2019) examined the interrelation among finance, empowerment, and tourism, confirming the pivotal role of financial intermediaries in empowering women through tourism. While supporting the Tourism-Led Growth Hypothesis, a thoughtful perspective would involve assessing the generalizability of these findings to different cultural and economic contexts. Khan et al. (2020) emphasized the importance of maintaining institutional quality thresholds in Asian destinations. A judicious analysis would involve comparing the specific institutional variables influencing tourism outcomes in different Asian regions, recognizing potential variations in the impact of institutional quality. Canh & Thanh (2020) explored the nexus between institutions, tourism, and economic growth, emphasizing the role of domestic tourism in fortifying economic resilience. A nuanced examination would involve assessing the limitations of domestic tourism as a sole determinant of economic resilience and exploring the potential interplay with other factors. Mushtaq, Thoker, and Bhat (2020) empirically investigated how institutional quality influences international tourism demand for India, acknowledging the influence of various factors. A perceptive perspective would involve comparing the relative importance of these factors across diverse countries and regions, recognizing potential variations in the impact of institutional quality. Lee, Lee, and Har (2020) examined the institutional environment in Malaysia as a tourism destination, highlighting the importance of corruption control and government effectiveness. A discerning perspective would involve comparing the specific institutional variables influencing tourism outcomes in Malaysia with other similar destinations, acknowledging potential variations in the impact of institutional quality. The study of Akram et al. (2021) scrutinized the influence of country governance on tourism and examined the effects of tourism on environmental quality. While identifying positive influences, a judicious examination would involve assessing the potential trade-offs between tourism development and environmental quality, recognizing the need for sustainable practices. In summary, while existing studies provide valuable insights into the relationship between institutions and tourism, a discerning perspective reveals the need for comparative analyses across regions and a nuanced understanding of the multifaceted factors influencing tourism outcomes. This paper aims to address this gap by analyzing multiple institutional variables within the European Union context, contributing to a more comprehensive understanding of the intricate interplay between institutions and tourism development.

3. <u>Methodology</u>

This study employs a mixed-methods approach, combining qualitative and quantitative analyses. Qualitative data are gathered through interviews with industry experts and policymakers, while quantitative data are sourced from secondary databases, including national statistical offices. The analysis focuses on four key institutional dimensions: governance quality, regulatory frameworks, policy effectiveness, and political stability. These dimensions are evaluated using indicators such as the World Bank's Governance Indicators, the Travel and Tourism Competitiveness Index, and the Global Peace Index.

3.1 Model specifications

Our empirical approach relies on a panel data analysis. Prior to delving into the econometric method, it is imperative to validate the stationarity of the selected variables. Bearing this in mind we used three panel unit root tests – the Im, Pesaran and Shin (IPS) test (2003), Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) test, following the methodology delineated by Maddala and Wu (1999). Next, the study employs two cointegration tests, namely Pedroni (1999) and Kao (1999), to assess the potential existence of a long-term relationship between the determinants outlined in the model. Cointegration analysis is crucial in investigating whether the included variables move together in the long run, indicating a stable and enduring connection among them. Following the completion of the cointegration tests, the subsequent stage involves estimating the long-term relationship between the variables. Various estimation methods are proposed in the literature for panel cointegration models, and in this study, we opt for the Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators for several compelling reasons. These estimators are chosen for their effectiveness in addressing key issues encountered in cointegration analysis. Firstly, the FMOLS and DOLS estimators offer a solution to the bias and inconsistency observed in the Ordinary Least Squares (OLS) estimator when applied to cointegrated panel data. The study addresses potential biases by employing strategies to mitigate both small-sample bias and endogeneity bias. To tackle small-sample bias, the inclusion of leads and lags of first-differenced regressors is implemented. This technique helps to enhance the robustness of the analysis, particularly in situations where the sample size is limited. Additionally, the study acknowledges the challenge posed by cases where the time dimension (T) of the panel exceeds the cross-sectional dimension (N). In such instances, the effectiveness of the dynamic estimator of the Generalized Method of Moments (GMM) can be compromised. Recognizing this limitation, the research adopts alternative approaches to ensure the reliability of the estimations and the validity of the results. This demonstrates the methodological diligence taken to account for specific challenges associated with the panel structure of the data. Given that this study involves a larger time dimension (T=26) compared to the cross-sectional dimension (N=9), the DOLS and FMOLS estimators are more suitable. Lastly, the flexibility of these estimators in handling heterogeneity within cointegrated vectors, as well as their ability to control endogeneity in the model, makes them preferable for our analysis. The DOLS estimator, in particular, is favored over FMOLS due to its parametric approach, providing a more reliable and robust method for estimating cointegrated panel regressions. By incorporating these techniques, the study aims to provide more accurate and unbiased estimates, contributing to the overall robustness of the findings. The consideration of potential biases and the implementation of suitable corrections underscore the rigor and credibility of the research methodology, strengthening the study's capacity to offer meaningful insights into the relationship between institutional quality, economic factors, and tourism development in the Mediterranean EU countries.

Based on all the above, the further analysis will evaluate the results of FMOLS and DOLS estimations.

Initial Model: $ARRit$ □ □ □ $□_1 GDPGit$ □ $□_2$ $INFit$ □ $□_3 EDU\ it$□$□_4 COit$ □ $□_5 TRit$ □ $□_6 QIit$ □ $□_i$ □ $□_{it}$

(1) i = 1, ... N, t = , ...T

Where is: ARRt: Number of arrivals in tourism at time t. GDPG: GDP growth rate in the country i and in period t. INF: Inflation measured by the consumer price index in the country i and in period t. EDU: School enrollment, tertiary (% gross) in the country i and in period t. CO:

Environmental quality with per capita CO_2 emissions in the country i and in period t. TR: International trade in the country i and in period t. QI: One of the selected indicators of the quality of the country's institutions i in period t.
μ – constant member
□1, □2... – parameters to be estimated , □*i* – random effect , □*it* – standard error

4. <u>Data and variables definition</u>

In our research, we carefully selected variables based on existing literature, previous research findings, and data availability. Our study focuses on nine Mediterranean countries within the European Union: Croatia, Cyprus, France, Greece, Italy, Malta, Portugal, Spain, and Slovenia. We analyzed data spanning a 25-year period from 1996 to 2021. Our dataset comprises two dependent variables, six institutional variables, and five control variables. To measure tourism development, we used the number of tourist arrivals, a widely recognized indicator in tourism demand studies (Liu & Song, 2017; Webber, 2001). This variable captures the degree of tourism development and competitiveness in the global tourism market. Our initial independent variable is Gross Domestic Product (GDP) growth, anticipated to exert a positive influence on the number of tourist arrivals. Economic growth fosters the tourism sector by augmenting purchasing power, attracting investments, and generating employment within the tourism industry. Another independent variable is higher education. A well- educated workforce can enhance the quality and competitiveness of the tourism sector (Smeral, 1998). Higher income levels among individuals pursuing higher education programs also play a role in travel decisions (Eugenio-Martin & Campos-Soria, 2011). Bearing these in mind we expected positive impact on dependent variable. We anticipate that inflation, measured by the consumer price index, will have a negative impact on the dependent variables. Increasing prices can raise the overall expenses associated with travel and accommodation in a particular destination, potentially leading to a decline in tourist interest. Inflation, in particular, has the potential to discourage tourists from participating in various activities within the destination, unless innovative products or experiences are introduced to mitigate the impact of rising costs (Yong, 2014). International trade is considered a positive factor for tourism as it promotes business travel, networking, and product awareness (Turner and Witt, 2001; Kulendran & Wilson, 2000). International trade also drives infrastructure development, which can attract more tourists (Santana et al., 2011). Environmental quality, comprising both natural and man-made factors, is pivotal for tourism. Nevertheless, the relationship between tourism and the environment is intricate, with empirical studies documenting both positive and negative impacts (Paramati et al., 2017; Danish and Wang, 2018; Gupta and Dutta, 2018). In our study, we gauge environmental quality through per capita CO_2 emissions. To assess the quality of institutions, we selected indicators from the World Governance Indicators (WGI) database, developed by Kaufmann et al. (2010). These indicators encompass three dimensions: rule of law, regulatory quality, and control of corruption, among others. Each dimension consists of two indicators, resulting in a total of six WGI indicators. In our study, we expect all institutional variables to have a positive influence on the dependent variables. High-quality institutions and government stability are expected to support tourism development in European Union countries by creating a favorable business environment, ensuring legal protection, and promoting a stable climate for investments.
Table 1 presents descriptive statistics for the variables employed in our study. Tourist arrivals vary widely, from 663,000 to 218,000,000. GDP growth rates range from -11.33% to 19.68%, with an average of 2.02%. Inflation rates vary from -2.10% to 9.86%, averaging 2.13%. The average indicator for higher education is 60.34, representing tertiary school enrollment (% gross). Environmental degradation, measured by per capita CO_2 emissions, ranges from 2.96 to 9.44. Trade, as a percentage of GDP, varies from 37.50 to 322.68. The institutional quality indicators show significant variation, reflecting the diverse levels of development among European Union member states.

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: Author's calculations

Subsequently, we calculate the correlation among chosen determinants to detect any potential multicollinearity. The results are presented in 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: Author's calculations

Multicollinearity is a problem when the correlation is above 0.80 (Kennedy, 2008). Fortunately, in our model, all correlation coefficients were found to be below this threshold, as indicated in Table 2.

5. Results and Discussion

The analysis reveals that institutional factors significantly impact the tourism industry in Southern EU countries. Strong governance, effective regulatory frameworks, and stable political environments are critical for attracting tourists and investments. Countries with robust institutions tend to exhibit higher levels of tourism competitiveness and resilience. Conversely, institutional weaknesses, such as corruption and bureaucratic inefficiencies, can undermine tourism potential and economic benefits. In this section, we disclose the outcomes of the econometric examination regarding the impact of institutional quality on tourism development in a panel of nine Mediterranean countries within the European Union. To commence our empirical analysis, the initial step involves conducting panel unit root tests (refer to Table 2). As previously highlighted in the preceding section, we executed panel-IPS unit root tests and Fisher-type tests utilizing ADF and PP-test methodologies, following the approach delineated by Maddala and Wu (1999). Given the persistence of the null hypothesis of a unit root across all the series of interest, we proceeded with panel cointegration tests as the next step.

Table 3. Results of Pedroni's and Kao's panel cointegration tests

Statistics	**Southern EU Countries**
Panel v-Statistic	-2.749116
Panel rho-Statistic	-105.3884
Panel PP-Statistic	-130.9643
Panel ADF-Statistic	-64.5233
Grouprho-Statistic	-111.264
Group PP-Statistic	-145.146
GroupADF-Statistic	-63.3234
Kao Residual	0.000

Cointegration Test(*p*-value)

Note: *, ** and *** indicate that the test statistic is significant at the 10%, 5%, or 1% level. Source: Authors' calculations.

As illustrated in Table 3, a significant number of Pedroni's (1999, 2001) tests indicate the existence of a cointegration relationship in all models. Additionally, Kao's (1999) test, as presented in Table 4, also supports the presence of a cointegration relationship in all models. Given that all determinants in all models exhibit cointegration, the subsequent step involves testing the long-run linkage among the pension fund and other selected determinants and capital market growth using. The positive correlation observed between GDP growth and tourist arrivals in the Mediterranean EU countries aligns with previous research emphasizing the economic underpinnings of tourism development. This relationship echoes studies that underscore the role of economic prosperity in enabling investments in tourism infrastructure, hospitality services, and marketing campaigns (Yap & Saha, 2013). The economic growth observed in these nations not only enhances their ability to attract tourists but also stimulates employment, particularly in sectors integral to the tourism industry, such as hospitality and transportation (Canh & Thanh, 2020). The presence of higher education institutions as a contributing factor to a skilled workforce and the preservation of cultural heritage aligns with findings from Gholipour, Tajaddini, and Al- Mulali (2014), who highlighted the role of civil liberties and responsibilities in outbound travel. The study suggests that individuals from countries with higher education levels are more likely to appreciate and preserve their cultural heritage, making them appealing to tourists seeking authentic experiences. Education, as demonstrated in this study, is also recognized for fostering innovation in the tourism industry (Lee, Lee, and Har, 2020), leading to the development of unique tourism products and services. Environmental considerations, emphasized in this study, resonate with the growing awareness of sustainable tourism practices. The negative impact of high levels of CO_2 emissions and pollution on tourism aligns with findings by Nassani et al. (2019), who acknowledged the importance of environmental factors in tourism development. Sustainable practices and environmental conservation are recognized as crucial for attracting eco-conscious tourists and preserving the natural beauty that characterizes the Mediterranean region (Akram et al., 2021). The positive influence of trade openness on tourism development is consistent with studies such as Balli et al. (2016), which explored the potential influence of immigration, trade, and institutional quality on driving tourism flows. The Mediterranean's strategic location as a hub for trade and maritime activities, contributing to cruise tourism, aligns with the findings of trade openness benefiting the tourism sector (Lee, Lee, and Har, 2020). The pivotal role of institutions, including effective governance and corruption control, aligns with the broader literature emphasizing the significance of institutional quality in tourism development (Ghalia et al., 2019). Transparent regulations, efficient government services, and low corruption levels create a favorable environment for tourists, ensuring their safety and satisfaction (Khan et al., 2020). The contrast between efficient governance and corruption hindering tourism development echoes studies underscoring the critical role of institutions in shaping the tourism industry (Ghalia et al., 2019). In conclusion, this study's findings align with and contribute to the existing body of literature on tourism demand and its intricate relationship with economic and institutional factors. The discussion enriches our understanding of the nuances within these connections, emphasizing the multifaceted nature of factors influencing tourism patterns in the Mediterranean EU countries. Future research in this field can build on these insights, exploring additional dimensions and regional variations to further inform decision-making in the tourism sector.

6. Conclusion

Institutional factors are pivotal in shaping the tourism industry in Southern EU countries. Effective governance, regulatory quality, and political stability are essential for fostering a competitive and sustainable tourism sector. Policymakers should focus on strengthening institutional frameworks, enhancing transparency, and promoting regional cooperation to maximize the economic benefits of tourism. Future research should explore the dynamic interactions between institutional factors and other determinants of tourism development, such as technology and environmental sustainability. This paper has delved into the intricate relationship between tourism development and institutional quality within the Mediterranean countries of the European Union. Understanding the dynamics between these factors is crucial, especially considering the substantial economic contribution of tourism, particularly for smaller and less developed economies in the region, making it pivotal for sustained socioeconomic growth. Tourism, constituting over 50% of total arrivals and overnight stays in Mediterranean EU countries, requires continuous evaluation and enhancement. The COVID-19 pandemic has accentuated the vulnerability of nations heavily reliant on foreign tourists, leading to pronounced economic challenges due to travel restrictions. Utilizing FMOLS and DOLS estimators, along with relevant tests, this study underscores the significance of high-quality institutional frameworks for both domestic and international tourism. Covering nine Mediterranean EU nations from 1996 to 2021, the analysis incorporates control variables such as GDP growth, inflation, higher education, environmental quality, and trade. Notably, environmental degradation, measured by CO2 emissions, emerges as a negative influences on tourism development. The findings affirm a discernible link between institutional quality and tourism, revealing that improvements in specific institutional aspects may sometimes result in a decrease in tourist arrivals. Such shifts are often attributed to changes in economic structures and advancements in sectors outside of services crucial to the tourism industry. However, it is crucial to acknowledge the study's limitations, including the scarcity of extensive historical data and occasional missing data points. Diversifying data sources beyond the World Bank for institutional quality metrics could offer a more comprehensive understanding of the subject. For future research, exploring the influence of non-economic determinants on tourist demand, such as population dynamics, urban development, public works, and supplementary institutional factors from databases like the Global Database on Events, Language, and Tone (GDELT), holds promise. Adopting alternative econometric methodologies could provide novel insights. Furthermore, disaggregating data at regional or community levels may unveil substantial variations in outcomes. In terms of theoretical contribution, this study adds nuance to the understanding of the relationship between institutional quality and tourism development. It highlights the complexity of this relationship by revealing instances where improvements in specific institutional aspects may not always lead to an increase in tourist arrivals. From a managerial perspective, the findings emphasize the importance of a holistic approach to tourism development, considering not only institutional quality but also other factors such as environmental concerns. Policymakers are encouraged to prioritize and invest in enhancing institutional quality to foster sustainable tourism development. Moreover, targeted interventions addressing environmental concerns, alongside economic factors, can contribute to a more resilient and robust tourism sector in the Mediterranean EU countries. In conclusion, while this study contributes valuable insights, it is a stepping stone for future research that should delve deeper into non-economic determinants, explore alternative methodologies, and consider regional variations. The implications for policymakers are clear – a focus on enhancing institutional quality and addressing environmental concerns will be pivotal for the sustainable development of the tourism sector in the Mediterranean EU countries.

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USEFULNESS OF TECHNICAL ANALYSIS IN THE FOREX MARKET: THE EUR/USD PAIR

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Abstract

Financial forecasting is a topic of great interest to the economic and academic community. The ability to predict currency market movements in advance has financial benefits for investors as well as companies. Technical analysis is one of the most well-known methodologies that investors use in financial markets, with the purpose of predicting the direction of asset prices through the analysis of their price history (Hudson & Urquhart, 2021). Therefore, to prepare this study, we sought to study the applicability and usefulness of technical analysis in the foreign exchange market, using, for this purpose, some of the most used tools among investors, namely, trends, supports and resistances, Fibonacci retracements and graphic patterns (Chen, 2010 e Dumiter & Turcaș, 2023). The tools available for technical analysis were applied to the EUR/USD currency pair in 2019. In this study, it was possible to validate the technical analysis tools covered and prove the applicability and usefulness of technical analysis in the foreign exchange market. The tools available for technical analysis, trends, trend and channel lines, support/resistance zones and Fibonacci retracements have demonstrated their validity, as they are useful in predicting possible trend reversal/continuation zones. Reversal chart and candlestick patterns demonstrated their validity, since when found on the charts of the pairs under study, it was possible to verify their effectiveness in predicting trend reversal. Graphic continuation patterns also demonstrated their validity in predicting trend continuation, since after its break, the trend direction prevailed.

Keywords: Forex Market; Technical analysis; Fundamental analysis; Financial markets; Volatility.

JEL Classification Codes: E12, E4O.

1. Introduction

Given the volatility and constant evolution of capital markets, it is increasingly important for investors to have access to all financial information in the shortest possible time, so that they can make a decision quickly without exposing themselves to large losses (Lukanima, 2023). Technical analysis is widely used among investors, as it allows them to monitor the market in a timely manner and supports them in making decisions at the right time (Pramudya, 2020). This technique studies the market by focusing its study on the price of the asset, as it argues that the price encompasses all information about it (Edwards et al., 2018). Therefore, investors focus their studies on asset prices, not wasting time on other types of information, since this is already reflected in their prices (Peñalvo et al., 2022). The objective of this research is to analyze the applicability and usefulness of technical analysis in the foreign exchange market. For this purpose, the main tools of technical analysis will be applied, namely, trends, supports and resistances, graphic patterns, candlestick patterns, price breaks and Fibonacci retracements, to the EUR/USD exchange rate quotes represented in charts. candles obtained from the Tradingview Platform. To achieve this objective, the following steps were taken: 1) select the pair with the highest market volatility, EUR/USD; 2) analyze the historical movements of the EUR/USD pair, from May 3, 1993 until December 31, 2018, in order to find old important support/resistance zones, as well as predominant trends; 3) analyze the pair's movements and the impact of former support/resistance zones in the year under study; 4) analyze the trend, chart patterns, candlestick patterns Fibonacci retracements and price breaks and, 5) in the case of candlestick patterns, analyze reversal patterns. The tools will be applied to the currency pair to test the applicability and reliability of each one in predicting future asset price movements. Numa primeira fase são analisados os movimentos históricos do par, desde 3 de maio de 1993 até 31 de dezembro de 2018, a fim de encontrar antigas zonas importantes de suporte/resistência, assim como as tendências predominantes. The results of this study demonstrate that technical analysis is useful in the decision-making process for investors involved in the foreign exchange market.

2. Literature Review

Financial markets are structures for buying and selling securities transactions, such as shares and bonds, national currencies, commodities, and other goods and assets (Burton et al., 2015). Financial markets play a real role in financing the economy (Nguyen & Su, 2021). Surplus resources generated by companies and workers are used and their respective applications guarantee the smooth functioning of the economy and its development (Burton et al., 2015 and Prabhu, 2021). The foreign exchange market, internationally known as "Foreign Exchange Market", "Forex" or "FX" is the largest financial market in the world (Fischer et al., 2024). It was created at the beginning of the seventies of the last century, replacing the fixed rate exchange rate regime (Bretton-Woods agreement) for an exchange rate regime with floating rates, depending on demand and supply (Ilzetzki et al., 2022). Financial market analysts' investment decisions are essentially based on two techniques: technical analysis and fundamental analysis (Picasso et al., 2019). If, on the one hand, technical analysts believe that asset market prices follow trends and seek to identify future market price movements, on the other hand, fundamental analysts seek to determine the intrinsic value of an asset (Chen, 2010). The present study is based on technical analysis, since, in accordance with reference authors such as Murphy (1999), Chen (2010), Nti et al. (2020) and others, technical analysis contemplates in a single indicator, “the price”, economic information, news, beliefs, myths, among other elements. Technical analysis, according to Chen (2010) and Pramudya & Ichsani (2020), is the graphic study of how past and present behaviours affect the price of a given asset in a specific financial market, helping to determine its future direction. The price reflects various information, be it economic, news, beliefs, myths, among others, therefore from a purely technical point of view, it would be advisable for an investor who trades through technical analysis doesn’t read news, so that his study do not be influenced by fundamental data (Chen, 2010). Technical analysis is used with the aim of highlighting historical patterns of price behaviour, in order to predict future price movements and optimize investors' investment decisions (Nti et al., (2020). This analysis argues that prices move in trends, and that past patterns are repeated in the future, and they reflect all economically relevant information about an asset (Murphy, 1999 and Pring, 2014). In technical analysis, techniques and tools are used, such as trends, supports and resistances, reversal and continuation graphic patterns, candlestick patterns, price breaks and Fibonacci retracements, which will be applied in this study (Murphy, 1999; Nekritin & Peters, 2012 and Dongrey, 2022).

3. Methodology

This work aims to demonstrate the applicability and usefulness of technical analysis in the foreign exchange market. For this purpose, the quotes of the EUR/USD exchange rate pair were collected between January 1st and December 31st 2019. The option for this period of time aims to: i) avoid the impact of the Covid-19 effect, and ii) the impact of the inflationary crisis caused by the war between the Russian Federation and Ukraine. The exchange rate pair to be analyzed was EUR/USD, since, as argued by King et al. (2011) and Plíhal & Lyócsa (2021), is the pair with the greatest volatility and economic interest. In order to facilitate the study and achieve the proposed objectives, this paper used secondary data extracted from the Tradingview platform. To achieve the objective of this study, we used some of the main technical analysis tools, namely trends, supports and resistance, Fibonacci retracements and graphic patterns, with the aim of analyzing their applicability and reliability in the foreign exchange market. Therefore, the following procedures were taken into account in the analysis carried out: i) In the first phase, for a brief overview of the pair's past movements, a weekly timeframe was used, analyzing all the data available on the platform, since May 3, 1993 to December 31, 2018, for the purpose of finding important trends and support/resistance zones. In the year under study, a daily timeframe was used for a more detailed analysis and application of the tools studied; ii) The technical analysis tools were analyzed and discussed individually, with the aim of demonstrating their applicability and usefulness in the foreign exchange market, in this specific case, the EUR/USD currency pair, during 2019; iii) The charts to be analyzed during that period refer to the candlestick charts.
In this sense, and in order to achieve the central objective of this study, the following steps were defined: a) Select the currency pair with the highest market volatility, EUR/USD; b) Analyze the historical movements of the currency pair, from May 3, 1993 to December 31, 2018, in order to find old important support/resistance zones, as well as the predominant trends; c) Analyze the pair's movements and the impact of former support/resistance zones in the year under study; d) Analyze the trend, graphic patterns, candlestick patterns, Fibonacci retracements and price breaks and, e) in the case of candlestick patterns, analyze reversal patterns.

4. Results

The EUR/USD pair has been on a downward trend since 2008. In this weekly chart, with a general perspective of the pair's movements, it was possible, as seen in Figure 1, to identify some support/resistance zones that the price has been reaching respect since 1993 (blue lines), only identified within the pair's price fluctuation range during 2019 (white lines). Support/resistance zones were identified on the chart based on the definition of Nekritin and Peters (2012) and Sheimo (2020), as they are zones of indecision where the price has had difficulty breaking them and reversing the trend in recent decades. It is possible, even on this chart, to identify a descending trend line (red line), which will not be relevant for the year 2019, as it passes well above the oscillation range during the period under analysis.

Figure 1 - EUR/USD Global Framework

Source: Own elaboration on the Tradingview platform

In the year under study, it is possible to define two trends, which according to Chen (2010) and Lee et al. (2021) is the most important to analyze in a graph. In Figure 2 it is possible to observe a downward trend that lasts until October and an upward trend that starts in October and lasts until the end of the year (Adegboyeet al., 2021). In the downward trend it was possible to identify two trend lines and a channel line (Ranade, 2020). At the beginning of June, LTD 1 breaks, which begins to act as support for the price, in this case as a channel line, a common phenomenon already mentioned by the same authors. After the breakout, a second descending trend line (LTD 2) is defined, which acts as resistance to the price, causing the price to oscillate once again in another descending channel between LTD 2 and LTD 1. With the breakout of LTD 2 in October , the price begins an upward movement until the end of the year, creating an upward trend.

Figure 2 - EUR/USD Trends

Source: Own elaboration on the Tradingview platform

When breaking LTD 1, Figure 3 shows the formation of a pattern, Head & Shoulders, a bearish reversal pattern, which, according to Murphy (1999) and Alanazi (2020), is one of the most reliable. In this case it "fulfills" its task and reverses the price, ending a small pullback that occurred in the face of the downward trend (Hu et al., 2023). As discussed in the literature review, after the complete pattern, the price is observed to decline, make a small correction and find resistance at the neckline and impulsively descend. It is possible to observe how the volume is high in the first shoulder and in the head, and in the second shoulder the volume is low, a premise highlighted by Pring (2014) and Shannon (2023), as quite important in the Head & Shoulders pattern.

Figure 3 - Head & Shoulders EUR/USD

Source: Own elaboration on the Tradingview platform

In addition to the Head & Shoulders pattern, it was possible to observe two double bottoms and a double top (as shown in Figure 4). The first double bottom, bullish reversal pattern, appears at the 1.11325 resistance zone, where the price fails to break the support twice, forming the pattern characterized by two lows at the same price level and a peak between the lows (Chen, 2010 and Alanazi, 2020). The price finds some indecision breaking the peak line (Trembiński & Stawska, 2020), however it manages to break it and start a small upward movement (Fernández & Crespo, 2022). Towards the end of the year, during an upward movement, a double top appears, characterized by two peaks at the same price level and a valley between them (Chen, 2010 and Souza et al., 2021). After the pattern breaks the valley line, it easily descends to resistance at the price level of 1.09889. In the 1.09889 zone the price fails to break it twice, forming a double bottom again (Liu & Si, 2022 and Akbarzadeh & Soleimani, 2023). The price finds it difficult to break the peak line between the lows but ends up doing so and rises significantly (Yong et al., 2020 and Fernández & Crespo, 2022). In these last two patterns, it is possible to observe how the double top valley line coincides with the double bottom peak line (Ponsi, 2017 and Knight et al., 2024).

Figure 4 - EUR/USD Double Bottom and Double Top

Source: Own elaboration on the Tradingview platform

The most relevant candle reversal patterns found in the year under study are shown in Figure 5, with red showing bearish reversal patterns and green showing bullish reversal patterns. It is possible to observe that, after bearish reversal patterns, the price tends to fall as expected, as well as the opposite in bullish reversal patterns (Murphy, 1999 and Cohen, 2021). According to Pring (2014) and Guilizzoni & Eizaguirre (2022), a candlestick pattern has a better chance of being successful if it appears in a reversal zone - support/resistance zones, trend or channel lines, Fibonacci retracement zones, or chart pattern boundaries. - just as if it is preceded by a trend.

Figure 5 - EUR/USD Candlestick Patterns

Source: Own elaboration on the Tradingview platform

When LTD 1 is broken, and the first downward impulse ends, the Fibonacci retracement method is applied to discover possible trend retracement zones (Chen, 2010 and Tsinaslanidis et al., 2022). In this specific case, it is possible to observe in Figure 6 that the most important areas of the Fibonacci Retracement influence the price and act as resistance/support. The zone that ends the retracement is 61.80% when the price resumes its downward movement prevalent since the beginning of the year (Ramli et al., 2020 and Kung, 2022).

Figure 6 - Fibonacci Retracement I EUR/USD

Source: Own elaboration on the Tradingview platform

When the LTD 2 rupture occurs, the Fibonacci retracement method is applied again, and once again it can be seen in Figure 7 how the retracement zones act as support/resistance, thus locating possible market entry zones for the investor (Chen , 2010, Walker, 2021 and Jain et al., 2022). In this specific situation the price breaks the downward trend, finds support in the 23.60% zone, rises to higher levels until the end of the year, with resistance in the 61.80% zone.

Figure 7 - Fibonacci Retracement II EUR/USD

Source: Own elaboration on the Tradingview platform

5. **Conclusion**

Technical analysis studies the past behavior of assets to assist investors in their investment decisions. It does not allow us to know with certainty what will happen in the future, but it allows, with greater assertiveness, the analyst to calculate the future trend of an asset. In this study it was found that the analysis carried out on trends, trend lines and channel lines proved to be effective. Using these tools, it was possible to observe how prices move according to trends and respect trends and channel lines (Chen, 2010 and Das et al., 2022). The use of these tools made it possible to identify the predominant trend and locate possible reversal/continuation zones, in which good investment opportunities may arise (Pring, 2014 and Tsinaslanidis et al. 2022). The support/resistance zones and Fibonacci retracements proved to be valid in the analysis of the studied pair, since they allowed us to predict possible support/resistance zones. It was possible to observe, as described by Abe (2018) and Jain et al. (2022), that old support/resistance zones continue to affect the price past a few years. Regarding the Fibonacci retracement method, as discussed by Chen (2010) and Lusindah & Sumirat (2021), it was possible to observe how the retracement zones act as support/resistance. In general, chart patterns and candlestick patterns proved to be valid. According to Chen (2010) and Khan et al. (2022), reversal patterns indicate that a trend reversal is close, as can be seen in the patterns found in this study and when complete, they reversed the trend. Continuation patterns indicate that the asset is resting, but that after the structure breaks, the price follows the initial movement, as supported by Kahn (2010) and Nti et al. (2020).The reversal candle patterns studied also met the assumptions defined by Murphy (1999) and Alanazi (2020): after the high or low pattern, the trend reversed. Regarding price breaks, it was only possible to find one breakout break in the sample under study, which was found to be valid. The breakout respected the premises described by Pring (2014) and Trembiński & Stawska (2020), after a lateral movement, it breaks an important support zone, without being filled and reversing the trend. In conclusion, this study contributes to the literature in the area of foreign exchange markets, since it was possible to demonstrate the validity of the tools under study and verify that technical analysis can and should be used in the analysis of investors in the foreign exchange market to support their decisions, however, investors should be sensitive to other financial information about the asset, so that it is not exposed to unnecessary risks.

6. **References**

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Announcements, Conferences, News

2025 American Economic Association (AEA) Annual Meeting at the Allied Social Science Associations (ASSA) Conference

The American Economic Association (AEA) in conjunction with approximately 64 associations in related disciplines holds a three-day meeting (usually in January) to present papers on general economic subjects. Over 450 scholarly sessions are held.

The Allied Social Science Associations (ASSA) is a business moniker used to describe the annual meeting organized by the American Economic Association (AEA). There is no separately incorporated organization called ASSA. The AEA selects sites, commits to hotel contracts, organizes logistics, collects registration fees, and accepts overall responsibility for the operation of the meeting. The AEA invites sister societies to organize concurrent sessions at the ASSA meeting that may be of interest to AEA members.

Visit the American Economic Association booth at the ASSA 2025 Conference Exhibit, at the Hilton San Francisco Union Square, San Francisco, California. **January 2 – 5, 2025.**

Exhibit Hours: (Tentative)

Thursday, January 2, 2025, 1:30 p.m. – 7:00 p.m.
Friday, January 3, 2025, 9:00 a.m. – 6:00 p.m.
Saturday, January 4, 2025, 9:00 a.m. – 6:00 p.m.
Sunday, January 5, 2025, 9:00 a.m. – 1:00 p.m.
For more information about the conference program, visit the American Economic Association website!

Institute of Scientific Research for Sustainable Development
www.instituteikszq.org

Call for Paper

1ST INTERNATIONAL SCIENTIFIC CONFERENCE ON SUSTAINABLE REGIONAL DEVELOPMENT (ISCSRD)
Economic – Social – Environment - Culture
"Demographic Transition in 2050 and Regional Policies"
Kosovo, Prishtina, October, 17-18, 2024

Framework

The Institute of Scientific Research for Sustainable Development (IKSZQ) is organizing the ***1st International Scientific Conference on Sustainable Regional Development – Economy, Social, Environment, Culture, "Demographic Transition in 2050 and Regional Policies"*** in cities and territories of the developing world. The conference aims to bring together leading scientists, researchers and academics to exchange and share their expertise and knowledge on all aspects of sustainable regional development at the scale of cities and territories. It also serves as an interdisciplinary platform to discuss existing trends and challenges and responses adapted to the context of developing countries.
We are happy to announce the First Call for the *1st International Scientific Conference on Sustainable Regional Development - "Economy, Social, Environment and Culture"*. Topics are focused, but not limited to recent challenges in modern national economies and regional development.

In cooperation with: Regional Universities and other institutions

Please consider submitting an abstract at info@instituteikszq.org for the Conference within next months. We proudly hope to have your distinguish name among authors and participants. After receiving the full texts, The Scientific Committee will decide which papers should be included in the Plenary Session.

XLV AISRe Annual Scientific Conference, 4-6 September 2024, Turin, Italy

CONFERENCE

Date: 04/09/2024 - 06/09/2024

Venue: Turin, Italy

The Italian Regional Science Association (A.I.S.Re), the Italian Section of the Regional Science Association International (RSAI), announces its XLV Annual Scientific Conference and welcomes contributions from researchers working on different disciplines in the field of regional science. The conference venue is Università degli Studi di Torino, Campus Luigi Einaudi, Lungo Dora Siena, 100A.

The central theme of the conference is the digital and circular transformation and the new opportunities and challenges emerging from these radical changes for regions and cities. Despite the large commitment and investments envisaged by the PNRR, the adoption of the new digital technologies remains weak and highly unbalanced across businesses and territories, with the risk of worsening the territorial gaps between North and South as much as between centers and peripheries, and of postponing the much desired, and increasingly necessary, relaunch of productivity. The transition towards a circular economy, made compelling by the climate crisis, has found a further obstacle in the rapid and unexpected growth of inflation, and in particular in the sharp increase in energy prices, especially following the explosion of the conflict in Ukraine. The combination of these factors depict a new, more complex and changing scenario in which the future of the territories must be framed and appropriately rethought, in order to make the best of the vast possibilities offered by the PNRR, already in the early stages of implementation. The conference aims to represent an opportunity for reflection and discussion on the determinants and consequences of the digital and circular transformation underway in the various territories, as well as on the governance policies and structures which, in a context of greater political and economic uncertainty and turbulence, can better initiate and/or facilitate the transition towards a phase of renewed growth of the country and its regions and cities.

Cultural H.ID.RA.N.T

A worldwide awarded project of sustainable cultural and natural heritage management in Chalandri (Athens)

Event Overview[1]

Cultural H.ID.RA.N.T. stands for Cultural Hidden Identities ReAppear Through Networks of WaTer. It is an Urban Innovative Actions' project, co-financed by the European Commission, the Municipality of Chalandri and the Greek Green Fund. Cultural H.ID.RA.N.T. (henceforth CH) regards the regeneration of the Roman times' Hadrian aqueduct as a common cultural, water and urban resource in a sustainable way applying circular economy practices and participatory planning and management.

CH started in July 2020 and will end in June 30, 2024. In its (co-)design and implementation seven more partners are involved -from architectural firms to the Attica water operator, and from the ephorate of antiquities to universities- and most importantly several local stakeholders. Among the latter critical has been the engagement of the Citizens Association for the Protection of the 'Rematia' river-stream, of the Oral History Group of Chalandri and of the Chalandri Schools' Parents Association which gave access to school communities involving more than 700 people (primarily students) in the project's participatory design workshops. RA.N.T.'s life-span the subterranean and abandoned Hadrian aqueduct:

a. re-emerges as an ancient and in harmony with nature technical work and monument,

b. is utilized as a modern water resource with the construction of a new 4k long non-potable water pipelines, saving energy and 25.000 cubic meters of water annually, while promoting eco-friendly and sustainable water consumption and management,

c. its history along the centuries (built in 2nd c. AD) is highlighted and its relationship with the local community is documented 'from below' with the creation of www.archalandri.gr,

d. becomes the means of green and blue regeneration of four Chalandri neighborhoods (21,400 sq.m. in total) transfromed into new open public-use spaces while they counter the effects of global warming locally,

e. becomes a source of inspiration and artistic creativity related to water and the environment, cultivating ecological awareness by organising each summer the HIDRANT festival

f. functions as a platform for active citizenship, with local inhabitants engaging in participatory regeneration planning, founding the Local History Archive Group and the Hadrian (water management) Community of Chalandri, co-organizing the HIDRANT festival.

The project's innovative and integrative approach to Hadrian aqueduct's regeneration combined with its participatory methodology have been recognized internationally by receiving various distinctions. More recently it has been nominated by the European Heritage Hub /Eurocities as one of the ten best examples of innovative cultural heritage management in the EU that promote the aims of 'triple transformation' (green, digital, social) of our societies. CH

has also been shortlisted in three more international awards wining the prestigious 6th International Urban Innovation Awards of Guangzhou in the category of sustainable cultural heritage management. Besides, it has been invited and took part in international policy-making conferences on cultural heritage and urban water resources management (Creative Flip - Brussels, UIA Eurocities 2023 - Turin, Global Mayors' Forum - Canton).
The Guangzhou awards are one of the most important processes for distinguishing urban management programs and policies around the world. They are co-organized every two years by the Municipality of Guangzhou (Canton, China) and two international organizations, UCLG (Union of Cities and Local Governments) and Metropolis (Union of Large Metropolis). Two municipal and regional authorities' networks that act as consultants at UN level in urban policies making, such as the Sustainable Development Goals (SDGs) and the New Urban Agenda (New Urban Agenda) which were the main criteria for the selection of the awards' winners. CH and the Municipality of Chalandri stood out as one of the best examples of sustainable management of urban, cultural and natural resources among 274 other nominations from 193 cities around the world, as decided by a 11-member international committee consisting of distinguished mayors, local governors and experts in urban policy.
The Guangzhou awards are combined with the Global Mayors Forum and this year took place in 7-
9 December, 2023. This international conference is a meeting place for hundreds of cities, local government bodies, scientists and experts in urban policy matters, giving the opportunity to make known innovative projects and practices of urban management, to strengthen collaborations and exchange know-how. The delegation of CH and the Municipality of Halandri, as one of the award winning cities, was honored in various ways throughout this three-day event. Vice-Mayor Mr. Gerolymatos, who headed Chalandri's delegation, took part in the opening panel of the Global Mayors' Forum, and the next day in an open public event organized in the impressive new building of the municipal Guangzhou library. Mr. Gerolymatos held also various press conferences and interviews with the local and regional Chinese media, which focused primarily on the innovation of a program that brings back to life an ancient monument in an environmentally sustainable way and on the possibility of transferring know-how and developing relationships with other cities.
In addition, CH's project manager Mr. Chr. Giovanopoulos took part in the Global Mayors' Forum thematic event "Sustainable management of urban and cultural resources", where he discussed with mayors and representatives from the cities of Guangzhou (China), Cairo (Egypt) and Antalya (Turkey). CH and Chalandri's participation in such an event, highlighted the innovative importance of Cultural H.ID.RA.N.T.'s integrative approach and participatory methodology to tackling urban and environmental challenges, and gave the chance to the municipality of Chalandri to establish relations with a wide array of city authorities and urban policy makers from all over the world, broadening the perspectives of its role and contribution to local urban governance.

Academic Profiles

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Professor Ebonya L. Washington
V*ice-President* of *The American Economic Association – AEA, 2024.* The Laurans A. and Arlene Mendelson Professor of Economics and Professor of International and Public Affairs, Columbia University.

Statement of Purpose: As the 2019 AEA Climate Survey makes clear, economics is too often an unwelcoming profession even for those of us with many years of experience as insiders. I have been involved with many mentoring programs aimed at helping underrepresented people reshape themselves to survive in economics' hostile environment. These programs are important and necessary, but wholly insufficient. If economics has any hope for future relevance as society's conversations and concerns diversify, it's the profession that needs to change. I'm running for office to work from the inside to widen the perspectives and perceptions of the leaders and gatekeepers of this profession. As my co-authored qualitative work in the 2020 *JEP* makes clear, continuing on with the status quo means that good ideas and good people will continue to be lost from our ranks.
Previous and Present Positions: Laurans A. and Arlene Mendelson Professor of Economics and Professor of International and Public Affairs, Columbia University, 2022–; Co-Director, Political Economy Program, NBER, 2021–; Samuel C. Park Junior Professor of Economics, Yale University, 2018–22, previously Full/Associate/Assistant Professor, Yale University, 2004–18; Research Associate (previously Faculty Research Fellow), NBER, 2004–; Post-Doctoral Lecturer, Department of Economics, Massachusetts Institute of Technology, 2003–04**.**
Degrees: Ph.D. in Economics, MIT, 2003; B.A. with honors in public policy, Brown University.
Publications: "Political Alignment, Attitudes toward Government and Tax Evasion" (with Cullen and Turner), *AEJ: Economic Policy,* 2021; "How You Can Work to Increase the Presence and Improve the Experience of Black, Latinx and Native American People in the Economics Profession" (with Bayer and Hoover), *JEP,* 2020; "Why Did the Democrats Lose the South? Bringing New Data to an Old Debate" (with Kuziemko), *AER*, 2018; "Support for Redistribution in an Age of Rising Inequality: New Stylized Facts and Some Tentative Explanations" (with Ashok and Kuziemko*), Brookings Papers on Economic Activity,* 2015; "Valuing the Vote: The Redistribution of Voting Rights and State Funds Following the Voting Rights Act of 1965" (with Cascio), *Quarterly Journal of Economics,* 2014; Does Less Income Mean Less Representation?" (with Brunner and Ross), *AEJ: Economic Policy*, 2013; "Do Majority-Black Districts Limit Blacks' Representation? The Case of the 1990 Redistricting," *Journal of Law and Economics*, 2012; "The First of the Month Effect: Consumer Behavior and Store Responses" (with Hastings), *AEJ: Economic Policy,* 2010; "Sticking with Your Vote: Cognitive Dissonance and Political Attitudes" (with Mullainathan), *AEJ: Applied Economics*, 2009; "Female Socialization: How Daughters Affect Their Legislator Fathers' Voting on Women's Issues," *AER,* 2008; "How Black Candidates Affect Voter Turnout," *Quarterly Journal of Economics*, 2006.
AEA Offices, Committee Memberships, and Honors: Co-Chair, Committee on the Status of Minority Groups in the Economics Profession, 2018– (member, 2014–16); *JEP* Editor Search Committee, 2020; Editorial Board, *AEJ: Economic Policy*, 2019–; Associate Editor, *JEP,* 2017–22; AEA Program Committee, 2016.
Other Affiliations and Honors: Econometric Society Fellow, elected 2021; American Academy of Arts and Sciences Member, elected 2021; NBER Working Group on Race and Stratification in the Economy Steering Committee, 2020–; Associate Editor, *Quarterly Journal of Economics*, 2014–; Foreign Editor, *Review of Economic Studies*, 2014–20; Associate Editor, *Journal of the European Economic Association*, 2013–17; National Science Foundation Economics Advisory Panel and Ad Hoc Reviewer; National Science Foundation CAREER Award, 2010–15.

Academic Profile by:
Professor Assistant Filipos Ruxho
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Professor Evis Kushi

She is served as 52nd Minister of Education, Sports and Youth of Albania during the period 2020-2023. She is married and has two daughters. She graduated in 1997 with a Business-Administration (Marketing) degree, Faculty of Economics, Tirana University. In 2008, she earned the science degree “Doctor” (PhD) in Economics - Tourism, Staffordshire University, England. In November 2010, she earned the academic title “Associated Professor,” in “Aleksandër Moisiu” University, Durrës, Albania. Six years later, in 26th July of 2016, she also earned the academic title “Professor” from the “Agricultural University” of Tirana, Albania. She started her career in 1998 as a lecturer in “Aleksandër Xhuvani” University, Elbasan, in the primary courses “Basics of Marketing” and “Econometrics” (1998-2012). From 2010-2012, she held the position of director of “Economics and Law” Department, Faculty of Economics, “Aleksandër Xhuvani” University, Elbasan. In 2012-2013, she served as the dean of the Faculty of Economics in the same university. From 2013, she has served as part-time professor in “Aleksandër Xhuvani” University, Elbasan, and “Mediterranean University of Albania”. She has participated in many national and international conferences. She is author and coauthor in a number of scientific publications. She is fluent in English, French and Italian.

Books:
-Kushi E. (2010), Information Asymmetry, Quality and Prices in the Tourism Market: An Application to Albanian Holiday Hotels, Monograph published by Lambert Academic Publishing, Saarbrucken, Germany.
-Ceki B., Koja V. and Caku (Kushi) E. (2010), Baza Marketingu – Situata dhe Ushtrime (Principles of Marketing – Case studies and exercises), Tirana, Albania.
-Kushi E. and Caca E. (2014), Ekonometri – Cikel leksionesh per programin Master Professional Elbasan, Albania.

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https://www.rsijournal.eu/ARTICLES/Journal_2/RSIJUNE2010.pdf#page=65
https://core.ac.uk/download/pdf/229448967.pdf

Rector - Professor Armand Krasniqi

Professor Armand Krasniqi since 2021 and present is the Rector of the University "Haxhi Zeka" Peja, Republic of Kosovo. He first served as a full professor at the Faculty of Economics of the University of Prishtina, where during the period 2010-2012 he also held the position of Dean of the Faculty of Applied Sciences at the Peja Campus. At the same time, he has been working as a professor in various universities in the Western Balkans region such as Northern Macedonia, Albania, Bosnia and Herzegovina and Montenegro. He completed his Doctoral Studies at the Faculty of Law of the University of Prishtina together with his post-graduate MSc studies in Law and BSc. in Law. Regarding his professional work, he has successfully practiced the advocacy as well as served as a legal advisor to the Government of Kosovo in the period 2008-2010, and an expert in drafting the concept for the transformation of the public university under the Ministry of Education, Science and Technology of Kosovo.

He is the author of nine texts: "International Commercial Arbitration Law", "Administration of Tourism and Hospitality Services", "Management Organizations and Destinations in Tourism", Business Law, "International Business Law", "Law of Business Contract", "Legal Ownership", "Public Administration of Tourist Agencies and Destinations in Kosovo - monograph", "Banking Law, Banking & E-banking".

Won several awards for his great contributions to thought and knowledge from the academic community of Kosovo for the institutional achievements and promotion of international cooperation in higher education through the Erasmus+ Program of the European Union which is a unique mechanism for transferring knowledge in students and academic staff with involvement in local and international development projects as well. He has successfully managed to transform “Haxhi Zeka” University by including in their curricula the teaching methods with applicable scientific research that guarantees quality in the educational process and provides opportunities for students to produce knowledge. He has also been evaluated by stakeholders, civil society, chambers of various industry sectors for his innovative initiatives in promoting the Dual Studies program that enables students to study and gain experience at the same time. Through these successful collaborative initiatives, he has managed to promote the contributing role in the society of Haxhi Zeka University, Peja, and simultaneously promoting the concept of lifelong learning in the youngest society of the new born state of Kosovo. He is an editor, a member of scientific commissions and academic boards in several international scientific journals. His scientific work has been published in international scientific journals indexed in Scopus and WoS where it has been evaluated through citations with particular dominance in the legal, business, management and tourism spheres.

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Professor Arben Merkoçi

Professor and director of the Nanobioelectronics & Biosensors Group at Institut Català de Nanociencia i Nanotecnologia (ICN), Autonomous University of Barcelona (UAB), Spain. Member of the *Academy of Sciences of Albania.*

ICREA Research Professor and leader of the ICN2 Nanobioelectronics and Biosensors Group, Arben Merkoçi obtained his PhD at the *University of Tirana* (Albania) in ion selective electrodes. Since 1992 he has carried out research as postdoctoral fellow and research professor at the *Polytechnic University of Budapest* (Hungary), *University of Ioannina* (Greece), *Università degli Studi di Padova* (Italy), *Universitat Politècnica de Catalunya*, *Universitat Autònoma de Barcelona* and *New Mexico State University* (USA). His research is focused on the integration of biological molecules and other species with micro- and nanostructures to design novel (bio)sensors. He is member of the *Academy of Sciences of Albania* and director and coordinator of NANOALB (www.nanoalb.al), the regional network of nanoscience and nanotechnology.
Prof. Merkoçi is Co-Editor in Chief of *Biosensors and Bioelectronics*, the principal international journal devoted to research, design development and application of biosensors and bioelectronics, member of editorial board of *Electroanalysis, Microchimica Acta* and other journals.
Prof. Merkoçi has published 353 articles (H-index / citations: Google Scholar 91 / 32689; WOS 81 / 25064) and supervised 40 finished PhD theses. He is also involved in teaching PhD courses in the field of nanomaterial- based biosensors in several Spanish and international centres. He has been a member of the commission for establishing the new Nanoscience and Nanotechnology undergraduate academic curriculum at the UAB, the first one in Spain, which started during the academic year 2010- 2011. He is a member of the Academics Working Group of BIST and coordinator of the Nanodiagnostics module of the Nanotechnology Master at the UAB.
He has got several national and international grants related to nanomaterials application in biosensors and his group is collaborating with several worldwide leading labs in the field of nanobiosensors. Prof. Merkoçi serves also as scientific evaluator and member of panels of experts of various international governmental and nongovernmental agencies (EU-FP and EU-ERC panels and other panels in Europe, USA and other countries), as a scientific committee member of many international congresses, director of several workshops and other scientific events and have been invited to give plenary lectures, keynote and invited speeches in more than 220 occasions in various countries. Prof. Merkoçi is the co-founder of two spin-off companies: *GraphenicaLab*, devoted to graphene patterning, and *PaperDrop*, dedicated to clinical diagnostics.

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Professor Lea Ypi

Albanian academic and author
Professor in Political Theory, Department of Government. London School of Economics, London, UK.

Lea Ypi is Professor in Political Theory in the Government Department, London School of Economics, and Adjunct Associate Professor in Philosophy at the Research School of Social Sciences, Australian National University. Before joining the LSE, she was a Post-Doctoral Prize Research Fellow at Nuffield College (Oxford) and a researcher at the European University Institute where she obtained her PhD.
She has degrees in Philosophy and Literature from the University of Rome, La Sapienza, and has held visiting and research positions at Sciences Po, the University of Frankfurt, the Wissenschaftszentrum Berlin, the Australian National University and the Italian Institute for Historical Studies.
Research interests
-Normative political theory (including democratic theory, theories of justice, and issues of migration and territorial rights).
-Enlightenment political thought (especially Kant).
-Nationalism in the intellectual history of the Balkans (especially Albania).
Selected publications
-Free Coming of Age at the End of History (2021).
-The Architectonic of Reason

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Prof. **Christos A. LADIAS**, Ph.d., was born in 1950, in Trikala, Thessaly, Greece. He holds a B.Sc. from the Department of Economics, University of Athens; an M.Sc. in Urban and Regional Development, from Panteion University of Social and Political Sciences, Institute of Regional Development (IPA), and a Ph.D. in Urban and Regional Development, from the Department of Urban and Regional Development, Panteion University.
Currently, he is the Publisher and Editor-in-Chief of the international scientific journal *Regional Science Inquiry Journal* (rated by EconLit, Scopus, and R.S.A.I.), published under the aegis of the Hellenic Association of Regional Scientists; the author of authorized University textbooks, a Special Consultant of the Economic and Social Committee of Greece (O.K.E.); and a full member of the *American Economic Association* (A.E.A.).
His former titles include:
Professor of *Regional Economics*, at the *Department of Economic and Regional Development*, Panteion University of Social and Political Sciences, Greece (2005-2018)
Professor of *Economics*, at the Engineer Stream (S.M.A.), and *Professor* of *Probability and Statistics* at the Pilot Stream, of the Hellenic Air Force Academy – H.A.F.A., Greece (1995-2005),
Prefect in the Prefectures of *Phthiotis* and *Corinthia*, Greece (1990-1993),
Academic Researcher, at the *Institute of Regional Development*, Panteion University of Social and Political Sciences (2004-2007),
Member of the Committee for the Institutional Modernization of the Greek Regions, of the Hellenic Ministry of the Interior Public Administration and Decentralization (2007-2009),
Member of the *National Land Planning and Sustainable Development Council*, at the Hellenic Ministry for the Environment, Physical Planning and Public Works, (2005-2012)
President of the Greek Regional Economists' Association (S.E.P.) (2004-2012),
During his academic career, he taught in Postgraduate Programs at the Panteion University of Social and Political Sciences, the National and Kapodistrian University of Athens, and the University of the Aegean, Greece, as well as at other Institutions of Higher Education, such as the Hellenic Army Officers School (Evelpidon), the Hellenic Police Academy (Officers' Section), the Police Academy, and the Technological Institute of Higher Education of Athens. He has also taught in Seminar Programs, at the Institute of Regional Development (IPA), Panteion University, the National Centre of Public Administration, and many more.
He has published several scientific papers in international and Greek peer-review journals, several chapters in collective volumes, and has been a lecturer in Greek and international scientific conferences in economics, as well as a lecturer on various topics of important events. He also authored the following scientific and academic books:
Regional Policy Issues in Greece, Athens, Greek Regionalists' Association, 1999,
The Institutional Framework and Water Resource Management in the Prefecture of Corinthia, Corinthos: Independent Organization of Stymfalia Asopos, Corinthia Prefecture, 1993,
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The contemporary institutional framework of regional development in Greece, *1st edition*, Athens, Papazisis Publications (309p), ISBN 978-960-02-2747-5, authorized university textbook (best seller), 2013,
Specific issues of local government, *1st edition*, Athens, Papazisis Publications, (350p), ISBN 978-960-02-3056-7, authorized university textbook (best seller), 2014,
The European Regions today, *1st edition*, Athens, Papazisis Publications, (480p), ISBN 978-960-02-3128, authorized university textbook, 2015.
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Associate Professor Ilirjana Zyberi

She is an Associate Professor in Economics and Finance at the Faculty of Economics of the University "Eqrem Cabej" Gjirokaster, Albania. She was born in the city of Kuçove, Berat Prefecture, and lives in Gjirokaster, where she completed her high school education at the "Asim Zeneli" Gymnasium with excellent results.

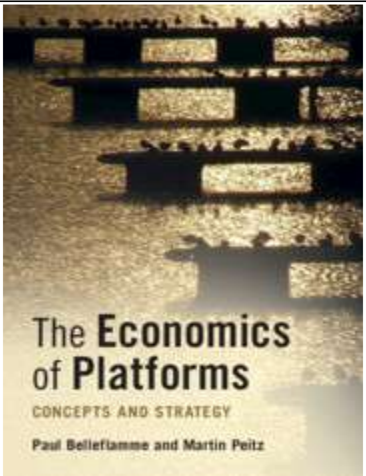
She graduated with a Finance degree from the Faculty of Economics, Tirana University. In 2003, she earned the science degree "Doctor" (PhD) in Economics – Finance. She earned the academic title "Associated Professor," in Tirana University. She started her career in 2003 as a lecturer in "Eqrem Cabej" University, Gjirokaster, in the primary courses "Finance" and "Economics". She has participated in many national and international conferences. She is author and coauthor in a number of scientific publications. She is fluent in English, Greek and Italian. Always committed to creating an academic environment with high standards that encourage excellence in teaching and learning. She is a Member of the European Council for Small Business and Entrepreneurship. Has participated in many research projects at research centers in Albania and Europe as participant, coordinator, partner and Senior Expert for the local Institutions and Albania Ministry of Finance.

Fields of research: Is committed to developing original, high-quality research in finance, and produce cutting-edge research and analyses finance industry topics in most areas of finance like Corporate Finance, Asset Management, Banking and Financial Intermediation, International Finance, Theoretical Asset Pricing. Speaker in many national and international conferences and roundtables.

Academic Profile by:
Professor Assistant Filipos Ruxho
Sustainable Regional Development Scientific Journal – SRDSJ

References:
https://conferencii.com/archive/2021-06.pdf#page=62
https://core.ac.uk/download/pdf/228543301.pdf
https://www.unwe.bg/doi/yearbook/2021.2/YB.2021.2.11.pdf

Book Reviews



The Economics of Platforms: Concepts and Strategy. By Paul Belleflamme and Martin Peitz. Cambridge, UK: Cambridge University Press, 2021.

From the fine team who brought us their textbook Industrial Organization: Markets and Strategies (Belleflamme and Peitz 2010), the best industrial organization (IO) text since Jean Tirole's (1988) masterful work, we now have a much awaited and much needed book about platform economics. It's been a long time coming, as were the academic economists late getting to the heart of the business model that has become so prevalent. As the authors explain, the subject has been burgeoning faster than they could keep up with it. Their workaround expedient is to divide the subject into two parts. So, this volume comprises the background and monopoly analysis. We will have to wait for a while to get the competitive analysis and competition policy/regulation, but their strategy makes a lot of sense. They have written several review pieces and multiple papers since their IO text. They've borrowed from these and their text, sometimes verbatim (as they tell us upfront). This means this material is already written up and now is brought together for a fuller picture (with the second volume to complete it, though the authors already give multiple pointers of key insights on competition). The volume provides a lot of up-to-date references to state of-the-art work, so it will be accessible to a wider audience as soon as possible. Consequently, the book is an amalgam of styles. The first two chapters take quite a jaunty trip through describing network effects and ratings/ recommendations respectively, with nary a formal model in sight. The fifth chapter ends up with a dense algebraic delivery of multiple variants on pricing contracts within a common linear framework, and the sixth chapter includes some really keen synopses of seminal contributions (that will scarcely be accessible to undergraduates). Nonetheless, for the researcher this is all invaluable. Chapters 3 and 4 nicely cover core concepts: how to derive network demands, equilibrium multiplicity, chicken–egg, divide-and-conquer strategies, and overcoming failure to launch. The chapters use a common structure of "lessons" (two-line more formal takeaways—often followed by pithy informal and incisive takeaways) and are peppered with nice real-world example "cases," and then have a synopsis at the end of each in the "Key Insights." The "lessons" are analogous to the way one might look through a paper to see highlights in propositions and theorems (although several repeat variants of platforms pricing low to one group to extract more from the other). More technical material is marked with a warning that "Less mathematically oriented readers may want to skip this part" and the authors do try to convey the content.

The book can be used as a background for some key concepts on platforms, and then melded to either a deeper IO coverage, or more on competition, or indeed some more specialized platform area. For example, media economics could be one segue that can follow after talking about some of the background issues that are motivated from the material here. I hope to see more on media in the other volume! There are also some price discrimination gems to pick from in the text and these resonate with students.

Congratulations to the authors for putting this out, especially under the time constraints under which they worked. The reader will find a wealth of interesting developments, issues, and material to draw on to understand the key concepts of platform economics. I think this would be a good book to teach from—and for such a compelling topic.

Book Review by:
Profesor Assistant Filipos A. RUXHO,
Sustainable Regional Development Scientific Journal - SRDSJ

International Commercial Arbitration Law. By Armand Krasniqi, 2024. CSARA Publishing [in Albanian].

The book **International Commercial Arbitration Law** (p.705), written by **Professor Armand Krasniqi**, is a newly released work (Publication Year: 2024) available in the Albanian academic literature. The author is a professor of law and currently serves as a Rector of University of Haxhi Zeka of Peja and as a Full Professor of law courses at the Faculty of Economics at the University of Prishtina, Kosovo. More than 100 articles by Prof. Armand Krasniqi have been published in scientific journals, book chapters, and conference proceedings, covering abroad topics, such as Law, Business, Regional Economics, International relations and other related.
In the context of the interdisciplinary academic background of the author, this book covers a significant number of issues related to the multidisciplinary field of law studies and international commercial arbitration. The book includes eleven (XI) chapters that provides in particular:
Chapter I. The meaning of international commercial arbitration
Chapter II. Types of international commercial arbitration
Chapter III. Sources of international commercial arbitration law
Chapter IV. Arbitration Agreement
Chapter V. Appointment and status of arbitrators
Chapter VI. The substantive law of international trade arbitration
Chapter VII. Procedural law of international trade arbitration
Chapter VIII. Arbitration Award
Chapter IX. Annulment, acceptance and implementation of the arbitration decision
Chapter X. Recognition and execution of the foreign arbitration award
Chapter XI. Arbitration of international trade under the law of the European Union.
Being equipped with abroad topic range, multidisciplinary conceptualization, high level of analysis, examples on problems solution, attractive illustration, and quality page paper and hardcover binding, the book International Commercial Arbitration Law, is multiplex useful and is a must-to-have book for (i) scholars, academics, and researchers, who activate in this field and need to have it as framework included in a single book; (ii) students, at all levels, who need a comprehensive, sound, well-structured, and attractive course-book; and (iii) practitioners and policymakers, who work in all related fields and need a reference book. The overall added value of this book may motivate the author to consider editing an English version in the future to make it available to the international community.

Book Review by
Filipos A. RUXHO, Professor Assistant,
Sustainable Regional Development Scientific Journal - SRDSJ

GUIDELINES

For the Writers & a format model for the articles
submitted to be reviewed & published in the journal

Sustainable Regional Development Scientific Journal

(Bibliothèque Nationale de France, BnF) – www.srdsjournal.eu

Guidelines for the Writers & a format model for the Articles submitted to be reviewed & published in thejournal

The Title of the paper must be centered, and the font must be Times New Roman,size 12, in Uppercase, in Bold

For the writers' personal information use the Times New Roman font, size 11, in bold, and centered. Use lowercase for the first name and uppercase for the last name. The line below the name includes the professional title and workplace; use the Times New Roman font, size 10, centered. In the third line write only the contact e-mail address in Times New Roman 10, centered.

Name LAST NAME

Professional Title, WorkplaceE-mail Address

Name LAST NAME

Professional Title, WorkplaceE-mail Address

Abstract

The abstract consists of a single paragraph, no longer than 250 words. The font must be Times New Roman, size 11. The text must be justified. The title "Abstract" must be aligned left, in Times New Roman, size 11, in bold. A space of one line must be left between the title and the text of the abstract. The abstract must contain sufficient information, be factual, and include the basic data of the paper.

Keywords: Use 3 to 5 keywords, separated by commas

JEL classification: We kindly request that you classify your paper according to the JEL system, which is used to classify articles, dissertations, books, book reviews, and a variety of other applications. The use of the JEL classification is necessary so that your paper be properly indexed in databases such as EconLit. Select the codes that represent your article and separate them by commas. You can find information on the JEL system here: https://www.aeaweb.org/jel/guide/jel.php

1. **Introduction**

All articles must begin with an introduction, a section which demarcates the theoretical background and the goals of the paper.

The present document provides the necessary information and formatting guidelines for you to write your article. We recommend that you copy this file to your computer and insert your own text in it, keeping the format that has already been set. All the different parts of the article (title, main text, headers, titles, etc.) have already been set, as in the present document- model. The main text must be written in regular Times New Roman font, size 11, justified, with a 0.5 cm indent for the first line of each paragraph.

We recommend that you save this document to your computer as a Word document model. Therefore, it will be easy for you to have your article in the correct format and ready to be submitted. **The only form in which the file will be accepted is MS Word 2003**. If you have a later version of Microsoft Office / Word, you can edit it as follows:

- Once you have finished formatting your text, create a pdf file, and then save your file as a Word "97-2003" (.doc) file.

- Compare the two files – the pdf one and the Word "97-2003" (.doc) one.
- If you do not note any significant differences between the two, then – and only then – you can submit your article to us, **sending both the pdf and the Word "97-2003" (.doc) files** to our e-mail address.

If you use a word processor other than Microsoft Word, we recommend that you follow the same procedure as above, creating a pdf file and using the appropriate add-on in order to save your document in MS Word "97-2003" (.doc) form. Once you compare the two files (and find no significant differences), send us both.

2. General Guidelines on Paper Formatting

2.1. Body

The body of the text consists of different sections which describe the content of the article (for example: Method, Findings, Analysis, Discussion, etc.). You can use up to three levels of sections – sub-sections. For the Body of the text, use the default format style in Word, selecting the Times New Roman font, size 11, justified, with a 0.5 cm indent for the first line of each paragraph (this is further detailed in the section "Paragraphs").

2.2. References

The references included in the paper must be cited at the end of the text. All references used in the body of the paper must be listed alphabetically (this is further detailed in the section "References").

2.3. Appendices

The section "Appendices" follows the section "References".

3. Page formatting

3.1. Page size

The page size must be A4 (21 x 29,7 cm), and its orientation must be "portrait". This stands for all the pages of the paper. "Landscape" orientation is inadmissible.

3.2. Margins

Top margin: 2,54cm
Bottom margin:
1,5cm
Left and right margins: 3,17cm
Gutter margin: 0cm

3.3. Headers and Footers

Go to "Format" → "Page", and select a 1,25cm margin for the header and a 1,25cm margin for the footer. Do not write inside the headers and footers, and do not insert page numbers.

3.4. Footnotes

The use of footnotes or endnotes is expressly prohibited. In case further explanation is deemed necessary, you must integrate it in the body of the paper.

3.5. Abbreviations and Acronyms

Abbreviations and acronyms must be defined in the abstract, as well as the first time each oneis used in the body of the text.

3.6. Section headers

We recommend that you use up to three sections – sub-sections. Select a simple numbering for the sections – sub-sections according to the present model.

3.7. First level header format

For the headers of the main sections use the Times New Roman font, size 11, in bold and underlined, and leave a size 12 spacing before the paragraph and a size 6 spacing after the paragraph. The header must be aligned left. Use a capital letter only for the first letter of the header.

3.8. Second level header format

For second level headers, follow this model. Use the Times New Roman font, size 11, in bold, and leave a size 12 spacing before the paragraph and a size 3 spacing after the paragraph. Select a 0.5 cm indent. The header must be aligned left. Use a capital letter only for the first letter of the header.

3.8.1. Third level header

For third level headers, follow this model. Use the Times New Roman font, size 11, in bold and italics, and leave a size 6 spacing before the paragraph and a size 0 spacing after the paragraph. The header must be aligned left, with a left indent of 1 cm. Use a capital letter only for the first letter of the header.

4. Paragraphs

In every paragraph, use the Times New Roman font, size 11, with single line spacing. We recommend you modify the default (normal) format style in Word and use that in your text. For all paragraphs, the spacings before and after the paragraph must be size 0, and the line spacing single. Use a 0,5cm indent only for the first line of each paragraph. Leave no spacings nor lines between paragraphs.

4.1. Lists

In case you need to present data in the form of a list, use the following format:

- Bullet indent: 1,14cm
- Text:
    - Following tab at: 1,5 cm
    - Indent at: 1,5cm

Use the same format (the above values) if you use numbering for your list.

1. Example of numbered list 1
2. Example of numbered list 1

5. Figures, images, and tables

5.1. Figures and images

Insert your figures and images directly after the part where they are mentioned in the body of text. They must be centered, numbered, and have a short descriptive title.
Figures put together "as they are", using Office tools, are absolutely inadmissible. The figures used must have been exclusively inserted as images in Word, in gif, jpg, or png form (with an analysis of at least 200dpi), and in line with the text. The width of an image must not exceed 14,5cm so that it does not exceed the margins set above.
The images, figures, and tables must be inserted "as they are" in the text, in line with it.

Figures and images which have been inserted in a text box are absolutely inadmissible.

5.1.1. Reference inside the text

Avoid phrases such as “the table above” or the “figure below” when citing figures and images. Use instead “in Table 1”, “in Figure 2”, etc.

5.1.2. Examples

A model of how to format figures/images follows. For the title, use the Times New Roman font, size 10, in bold. Write the title above the figure, and set a size 6 spacing before the title anda size 0 spacing after it. The line spacing of the title must be 1.5 line. Both the image and its title must be centered.

Image 1: Title

Source: cite the source

Directly below the figure you must cite the source from which you took the image, or any note regarding the figure, written in Times New Roman, size 10. Write it below the figure, leaving a size 0 spacing before and after it, use a line spacing of 1.5 line, and make it centered.

5.2. Tables

For the title, use the Times New Roman font, size 10, in bold. Write the title above the table, and set a size 6 spacing before the title and a size 0 spacing after it. The line spacing of the title must be 1.5 line. Both the table and its title must be centered. The width of the table must not exceed 14,5cm so that it does not exceed the page margins set.

Table 1. Example of how a table must be formatted

Age	Frequency	Percentage %
Under 40	44	32.1
40 - 49	68	49.6
Over 50	25	18.2
Total	**137**	**100.0**

Source: cite the source

If the table needs to continue on the next page, select in the “Table properties” that the first line be repeated as a header in every page, as in the above example of Table 1. **Tables (or figures or images) which are included in pages with a “Landscape” orientation are absolutely inadmissible.**

Every table must have horizontal lines 1 pt. wide at the top and bottom, as shown in the example. The use of vertical lines and color fill at the background of the cells is strictly prohibited.

Directly below the table you must cite the source or any note regarding the table, written in Times New Roman, size 10. Write it below the table, leaving a size 0 spacing before and a size 6spacing after it, and make it centered.

6. Mathematical formulas

There is a variety of tools in order to insert and process mathematical formulas, such as the "Mathematics", found in the most recent editions of Word, "Math Type", "Fast Math Formula Editor", "MathCast Equation Editor", "Math Editor". Since it is impossible for us to provide youwith compatibility with all these tools in all their editions, **we can only admit your paper if it contains mathematical formulas solely in the form of images.**
Keep a continuous numbering for the mathematical formulas and center them in the page, as shown in the following example:

$$y = ax^2 + bx + c \tag{1}$$

The same stands for formulas or particular mathematical symbols you may have integrated in your text. For instance, if you want to use the term ax^2 in your text, you must insert it as an imaged, in line with the text. The images containing the mathematical formulas must be legible (at least 300dpi).
In the exceptional case of a text which may contain a great number of mathematical formulas, the writer may send it to us in TeX form if they so wish.

7. References

We recommend that you use the Chicago Manual of Style Author-Date system, as it is recommended by the AEA (American Economic Association) for the journals included in the EconLit database, and it is the dominant style of bibliography in the field of Economics. For more information, you can go to the following links:

- https://www.aeaweb.org/journals/policies/sample-references
- http://www.chicagomanualofstyle.org/tools_citationguide.html
- http://libguides.williams.edu/citing/chicago-author-date#s-lg-box-12037253

7.1. Online references (internet citations)

Check your links again before sending your file, to confirm that they are active.
Avoid long internet links. Where possible, also cite the title of the website operator-owner. Return the font color to black, and remove the hyperlink. Links such as the following are impractical and distasteful, therefore should be avoided.

Example of an inadmissible hyperlink

https://el.wikipedia.org/wiki/%CE%9F%CE%B9%CE%BA%CE%BF%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CE%AC

7.2. References Formatting

For your list of references, use the Times New Roman font, size 10, with single line spacing. The paragraph format must include a size 0 spacing before the paragraph and a size 0 spacing after it, aligned left. Use a 0,5 cm indent only for the first line of each paragraph. Leave no spacings or lines between paragraphs.

7.3. Example of how References must be formatted

Bureau of Labor Statistics. 2000–2010. "Current Employment Statistics: Colorado, Total Nonfarm, Seasonally adjusted - SMS08000000000000001." United States Department of Labor. http://data.bls.gov/cgi- bin/surveymost?sm+08 (accessed February 9, 2011).
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