



UNIVERSITY OF THE AEGEAN

Master Program: "European Societies and European Integration"

THESIS

***Topic: Greek Regions and Governance. New challenges and organization of Air
Navigation Services in the European Area.***

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Academic year: 2018-2019

LIST OF CONTENTS

EXECUTIVE SUMMARY	4
METHODOLOGY.....	5
INTRODUCTION.....	6
1. EUROPEAN GOVERNANCE AND THE INSTITUTIONAL FRAMEWORK IN THE AIR NAVIGATIONS.....	8
1.1. European Governance and Regional Policy	8
1.1.1. Regional Policy, transports and air navigations.....	9
1.2. INSTITUTIONAL EUROPEAN FRAMEWORK.....	10
1.2.1. European Civil Aviation Conference (ECAC)	13
1.2.2. European Organization for the Safety of Air Navigation (EUROCONTROL)	14
1.2.3. European Aviation Safety Agency (EASA)	15
1.3. Focus on Germany.....	15
1.4. Focus on Greece.....	17
2. AIRPORT MANAGEMENT	20
2.1. European Area	20
2.2. Germany case study	21
2.2.1. Air navigations and Transport Policies	22
2.2.2. Deutsche Flugsicherung GmbH (DFS)	24
2.2.3. Fraport	25
2.3. Greece case study.....	26
2.3.1. Air Navigations and Transport Policies	28
2.3.2. Fraport in Greece	31
3. PERFORMANCE BENCHMARKING IN GREEK ECONOMY	34
3.1. European Regional Policy as a factor in Greek Economy in the field of air navigations.....	34
3.2. Economic performance of Greek airports managed by Fraport.....	36
3.3. Factors limiting performance benchmarking in Greece.....	36
3.4. The consequences on the Greek Economy	38
Conclusions	41
BIBLIOGRAFY	43
ARTICLES	44
HYPERLINKS	47

*This thesis is dedicated to Mr. Hlias Alexopoulos and his family,
Mr. Nikolaou Georgios and Mrs. Nikolaou Aristeia,
who have provided me the opportunity to carry out this Master Program.
Furthermore, it is also dedicated to my beloved parents,
for their love, endless support, encouragement and sacrifices.*

EXECUTIVE SUMMARY

The main goal of this thesis is to examine methodically and in detail the structure of air navigation service providers and airport management within the framework of the European Integration in Greece. By taking into consideration the German pattern, the present work attempts to evaluate the performance of the Greek Economy compared to the economic performance of Greek airports managed by Fraport-Greece. The subject of this thesis "Greek region and Governance. New challenges and organization of the air navigations in the European Area" requires in depth analysis of the extensive legislation in the field of air navigation, which is provided by European, regional and national law.

Thus, the European legislation adopted in the context of the Single European Sky initiative has been at the core of the conducted research. In particular, the present paper examines the influence of the relevant legal framework on the performance of air navigation services in Europe. Most Member States of the European Union have already instituted institutional reforms in their legislation to privatize air navigation services, which was recently done in Greece as well.

Keywords:

European Union, European Governance, Regional Policy, European Organizations, EUROCONTROL, European Legislation, European Single Sky, Air Navigation , Air Navigation Service Providers, Air Navigation Services, Air Traffic Management, Air Transports, Greece, Greek Regions, Germany, Fraport, Fraport-Greece, Performance Benchmarking, Greek Economy

METHODOLOGY

This thesis explores, first of all, the European Governance and the Institutional Framework on Air Navigation Services, in order to understand the policy of Greece in the field of air transport, which has been followed over the years. The thesis attempts to summarize information, through bibliographic sources, on European Governance and Regional Policy regarding the provision of air transport services to the European Regions, and especially, focuses on the case of Greece. This constitutes the main research question of this thesis. Moreover, this thesis analyzes the European Agencies established for the protection of air navigation services, in the context of the extension of European legislation, in which Greece also participates.

In the second chapter, two case studies were considered with the view to understand the relevant Institutional Framework. The first one describes the decision making of air navigation services in Germany, and the second, which is more detailed, the decision making on the provision of air navigation services in Greece. On the grounds that Germany is a Member State with a highly developed economy, the thesis analyzes thoroughly the German model, which forms the base reference for all the Member States of the European Union. Furthermore, Germany is also associated with Greece in the field of air navigation services, with the recent collaboration of the German Group Fraport with the Greek Copelouzos Group, which has taken over the management of fourteen Regional Airports in Greece.

In the third chapter, a performance benchmarking was conducted on the Greek economy by comparing the financial performance of the Greek regional airports managed by Fraport-Greece and the benefits that the Greek Economy has derived from this cooperation. Through the bibliographic resources, academic articles and the official websites of International and National Organizations, the necessary elements were obtained in order to address the research questions of this thesis.

INTRODUCTION

Air transport is vital for the European Union. It is a driving force for economic development, create jobs, facilitate trade and enable citizens to travel. Nowadays, European air transport accounts for 26% of the world market, and their annual contribution to European gross domestic product amounts to 510 billion euro and supports 9.3 million jobs in Europe.

The transport policy followed by the European Community in the early years of its operation was focused on land transport policies, for instance, on roads, railways and rivers, because these means cover most of the freight transport within the European community. These transport means play a significant role in the single market, as transport is a prerequisite for the free movement of goods and persons.

The deregulation of air transport within the European Union (EU) was progressively implemented with three sets of measures, European Regulations, adopted in 1987 the Directives 87/ 601 and 87/602, in 1990 the Regulations 2342/1990, 2343/1990 and 2344/1990 and in 1992, which was the last and most important one, the Regulations 2407/1992, 2408/1992 and 2409/1992.¹

In other words, the European Union sets the “European Regulations” for the transport policy, which every Member-State has to approve and to follow. In these rules a framework for the future development of transport policies was proposed. Specifically, European Members have to improve the efficiency and competitiveness within deregulated markets, with proper pricing based on marginal costs of transport sector, while at the same time securing the safe transportation and the protection of the environment.²

The deregulation was initially limited because, from 1/4/1993 to 1/4/1997, air carriers with a valid operating license had access to scheduled intra-Community airlines with certain restrictions on the operation of the routes and allocated capacity. The deregulation of air transport, called "Open Sky ", concerned both the free access of Community air carriers to the carriage of passengers and goods between Member States but within each Member State. Also, Council Regulation 2409/1992 established the freedom of air fares.³

¹ Gönenç R. and Nicoletti G., 2001, REGULATION, MARKET STRUCTURE AND PERFORMANCE IN AIR PASSENGER TRANSPORTATION, OECD Economic Studies.

² COM (1998) 716, 1st of December 1998.

³ Gönenç R. and Nicoletti G., 2001, REGULATION, MARKET STRUCTURE AND PERFORMANCE IN AIR PASSENGER TRANSPORTATION, OECD Economic Studies.

The choice of transport infrastructures, their construction and their exploitation, has affected the regional development. The provisions of the Treaty on the Functioning of the European Union refer to Trans-European Networks, which offer economic and social cohesion in the European Union based on both the development of transport infrastructure and the improvement of less developed regions in the Union.⁴

Open and interconnected markets in the aviation sector offer cheaper flights to a wider variety of travel destinations around the world. Airline connectivity is important for the traveling public as well as for businesses and the economy in general. This means that the better the connection of a city, a region or a country with other destinations in Europe and other parts of the world, the more economic growth it can stimulate.

Air transport has increased significantly since the creation of the EU's single aviation market 25 years ago. The number of flights performed daily increased from less than 10.000 in 1992 to around 23.000 in 2016. Additionally, passengers now have access to more destinations. While in 1992 there were fewer than 2.700 routes, today there are about 7.400. In 2015, more than 1.45 billion passengers departed or arrived at EU airports.

⁴ The Treaty on the Functioning of the European Union
(<https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:12012E/TXT&from=el>).

1. EUROPEAN GOVERNANCE AND THE INSTITUTIONAL FRAMEWORK IN THE AIR NAVIGATIONS

The European Union is a cluster of states with a system of cooperation in a number of fields. A major area of cooperation of the Member States of the Union is the air navigation services. The European Union has worked diligently to achieve a system in this field that will be profitable for all its Member States over a long period of time.

The Union's objective is to facilitate access to markets and investment opportunities for European air transport in important foreign markets by contributing to its international presence and by ensuring single market conditions for all airlines in the EU.

The main challenge for the development of European aviation is to reduce performance constraints which seriously impede the ability of the European aviation sector to develop in a sustainable way and compete at international level. Fragmentation of European airspace involves costs of at least 3 billion euro per year and causes emissions of up to 50 million tonnes of carbon dioxide.

1.1. European Governance and Regional Policy

After the major expansion of the European Union, 1st of May 2004, and the accession of Rumania and Bulgaria in 2007 and, lastly, with Croatia in 2013, the European Union is composed from 27 Member-States, after United Kingdom's withdrawal.

Every Member-State characterized by a diversity of features, which differ to each other and has its own identity. However, they have similar crucial issues to face such as economical differences in the internal and external matters of the countries. To a greater extent, these economical differences have increased with the last expansion in 2013 and ultimately resulted in many inequalities and income disparities between the Member-States.

The European Union, in order to assist the underdeveloped regions to profit from the benefits of European Integration, has developed various principles, such as regional and cohesion policy.

European Regional Policy defines all government interventions aimed at improving the geographical distribution of economic activities. In essence, the regional policy of European Union seeks to correct some of the spatial consequences of a free market economy in order to achieve two interrelated objectives, the economic growth and the improved social distribution.⁵

⁵ VANHONE N., KLAASSEN, (1987), *Regional Policy: A European Approach*, Aldershot, Avebury.

Regional policy is the basic investment policy of the European Union. Through the Structural Funds, it seeks to balance the economic disparities between the regions of the Member States, which could be caused by the intense competition imposed by the European Single Market and the increased internal and external trade of the monetary and economic union. The aim is to improve the standard of living of European citizens in the regions by creating new openings, boosting the competitiveness of enterprises, economic growth and sustainable development. In order to achieve these development objectives, the Union allocates a large part of its overall budget.

This European policy was introduced in 1957, in the Treaty of Rome, with the creation of the European Economic Community. In 1968, the European Commission's Directorate-General for Regional Policy⁶ was founded and its main objective was the development of all the regions of the European Union on an equal footing. In order to achieve the objectives set for regional policy in 1975, the European Regional Policy Fund of the European Union was established with the aim to carry out investments focused on European issues.

1.1.1. Regional Policy, transports and air navigations

Airport occupation has been connected with financial development in urban areas. The air transport facilities, which have been improved by constructing or expanding, facilitate the connection between the territories and have a positive impact on the society.

Transport-related facilities, for example, roads, railways, ports and airports, are an important issue on the agenda of policy and development professionals. Traditionally, airport management was performed with agreements between the states. However, since the 1980s, there has been a global trend for private sector involvement with varying degrees of private ownership and responsibilities. The European Union has made a decisive contribution to this change as well as providing financial concessions to single markets in this area and bringing economic prosperity to its Member-States. Nonetheless, the public sector still retains to a certain extent its involvement in the creation and improvement of infrastructure, management, financing and operation of airports.⁷

Air transport is still a challenge for some regions in the European Union, which may also concern the outermost regions. The Union recognized the need to address cases where, for certain routes and due to particular circumstances, insufficient demand or market failure was not offering sufficient flights to meet the needs of local communities. In such cases,

⁶ https://ec.europa.eu/info/departments/regional-and-urban-policy_en (01.12.2018)

⁷: Aguirre, J., Mateu, P., Pantoja, C., Granting airport concessions for regional development: Evidence from Peru, Transport Policy (2019), doi: <https://doi.org/10.1016/j.tranpol.2018.12.003>

public service obligations can guarantee that the territorial or developing regions are well interconnected with the rest of Europe. In order not to hinder competition, public service obligations in the EU are only allowed under very specific conditions laid down in Regulation (EC) No. 1008/2008. Experience shows that the current rules are not always applied consistently, which may undermine the objective of ensuring both connectivity and competition on these routes.

European legislation states that Fair Competition is the main principle by which all air services can participate in the open market. On the contrary, unfair competition is banned between airline providers and, in particular, countries outside the European Union. Thus, by amending Regulation (EC) 868/2004, the European Union has the right to take action within the Union in cases of “violation of applicable international obligations”.⁸

1.2. INSTITUTIONAL EUROPEAN FRAMEWORK

The aviation sector has traditionally been controlled by nation states. Put simply, European Monopoly was dominated by monopolies of public ownership and governance, aiming to manage airports through the public sector. However, international aviation remained limited, because it was based on transnational bilateral agreements, which were subject to rigorous controls in the event of market entry and carrier ownership regimes.

This policy that prevailed in Europe prevented economic and social development. For this reason, in the mid-1970s, European legislation forced civil aviation to change its policy and to move from a guided economy into a market economy. At the same time, in 1978, in the United States of America, a decision was taken for the full deregulation of air transport, which was named “Airline Deregulation Act” and also affected Europe.

The European Union succeeded in adopting regulatory measures within a decade of having achieved the 1986 Single European Act and the completion of the internal market between Member States, which led to the removal of national transport markets and the emergence of a single competitive market for air transport.

In particular, the decisions taken in 1987 and 1990 succeeded in lightening the regulations on fares and labor. This was followed by the third major decision in 1992, namely Council Regulations (EC) 2407/92, 2408/92 and 2409/92, now replaced by Regulation (EC) No. No 1008/2008 of the European Parliament and of the Council lifting all trade restrictions for

⁸ EUROPEAN COMMISSION, 2017, REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL-on safeguarding competition in air transport, repealing Regulation (EC) N° 868/2004, COMMISSION STAFF WORKING DOCUMENT EXECUTIVE SUMMARY OF THE IMPACT ASSESSMENT, Hyperlink:
<https://eur-ex.europa.eu/legalcontent/EN/TXT/PDF/?uri=CELEX:52017SC0183&from=EL> (29.12.2018)

European companies operating within the European Union. Thus, the European Union has made an even bigger step, bringing even more national sovereignty from all the Member States, thereby establishing the "European Single Market for Air Transport". Then Norway, Iceland and Switzerland applied this regulation as well.⁹

The third and decisive decision taken by the European Union proved to be very beneficial. Initially, "Community air carriers" replaced the position of national air carriers. At the same time, it has been stated as a principle that every Community air carrier has the right to freely determine freight rates for passengers and to have access to any intra-Community route without any authorization, excluding certain special routes which have received different taxes.

In addition, these decisions set the requirements with which each Community have to comply in order to be able to participate in the single market, such as ownership, controlled by the Member-States and with a strong requirement that the company has its head office in its Member-State. In addition, Community air carriers should be in good economic condition and qualify for insurance, which provides liability, thereby covering accidents. A significant factor, as well, is that they must have sufficient professional and organizational potential to follow European rules. This ability is evidenced by the issue of an "Air Operator Certificate".¹⁰

The Single Market for Air Transport has brought about the adoption of common rules in all Member States to secure its proper functioning and promote competitiveness with equal terms, while at the same time ensuring the safety of the passengers.

The European Union, aiming at a single air navigation management policy within its borders, has managed to establish institutions so that all members have the possibility of a well-functioning air transport system with consistent and high levels of safety in air navigation services, allow for the optimal use of European airspace, as well as a uniformly high level of air traffic with the general interest of air navigation services.

In March 2000, the European Council called the European Commission to submit proposals for the safe and strategic operation of the air navigation and airspace management services in Lisbon. The High Level Group "Single European Sky", which have been established by the European Commission, consists mainly of political and military authorities and is adept to

⁹ http://www.europarl.europa.eu/ftu/pdf/en/FTU_3.4.6.pdf (01/12/2018)

¹⁰ http://www.europarl.europa.eu/ftu/pdf/en/FTU_3.4.6.pdf (01/12/2018)

the air navigation system of the EU Member-States, submitted the report in November 2000.

In the 10th of March 2004, the framework for the creation of the Single European Sky was set out, taking into consideration the 11 of December 2003, when the European Commission endorsed the common plan.

In accordance with the procedure, which referred to in Article 251 of the Treaty establishing the European Community, they support the opinion that for the successful common transport policy an efficient air transport system is required, in which the operation of air transport services has to be allowed, in the context of security, cooperation and by facilitating the free movement of persons, goods and services.¹¹

A key element for the functioning of the Single European Sky is that it should be developed in accordance with the obligations arising from the participation of the Community and the Member States in Eurocontrol and the principles established by the Convention on International Civil Aviation, December 7, 1944 in Chicago.¹²

The main objectives of this Regulation are to improve the current safety standards and the overall efficiency of general air traffic in Europe, optimize the capacity to meet the needs of all airspace users and minimize delays.¹³

International organizations in the air transport sector are divided into two categories:

Governmental Organizations: they are state bodies that promote common policies and business processes.

Non-governmental Organizations: They are private organizations, such as airlines, airports or other airline providers, aiming at defending the interests of their members, as well as

Greek Membership of the following international organizations in the field of ATM:

Organization	Since
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¹¹REGULATION (EC) No 549/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 10 March 2004

<https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:2004R0549:20091204:EN:PDF>
(04/12/18)

¹²*Single European Sky: a changed culture but not a single sky.*

<http://publications.europa.eu/webpub/eca/special-reports/single-european-sky-18-2017/en/>
(06/12/18)

¹³*Air transport: Single European Sky.*

<http://www.europarl.europa.eu/factsheets/en/sheet/133/air-transport-single-european-sky>
(04/12/18)

ICAO	1944
ECAC	1955
European Union	1981
EUROCONTROL	1988
EASA	2002
ESA	2005

Resource: Eurocontrol, 2017, Local Single Sky Implementation LSSIP 2017 – GREECE,

Hyperlink: https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/reports/LSSIP2017_GR_Released.pdf

Many International Organizations are active in the field of air navigation services. A worldwide Organization according to this sector is the “International Civil Aviation Organization” (ICAO), which is a United Nations organization. In accordance with Article 44 of the Chicago Convention, the purpose and aspirations of the organization are: the "safe and normal development of the International Civil Aviation", "the encouragement of civil engineering and civil aircraft operations for peaceful purposes", "the development of air services, airports and air navigation facilities for international civil aviation", the "organization of safe, regular, efficient and economic air transport", "ensuring respect for the rights of the Contracting States" and, in general, "production growth in all aspects of international civil aviation". However, many European Organizations participate in the same field.

1.2.1. European Civil Aviation Conference (ECAC)

The European Civil Aviation Conference (ECAC) was established in Strasbourg in 1954 as part of a Co-ordination Conference on Air Transport convened by the Council of Europe initiative and a relevant ICAO Council Decision.

This organization includes as members the General Assembly, the Conference of Member States' General Civil Aviation Authorities, the Coordination Committee and the Permanent Committees. It monitors the development of air transport and suggests to members patterns of international conventions. Furthermore, it has the power to undertake initiatives, but its responsibilities are mainly consultative and its activity is subject to the control of the Member States. Unlike the European Organization for Air Traffic Safety, the European Civil Aviation Conference has no power to issue regulatory provisions binding the Member States.

The European Civil Aviation Conference (ECAC) is the largest Aviation Organization in Europe. It plays a very important role supporting its Member States in matters relating to

the European civil aviation sector and ensuring safety, the environment, navigation and the economy. This work is successfully completed in cooperation with other international organizations active in the field of civil aviation in Europe, such as the European Union and the European Aviation Safety Agency (EASA), EUROCONTROL and other industry associations.¹⁴

1.2.2. European Organization for the Safety of Air Navigation (EUROCONTROL)

Eurocontrol is a European air traffic safety organization. It is based in Brussels but has facilities and services in Maastricht, Paris and Luxembourg.

The European Organization for the Safety of Air Navigation, EUROCONTROL, established by the Convention signed in Brussels on the 13th of December 1960 and amended by the Brussels Protocol of the 12th of February 1981, is an organization arising from Articles 86 and 90 of the Treaty establishing the European Economic Community. In particular, the Organization was responsible for the joint organization of air navigation services in the airspace of the participating Members.¹⁵

The European air navigation system, EUROCONTROL, is a European regulation body providing member states with guidance to achieving safe, efficient and environmentally sound air traffic services. Furthermore, this Organization publishes reports, which monitor performance and targets for improvements, including the annual Air Traffic Management Cost Effectiveness (ACE) benchmarking report.

This organization includes two regulatory authorities, the Standing Committee on Air Traffic Safety and the Air Traffic Services Office, which have executive and managerial responsibilities.

The Organization aims, together with the Member States, to create air traffic services for airspace over 25,000 feet and to cooperate with Member States to control airspace below 25,000 feet.

EUROCONTROL works closely with the European Commission in the implementation of the Single European Sky (SES). He is also responsible for the provision of air traffic control

¹⁴ According to the ECAC Mission. Retrieved from: <https://www.ecac-ceac.org/mission> (02.12.2018)

¹⁵ https://eur-lex.europa.eu/resource.html?uri=cellar:a05de3ee-6cf8-47d8-9d65-4fd263e4e184.0003.02/DOC_1&format=PDF (06/12/18)

services in the Upper Airspace of the Benelux countries and North West Germany to the Maastricht Upper Area Control Centre (MUAC).¹⁶

1.2.3. European Aviation Safety Agency (EASA)

European Aviation Safety Agency (EASA) was established by the European Union in 2002 and acts as EU's service. Its headquarters are in Cologne, a city in Germany, and its aim is to secure the field of civil aviation of the Member States within the European Union.

In other words, the purpose of the EASA is to provide technical expertise to the European Commission, useful advice on the development of rules on aviation safety and to promote international agreements. Furthermore, the Agency carries out tasks, such as certification of aeronautical products, for instance, organizations involved in their design, production and maintenance.

The European Parliament has announced its decision on future authorization to extend the Agency's responsibilities in new areas of civil aviation safety, especially those related to air operations and flight crew licensing. However, EASA does not cover either legislative or enforcement actions in the field of aviation security.

By Regulation (EC) No. 216/2008 of the 20th of February 2008 introduces the first extension of the Agency's scope to aviation activities, flight crew licensing and the approval of third country operators concerning common rules in the field of civil aviation and the Regulation (EC) No. 1592/2002 and Directive 2004/36 EC, Articles 6, 7 and 9, respectively.

Finally, as regards the members of the Agency, Iceland, Liechtenstein, Norway and Switzerland participate in the activities of the EASA and are members of the Management Board without voting rights.¹⁷

1.3. Focus on Germany

In Germany, the German Basic Law defines responsibility for air transport policy, which falls under the federal administration. For this area of responsibility, the Federal Ministry of Transport, Building and Urban Development is responsible through the Aviation and Aerospace Directorate General and the aeronautical executive agencies, such as the Federal Aviation Authority, the Federal Air Navigation Authority and the Federal Office of Aircraft Accident Investigation Office.

¹⁶ <https://www.eurocontrol.int/sites/default/files/publication/files/2010-eurocontrol-yearbook.pdf> (02.12.2018)

¹⁷ Regulation (EC) No 216/2008 of 20 February 2008, article 66 "Participation of European third countries". Published in the Official Journal of the European Union, L79/27, of 19 March 2008.

However, as defined by the German Basic Law and the Air Traffic Act, the federal government has transferred some of its responsibilities to the administrations of the sixteen federal states. These functions are decentralized to each state as they are initially undertaken by the respective Ministry of Economy or Transport and at a lower level than the regional councils.

The Federal Aviation Authority, the Luftfahrt-Bundesamt (LBA), which started operating in 1954, is based in Braunschweig, as the supreme federal authority to carry out civil aviation tasks. This Authority is also represented through regional offices of Berlin, Düsseldorf, Frankfurt, Hamburg, Munich and Stuttgart and the tasks of the Luftfahrt-Bundesamt are laid down in the LBA (Gesetz über das Luftfahrt-Bundesamt). The most important aim of the Luftfahrt-Bundesamt is to avoid the risks to aviation safety and to public security. Over time, due to the increase in air traffic, higher security requirements and, finally, the reunification of Germany, LBA has evolved from small authorities to what it is today. With more than 100 certification, inspection and surveillance functions, the Luftfahrt-Bundesamt guarantees the high technical and operational standard of aviation in Germany. Furthermore, The Federal Aviation Authority collaborates with the European Aviation Safety Agency.¹⁸

The Act on the Establishment of the Federal Aviation Authority, in accordance with the requirements of the Single European Sky, set the principle of the independence of air navigation service providers in 2009. In addition, it established the provision of air navigation services in Germany and the oversight of such organizations, systems, procedures and staff involved in air traffic services, as well as providing an assessment of the Federal Ministry in the process of setting air navigation charges.

Another Authority of the German state dealing with air services is the Air Accident Investigation Office, which was established in 1998 and is based in Braunschweig. This Office deals with the investigation of aircraft accidents and serious incidents in Germany with the aim of detecting their causes and preventing their recurrence.

The first plan about air navigation services by the federal government took place in 2000, in the framework of airport infrastructure policies. In 2009 was renewed by issuing a new version of the plan. This document defines both the objectives and the framework for policy action on airport infrastructure and its contribution to the general transport policy. In other words, it is working on compliance with the Single European Sky legislation,

¹⁸ https://www.lba.de/EN/LBA/History/History_node.html (03.12.2018)

airport capacity, airport expansion, noise and emissions protection through airport charges, and coordination and interaction between federal and state services.

The Arbeitsgemeinschaft Deutscher Verkehrsflughäfen (ADV) and Interessengemeinschaft der regionalen Flugplätze (IDRF) are the two associations that are implementing the interests of the German airport industry, aiming at enhancing cooperation between airports and other factors.

However, in 2003, the airline Deutsche Lufthansa AG acquired the "Luftverkehr für Deutschland" initiative and the air navigation service providers such as Fraport AG (Frankfurt) and Flughafen München GmbH (Munich) and Deutsche Flugsicherung GmbH (DFS) to strengthen relations between economic and political actors within the aviation industry. This platform offers a forum, which relates to more than one branch of knowledge, for discussion and exchange of opinions among the participating organizations, whose main task is the management of air transport, and political factors, such as the Federal Ministries of Transport, the Ministries of Internal Affairs and the federal states of Bayern, Brandenburg, involved in this field. The representative of all the other ADV and BDF airports are also full members.

1.4. Focus on Greece

The first Greek airline company was the Hellenic Air Transport Company (EES) and established in 1931. Its period of operation was from 1931 to 1940. Between the years of 1946 and 1975, new airlines were established. The most important were "Technical Aerospace Explorations SA" (1946), Olympic Airlines (1957) and Olympic Air Navigation (1971), which was a subsidiary of Olympic Airways and was acquired by the Greek State in 1975.

However, the state operated as an airspace regulator until the deregulation of air transport. This process was progressively implemented in Greece, following and adapting the rules of the three packages of European Regulations, initially in 1987, then in 1990 and the third in 1992.

The deregulation of air transport, also known as "Open Sky", was not only about airlines but also about airline services, which no longer needed to be managed by the state but by private sector companies instead.

The Community legislator wished, in accordance with the principle of subsidiarity, to create a single set of rules for all Community air carriers concerning the same level of the air carrier's liability in national and international transport within the European Union. A

system for the air carrier's liability towards the passengers has been introduced, ensuring the rights of all persons entitled to compensation.

Greece, in pursuance of the relevant European policy, has fully liberalized its operating framework since 1998 by allowing, at least institutional, the free and competitive development of the aviation network. Since the 1st of April 1997, full deregulation of air transport has taken place.¹⁹

The "European Open Sky" introduced for the aircraft ground services at Greek airports, the following basic legal texts were decided for their proper operation. Initially, Presidential Decree No. 285/1998, which introduced into Greek law the Directive 96/67 / EC of the European Council on the 15th of October 1996 on the entry of ground handling services at Community airports. Furthermore, the Articles 23 and 24 of Act 3913/2011 state the authorization granted by the State and define the general framework for the implementation of the ground handling regulations.²⁰

The move by the Greek government towards the privatization of Greek Airports was deemed necessary after the financial crisis. Advantages were long-term investments that could lead to economic growth, diversification of revenue, aeronautical or non-aeronautical, many investments at airports have proved to be gold-bearing, which resulted in the upgrading of the services offered to passengers and the provision of secure services.

However, the main reasons Greece turned to the privatization of airports were both major barriers to entry and that governments did not have the funds needed to modernize and invest in infrastructure. The regional airports of Greece were mainly constructed to meet social needs without a serious economic and technical study. In addition, they aimed at the seasonality of tourism and the small critical mass of local passenger traffic. The lack of Airport Marketing, without a specific strategy, did not help in the development of airports and more of the economy.

Thus, the Government decided to create a modern European framework for Greek regional airports by grouping the airports into Group A and Group B. The formation of the teams appears to have been made on geographical and commercial criteria and not on criteria of similar characteristics between airports. The new target was the high quality of services offered at internationally competitive prices, for instance double Dual-Pricing, rationalizing

¹⁹ Oxford Economics, 2011, Economic Benefits from Air Transport in Greece, Oxford Economics Publishing.

²⁰ HELLENIC CIVILAVIATION AUTHORITY, 2013, "AIRWORTHINESS PROCEDURES MANUAL", <http://www.ypa.gr/userfiles/4659ed30-b59b-4111-9747-a3550129731a/APM%20Rev%2012%20-%20Mar%202013.pdf> (15.12.2018)

public spending and the use of airports and reorganizing the Civil Aviation Authority (CAA) in addition to N3913 / 2011.²¹

The basic regulation of ground handling services is issued by the Minister of Infrastructure, Transport and Networks, defines the minimum requirements and conditions for ground handling services at all Greek airports. The Special Regulations are also issued by the Minister and apply to specific airports or groups of airports.

The Article 23 of Law 3913/2011 extended the full implementation of the Presidential Decree to airports that do not fall within the scope of the Decree. The same applies to airports operated by the Civil Aviation Authority, with the main exception that the number of luggage, ramp and fuel service providers at these airports may be limited to one.

Athens International Airport, like all Regional Airports in Greece, is run by a public-private company in which the Greek government holds 55% and other investors 45%. The concession expires in 2026. These providers were to administer the airports of Thessaloniki, Corfu, Chania, Zakynthos, Kefalonia, Aktio, Kavala, Rhodes, Kos, Santorini, Thessaloniki, Mykonos, Samos, Mytilene, Skiathos etc, for a period of 40 years, from a private joint venture company between Fraport AG Frankfurt Airport Services Worldwide and the Copelouzos Group, which is a Greek business group, based on two concession agreements dated on the 14th of December 2015 and ratified by Law 4389 / 206.²²

The new institutional framework has greatly changed the culture of air transport, helping to improve services and security.

²¹ Regional Airport Concession: The Greek Perspective, Conference: <https://docplayer.gr/1955393-Parahorisi-perifereiakon-aerodromion-i-elliniki-prooptiki-diimerida.html> (29.12.2018)

²² General overview of Greek legislation on aircraft ground-handling services: <https://kpv-legal.com/en/general-overview-of-greek-legislation-on-aircraft-groundhandling-services/> (12.12.2018)

2. AIRPORT MANAGEMENT

Air navigation service providers (ANSPs) are the third significant factor in the aviation industry. They are the link between airlines and airports by providing air navigation services (ANS), while aiming at business safety and ensuring effective traffic flows. ANSPs are entities that provide both Air Traffic Control (ATC) and Air Navigation Services (ANS), collectively referred to as Air Traffic Management (ATM).

Air navigation service providers offer services such as air traffic, en- route and airport approach. In addition, they offer services to civil and military aviation. Given that, ANSPs may be able to offer services, which may represent the operating cost of between five to ten per cent of the airlines. In the case of delayed flights or services, airlines have a high cost. Thus, air navigation service providers should improve their services in order to enhance the efficiency of flights and airspace. This will lead to significant cost savings within the industry²³. As mentioned in the previous chapter, ANSPs were owned and controlled by the State. However, the trend created in the 1990s for the separation of the State from air navigation services and the commercialization of ANSP provider organizations led ANSPs around the world to move from traditional government departments, that provided outdated equipment and facilities, to provide optimal and innovative services in this sector.

Hence, within the European Union, several air navigation service providers have taken advantage of the privileges of the EU's innovative legislation and have adopted the institutional reform, enabling them to commercialize services within airports, aiming at internal improvements. Another important goal is their release from state budget controls, which will increase the benefits and the efficiency of airspace users.

Most air navigation service providers have already diversified into non-core business, and some have explicitly stated that they intend to expand such activities.

2.1. European Area

EUROCONTROL is the European Organization that coordinates and integrates air navigation services. The main objective of this organization is to facilitate the synthesis of a Single European Sky (SES), which is a pioneering initiative of the European Union to address the problems arising in the European Air Traffic Management (ATM) system, such as increased traffic levels, high cost of ANSP services and limitations on the air route

²³ McDougall and Roberts, 2008, Commercializing Air Traffic Control: Have the Reforms Worked?, hyperlink: <http://ssrn.com/abstract=1317450> (16.12.2018)

network. The reconstruction of European airspace has been the main task of the EUROCONTROL, aiming at enhancing the capacity and ensuring a more efficient air navigation system.

Under the Single European Sky framework, Functional Airspace Blocks (FABs) have been set up, aiming at completing air navigation services delivery and developing cooperation between air navigation service providers. These blocks aim at organizing the current airspace blocks of all Member States, which have previously been set up at national level, in nine functional airspace blocks, bringing the European airspace to a new composition. The Regulation No. EC (1070/2009) by SES legislation, terms FABs as an airspace block developed according to the business, regardless of national borders, allowing for the optimization of the provision of air navigation services and similar functions, always with the view to reach better performance.

In addition, under the Single European Sky, the European Commission has agreed on common regulatory approaches with the objective of overseeing the implementation of the institutional framework at national level. These regulations focus on the performance with the purpose of stimulating cost-effectiveness and quality services of ANSP. According to the most recent regulation 1191/2010, air navigation service providers are not guaranteed to cover their costs, and given that, the incentives to work effectively to maintain their profits are increased.²⁴

Air navigation service providers in the European Union are guided by the rules and business related pressures set by EUROCONTROL. However, ANSPs differ considerably from each other, as each one has different dignitaries, which are defined by governments.

2.2. Germany case study

After the fall of the Berlin Wall, Germany emerged as one of the most powerful economies in the European Union. Its constitutionalism is federal parliamentary democracy. The Chancellor is appointed Chief of Government, as well as the Head of State, and the President is the person, who is primarily responsible for representing the country. The composition of the country consists of 16 states, each possessing their own constitution and a high degree of autonomy in their internal organization. Some of the most significant of these are the Bremen, Berlin and Hamburg, which are three city-states of Germany.

²⁴ Zara Dempsey-Brencha, Nicola Voltab, 2018, "A cost-efficiency analysis of European air navigation service providers", Transportation Research Part A.

One of the major sectors of the German economy, together with service provision, is the transport, as it accounts for 15.7% of the country's total GDP.²⁵ In 2011, statistics of the European Union indicated moderate growth in the transport sector, and that was the case for the Germany as well. However, in 2015, the number of flights in German airspace exceeded the three million (3.029.066), an increase of 1.6% over the previous year.²⁶

2.2.1. Air navigations and Transport Policies

With the creation of the Single European Sky, approved by the European Parliament and the European Council, it was necessary to adapt air traffic control in the Federal Republic of Germany according to the new framework of rules being set at a European level. In addition to these adaptations of the German regulations, the conditions for the privatization of German Air Traffic Control (Deutsche Flugsicherung GmbH (DFS)) were included in the European Community's Single European Sky legislation. This entered into force, on the 20th of April 2004, with the Regulation (EC) No 549/2004 of the European Parliament and Council of 10th of March 2004, which laid down the framework for the creation of the Single European Sky, named "the framework Regulation", the Regulation (EC) No 550/2004 of the European Parliament and Council of the 10th of March 2004 on the provision of air navigation services in the Single European Sky, named "the supply Regulation", the Regulation No 551/2004 of the European Parliament and Council of the 10th of March 2004 on the organization and use of the airspace in the Single European Sky, named "the Airspace Regulation", and finally, the Regulation 552 / 2004 of the European Parliament and Council of the 10th of March 2004 on the interoperability of the European Air Traffic Management network, named "the interoperability Regulation".²⁷

In Germany, 62 airports possess the right to fly according to Instrument flight Rules (IFR) . Of these, 16 are the main factors in the country's international traffic. Other airports

²⁵Germany: https://europa.eu/european-union/about-eu/countries/member-countries/germany_en (10.12.2018)

²⁶ Air Transport in Germany: https://www.dfs.de/dfs_homepage/en/Press/Publications/DFS_Mobilita%CC%88tsbericht_2015_broschure_UK_V4_druckversion.pdf (10.12.2018)

²⁷Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation) (Text with EEA relevance) - Statement by the Member States on military issues related to the single European sky. <https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:32004R0549&from=en>

operate regular flights departing from Germany and from other locations within the European Union.²⁸

The basic form of business entity in Germany among businessmen at German international airports is the private limited liability company. Excluding Fraport, which is the only exception in Germany, as it is an operator in Frankfurt Main, which is a public limited company.

Airport Privatization in Germany		
Düsseldorf	1998	50% Airport Partners GmbH Hochtief and Air Rianta 50% Stadtwerke Düsseldorf
Frankfurt	2001	31.7% Land Hessen (public) 20.3% Stadt Frankfurt a.M. (public) 9.1% Deutsche Lufthansa AG 5.1% Julius Bär Gruppe 34.8% privat shares
Hahn	1997	65% FRAPORT 17,5% Land Hessen 17,5% Land Rheinland-Pfalz
Hamburg	2000	51% Freie und Hansestadt Hamburg 49% HAP Hamburg Airport Partners GmbH with Hochtief and Air Rianta
Hannover	1998	30% Fraport and NordLB 70% state owned
Lübeck	2005	90% Infratil 10% City of Lübeck
MönchenGladbach	1996	70% Düsseldorf 30% local municipality
Saarbrücken	1998	51% FRAPORT 49 % City of Sarbrücken

Source: David Gillen & Hans-Martin Niemeier, 2006, Airport Economics, Policy and Management: The European Union, University of British Columbia & University of Applied Sciences Bremen

²⁸ AERONAUTICAL INFORMATION SERVICES-AERONAUTICAL, INFORMATION MANAGEMENT STUDY GROUP (AIS-AIMSG) (21.12.2018)

2.2.2. Deutsche Flugsicherung GmbH (DFS)

Deutsche Flugsicherung GmbH (DFS) is a consulting and air traffic management company. Deutsche Flugsicherung GmbH acts as a provider of solutions for air traffic in Germany. Its headquarters are in Langen town near Frankfurt. The company has the character of private business, but is entirely owned by the Federal Republic of Germany. This company was established in 1993 and it is the successor to the governmental authority, the Federal Aviation Administration (Bundesamt für Strahlenschutz (BFS))²⁹. However, in order to enable this company to operate, the German State needed to make constitutional reforms, specifically, the German Air Transport Act (LuftVG) had to be amended by the Bundestag.³⁰

In this country, military and civil air traffic controllers are working closely. Since 1994, DFS has been in charge of managing civilian and military air traffic in the long run, excluding military airports. DFS is represented in 16 international airports and nine regional airports all over Germany by its subsidiary DFS Aviation Services GmbH.³¹

The main activity of the German air navigation service provider is the control of air traffic from the towers and the control centers. In addition to performing daily activities, DFS stores flight data and uses its pre-flight information for the development of services such as aeronautical charts, air traffic management systems, surveillance systems, as well as navigation aids.³²

Furthermore, one of the main objectives is to control the safe distance that must be maintained by vehicles both in the airspace and on the ground. For the success of this goal, DFS uses a new uniform classification system set by the European Commission, which has the ability to determine the relevant category. This is a risk analysis tool (RAT), which is mandatory from 2015 to be used by all European air navigation service providers. This single tool allows the harmonization of security classifications and facilitates the comparison of the level of security of the individual countries with each other.³³

²⁹ Official website of Bundesamt für Strahlenschutz:

http://www.bfs.de/EN/home/home_node.html (11.12.2018)

³⁰ Official website of Deutscher Bundestag: <https://www.bundestag.de/> (14/12/2018)

³¹ Germany's Air Navigation Service Provider Signs Agreement to Evaluate Space-Based ADS-B: <https://www.prnewswire.com/news-releases/germanys-air-navigation-service-provider-signs-agreement-to-evaluate-space-based-ads-b-300362404.html> (15.12.2018)

³² Official website of DFS Deutsche Flugsicherung GmbH: https://www.dfs.de/dfs_homepage/de/ (15/12/2018)

³³ Air Transport in Germany:

https://www.dfs.de/dfs_homepage/en/Press/Publications/DFS_Mobilita%CC%88tsbericht_2015_broschure_UK_V4_druckversion.pdf (10.12.2018)

2.2.3. Fraport

Fraport is an experienced and powerful international company that focuses on state-of-the-art and innovative technology, a vibrant airport atmosphere, excellent services, smooth processes, creative solutions for airports around the world, potential recognition and sustainable added value.

It is a globally active company operating in a number of airports, which successfully offers services such as maintenance, operation management, improvement and development of airports for both Germany and worldwide.

They ensure the conditions for international networking, economic growth and prosperity at all the airports they manage. The most important objectives set for their operation are their orientation towards services, the continuous improvement of their financial. In addition, they aim at the quality, productivity and maximum comfort of their customers.

Fraport AG is a company that possesses over 90 years of experience in aviation. Its main objective is to provide services related to operational and management solutions in aviation. Fraport has expanded to four continents and operates in 30 airports worldwide.

The main goal of Fraport is to provide a safe journey to the passengers. This commitment is a rule for all Fraport's businesses and services at both its Frankfurt and Global airports around the world.

Fraport's headquarters are at Frankfurt Airport, which is now one of the world's leading air hubs as it operates flights on 128 intercontinental destinations. At the European level, Frankfurt airport is the second in transported tons and the fourth largest in passenger transport.

Fraport is beneficial for the German state, as it employs about 81,000 people in about 450 companies. In addition, Fraport also attracts other companies in Frankfurt, Rhine, Main and Neckar region, as they work together in the industrial sector to provide state-of-the-art know-how and transport infrastructure.

Another benefit of the existence of this franchise is that through the global network of routes of the FRA it enables the German export-oriented companies to thrive on the global markets. The FRA Group is the key factor for companies wishing to access the European market. Thus, Frankfurt Airport, with its strategic location, the heart of Europe, has

managed to contribute to European and international trade as it is one of the most important hubs of the global logistics chain.³⁴

Fraport owns shares at two German airports (FRA, LEB) and two Bulgarian airports (VAR, BOJ). In 2015, Fraport also acquired a 65% share in 14 Greek airports.³⁵

The German state-owned company Fraport GA has undertaken the management of the 14 Greek airports, by providing to the Greek state 1.2 billion euros. After a long struggle, the operator of Frankfurt Airport Fraport took over the operation of many Greek regional airports with the objective to maintain, operate, manage, improve and develop them. The Greek Privatization Fund signed a 40-year concession agreement to this group. Fraport, in cooperation with its Greek partner, the Copelouzos Group, the agreement to take over the management of these regional airports took place in 2015. However, the takeover of airports by Fraport Greece took place on 11 April 2017.³⁶

2.3. Greece case study

Air navigation service providers in Greece cover the needs for both international and domestic flights. The country's existing development potential of air transport could be judged satisfactory in terms of airport infrastructure. In Greece there is a particularly extensive network of airports spreaded in the Greek territory.

The general situation in Greece, prior to the privatization of air aviation services, is the following. In the decade 1981 to 1990, the total passenger traffic for the domestic and international aviation network in Greece increased by 41%. This increase corresponds to an average annual rate of 3.9%. Air freight traffic in the same time decreased by 1.5%. Regardless of the evolution of total passenger traffic, the growth rates of the domestic network differ from those of the international network, 2.1% and 4.4% respectively.

The new institutional framework for Community air transport had vital effects, both on the existing structure of the aviation environment and the current behavior of air traffic. These factors have changed radically the structures of the aviation networks.

³⁴ Official site of Fraport AG: <https://www.fraport.com/en/our-company.html> (20.12.2018)

³⁵ Katja Bringmann, Katrien De Langhe, Franziska Kupfer, Christa Sys, Eddy Van de Voorde, Thierry Vanelslander, 2000, *Cooperation between airports: A focus on the financial intertwinement of European airport operators*, University of Antwerp, Department of Transport and Regional Economics, Prinsstraat 13, Antwerpen, Belgium.

³⁶ Official site of Fraport- Greece: <https://www.fraport-greece.com> (23.12.2018)

Athens International Airport "Elliniko" was the country's main airport. However in 2001, the airport was decommissioned. For more than six decades, it consisted the only commercial airport in Attica. Then, for the purposes of the Olympic Games of 2004, the Athens International Airport (Eleftherios Venizelos) was built.

Greece has 45 airports, 15 of which are international. Athens International Airport (Eleftherios Venizelos) started its operations in 2001. It is considered to be one of the most modern airports in Europe. In 2015, the fourteen regional airports in Greece served a total of more than 23 million passengers, recording an annual increase of around 6%. In particular, passengers from and to destinations abroad account for approximately 73% of the total traffic.

The remaining 14 international regional airports were privatized and modernized in terms of infrastructure, equipment and facilities. The consortium consists of the German Fraport AG and the Greek Copelouzos Group, as the left-wing government led by Prime Minister Alexis Tsipras, in August 2015, handed over their administration for 40 years. The total purchase price for the license was 1.234 billion euros. In addition, the joint venture is committed to an annual rent of 22.9 million euro and total investments of 1.4 billion euro for the 40 years of the concession. It has been one of the largest private investments in Greece since the beginning of the financial crisis in 2009. The joint venture took over the operation of the airports in Thessaloniki, Corfu, Chania, Kefalonia, Zakynthos, Kassala, Rhodes, Kos, Samos, Mytilene, Mykonos, Santorini and Skiathos in April 2017, having the possibility of renewal for another ten years. These airports had an volume of 27.5 million passengers, in 2017.³⁷

Airport Privatization in Greece

Athens	2001	55% Greek state 45% Hochtief consortium³⁸
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Source: David Gillen & Hans-Martin Niemeier, 2006, Airport Economics, Policy and Management: The European Union, University of British Columbia & University of Applied Sciences Bremen

³⁷ Herausgeber, Medieninhaber (Verleger) und Hersteller: AUSSENWIRTSCHAFT AUSTRIA, Hyperlink:

<https://www.auwi-bayern.de/awp/inhalte/Laender/Anhaenge/exportbericht-griechenland.pdf> (23.12.2018)

³⁸ HOCHTIEF will operate Athens International Airport Eleftherios Venizelos with its partner ABB and the Greek state for a period of 25 years. An operating company, Athens International Airport S.A. (AIA), has been founded for this purpose. The private partners hold 45% of this, the Republic of Greece the remaining 55%. http://www.hochtief.com/hochtief_en/738.cnt?pid=6830 (21.12.2018)

2.3.1. Air Navigations and Transport Policies

Greek Legislation and European Legislation are the regulatory framework for all aviation activities in Greece. Greek legislation is divided into three basic pillars: presidential and royal decrees, laws and decisions. There are many laws that have been established to regulate aviation activities. However, national laws 1815/88 and 2912/01 are the primary regulatory basis. All aeronautical laws in Greece comply with ICAO regulations.

The decision-making process of aviation is as follows. Initially, legislation is proposed by the government and voted by the Greek Parliament before it enters into force. The Presidential Decrees offer guidance on the implementation of the Laws, while the Royal Decrees constituted a previous form of Presidential Decrees. Finally, the decisions provide details on the implementation and enforcement of the Presidential Decrees. All applicable Community regulations, published in the Official Journal, are directly applicable in the Hellenic Republic.³⁹

Greece covers its needs for air transport demand with a network of 40 airports, 68 heliports, of which the Hellenic Civil Aviation Authority provides Technical Advisory and Supervision services, a network of radio aids and the Athens Center for the Control of Airspace, covering the needs of Air Navigation support and thus managing the air traffic control of Athens FIR.

The dispersion of airports and all other facilities in Greece are of great importance and display several difficulties due to the morphology of the country and the distribution of the tourist demand around it. Those particularities define at a great extend the development, operation and maintenance of the airport infrastructure and air navigation support facilities.

The need for specialized human resources, materials and machinery often leads to the search for solutions from the center operational units, especially for smaller airports without technical maintenance units.

Until the liberalization of airport management in Greece, services were provided by the Greek Government. Greek regional airports are the main international gateways of the country and serve significant international traffic, especially during the summer season.

Greece is a Member State of the European Union, ESA, the ICAO, EASA, and EUROCONTROL and is a partner of FAB BLUEMED. The Ministry of Infrastructure and Transport (MIaT) and

³⁹ Official website of Hellenic Civil Aviation Authority: <http://www.ypa.gr> (24.12.2018)

the Ministry of National Defense (MND) are the agencies involved in the provision of aviation services.

Furthermore, another public organization, the Hellenic Authority for the Navigation of the Air (HANSA), which is called “European Space Agency”,⁴⁰ it deals mainly with the certification of the SPs by checking the interoperability and licensing of air traffic controllers, taking into account the Single European Sky Regulation.

Another Public Organization in the field of Aviation Authority in Greece is the Hellenic Civil Aviation Authority (HCAA), which operates under the supervision of the Ministry of Infrastructure and Transport and it is responsible for the operation and management of Greek airports, with the exception of Athens' “Eleftherios Venizelos” Airport and the 14 regional airports, for which the Fraport Group, in cooperation with the Copelouzos Group, has undertaken their operation for the following 40 years.

However, there is also the Directorate General for the Provision of Air Navigation Services, whose work is carried out by the Governor of the HCAA. This Directorate deals with the provision of Air Traffic Services, Automatic Identification System and Communications, Navigation and Surveillance services for Area Control Centers, Athens and Macedonia, but also for other airports, including the fourteen recently privatized and “Eleftherios Venizelos”. The Hellenic Air Navigation Service Provider is the authoritative and certified provider for the provision of Air Traffic Services in Greece.

The management of these infrastructures by the responsible entities aims to keep the airport operating costs as low as possible, while showing the necessary sensitivity and flexibility to the specificities and needs of local societies and the environment. In addition, airports are the main pillars for the development of a region, hence the aim is to ensure their sustainability. Thus, the quality of the services provided is a key priority of the activities and actions in the air transport sector.

Aerodrome operations, in terms of infrastructure use, require coordination, planning and funding. The increased seasonal of traffic demand for Greek regional airports and the uneven distribution of loads in months, but also days of the week, require the development and the expansion of airport infrastructure, both in buildings and in traffic and parking areas.

⁴⁰ Official website of European Space Agency: <https://m.esa.int/ESA> (24.12.2018)

Furthermore, the exploitation of all the advantages of operating the airport, such as the concentration of population which favors the operation of shopping centers or the utilization of large areas for energy purposes, like photovoltaic parks, are of great importance for the Greek regional airports.

Air Connectivity, defined as the number and frequency of airline services between two aerodromes, is a catalyst for both accessibility and economic growth.⁴¹ Direct connectivity refers to the direct connection of two aerodromes taking into account the number and frequency of the routes, while the indirect refers to the connection of two aerodromes including at least one transit.

The connectivity of airports in Greece in the last decade, 2007 to 2017, has increased by 42% with direct increase of 36% and indirect 47%.⁴² In 2017, it was a year with many changes, such as the completion of the concession of the 14 regional airports to Fraport Greece, the implementation of the upgrading projects of Athens International Airport and the auctioning of the new airport of Kastelli, in Crete.

Concerning passenger traffic in 2017, the total number of passengers arriving at the airports in the country reached 58.02 million, an increase of 9.48% compared to 2016.

Currently, 39 airports are operating in Greece for civil aviation services, with 14 regional airports accounting for 46.79% of total traffic, serving mainly tourist destinations, and 37.32% of the main airport in the country, serving the metropolitan area of Athens and a significant number of European destinations.⁴³

In 2013, 14 airports (Kavala (53%), Zakynthos (37%), Cephalonia (16%), Santorini (16%) and Chania (17%)) presented a considerable increase, while the East Aegean airports a slight decrease, (Mytilene (-14%) and Kos (-6%)), due to the reduction of direct flights to European destinations due to migrant and refugee flows.⁴⁴

⁴¹ ICAO 2017, Aviation Benefits Beyond Borders, <https://www.icao.int/sustainability/Documents/AVIATION-BENEFITS-2017-web.pdf> (27.12.2018)

⁴² ACI 2017, ACI Airport Industry Connectivity Report 2017, <https://www.acieurope.org/policy/connectivity.html> (27.12.2018)

⁴³ ACI 2017, ACI Airport Industry Connectivity Report 2017, <https://www.acieurope.org/policy/connectivity.html> (27.12.2018)

⁴⁴ Regional Airports. Exploitation through Concession Contracts. March 2013: <https://docplayer.gr/2393079-Perifereiaka-aerodromia-axiopoisi-meso-symvaseon-parahorisis-martios-2013.html> (27.12.2018)

The structural changes in the aviation sector recorded in recent years are linked to significant development plans and actions related to development, investment and airport management.

Following the completion of the 20-year concession procedure in 2017, the sale of 10% of Slentel's share capital to Fraport Greece, and Marguerite's investment capital in 2018, indicates strong investment interest.

Moreover, the increase of Greece's influence in the air transport sector implies the expansion of the strategic and operational character of the Greek airport's sprawling region to the wider Balkan, Eastern Mediterranean regions and worldwide.

Greece, as all European Union's states and European Civil Aviation Conference's members, has been committed and actively involved in combating climate change. In addition, its main objective is to provide an efficient, reliable and sustainable combined transport system, which is a competitive and sustainable aviation system as well.

In the case of Greece, the Greek Government and the Hellenic Civil Aviation Authority are responsible for addressing the impacts of commercial aviation on climate change and reducing greenhouse gas (GHG) emissions, achieved through the provision of innovative functions, improved technologies and a framework policy.

2.3.2. *Fraport in Greece*

The shareholders of Fraport Greece are Fraport AG Frankfurt Airport Services Worldwide, the Copelouzos Group and the European Marguerite 2020 Fund.⁴⁵

The Greek State divided the 14 airports into two equal groups of seven airports regarding their concessions, Group A and Group B. In other words, Fraport Greece holds two companies which are both based in Athens. Group A has been named Fraport Regional

⁴⁵ The shareholders of Fraport Greece are the German airport manager Fraport AG, and the Greek Copelouzos Group, two companies with extensive experience and know-how at a global level in airport management. Fraport and the Copelouzos Group have a long-standing collaboration that began with their joint involvement in the construction and modernization of Pulkovo Airport in St Petersburg, Russia. The European Marguerite Energy, Climate Change and Infrastructure Fund (Marguerite I), which was set up in 2010 with the support of six major European public financial institutions and the European Commission, with a commitment of 710 million, which relate to investment in capital-intensive infrastructure within the EU.

Airports of Greece A S.A., or Fraport Greece A, and the other company for Group B is called Fraport Regional Airports of Greece B S.A., or Fraport Greece B.⁴⁶

However, a third company, called Management Company, was established in Athens. The company's task is to undertake and manage central operations on behalf of Fraport Greece A and Fraport Greece B, such as the employment of personnel and the conclusion of agreements with consultants and suppliers.

Fraport has created many new jobs by combating part of unemployment in Greece. The headquarters in Athens employ more than 150 people, while 390 employees work in the 14 regional airports. In addition, reconstruction and reorganization projects at regional airports have provided jobs to the local communities in these regions, revitalizing the local economy.

The Company was established to provide all kinds of management services to Fraport Regional Airways of Greece SA and Fraport Regional Airports in Greece B AE. The year of 2017 was a landmark year for the Company, as the concession of the 14 airports for the next 40 years by the "Fraport Regional Airports of Greece A SA" and "Fraport Regional Airports of Greece B SA" was completed on 11 April 2017 and the normal operation of the Company began with the provision of the corresponding services.⁴⁷

The operations of these companies are linked to the design, financing, construction, completion, maintenance, operation, management and development of projects to be carried out by the above companies. Especially, the services produced by Fraport are mainly consulting, computerization and telecommunications, all kinds of financial, legal, accounting and tax services, upgrading, maintenance, security, cleaning, consultancy services and management, commissioning and supervision services projects.

The 14 Regional Airports in Greece operate in an ideal co-operation with the other airports of Fraport AG in the world.

Fraport in Greece is committed to developing an environmental policy system that assumes its responsibility and commitment to the environment and the society. The EU-wide environmental target is the average horizontal en-route flight efficiency. Greece does not propose to adopt any environment KPI at National level, before the collaboration with

⁴⁶ Official site of Fraport- Greece: <https://www.fraport-greece.com> (23.12.2018)

⁴⁷ Official site of Fraport- Greece: <https://www.fraport-greece.com> (23.12.2018)

Fraport-Greece.⁴⁸ Therefore, it develops procedures and programs for the continuous improvement of its environmental performance in order to comply with applicable environmental legislation. In this context, environmentally friendly business methods have been adopted. The Company has developed procedures for monitoring the electricity consumption of the Company in order to achieve the objective of saving energy.⁴⁹

⁴⁸ Eurocontrol, 2011, Hellenic air navigation supervisory authority, national performance plan Greece, Hyperlink: https://www.eurocontrol.int/sites/default/files/field_tabs/content/documents/single-sky/pru/performance-plans/gr-pp.pdf (10.12.2018)

⁴⁹ Official website of Fraport- Greece: <https://www.fraport-greece.com> (23.12.2018)

3. Performance Benchmarking in Greek Economy

In the modern economic systems, airports are considered to be an important player in economic and social development of the countries and the local communities in the wider region where their activities take place. Their impact is not limited to the immediate effects of their operation, but extends to more general benefits for local businesses, national organizations, but also for the broader community that gains access to generally high-quality, diverse services and products.

Airports in Greece are considered to be an important player of economic and social impact at national level, but also in the local communities of the wider region where they are active. In addition to that, the advantages of airport operations, benefits for local businesses, national organizations and consumers have a more general character as well.

3.1. European Regional Policy as a factor in Greek Economy in the field of air navigations

The Greek Government in its endeavors to meet the requirements of EU Regulation no. (EC) No 691/2010 of the 17th of July 2010 laid down a performance scheme for air navigation services and network functions and amended the Regulation concerning the definition of common requirements for the provision of air navigation services. The Air Navigation Authority (HANSA) has prepared a Performance Plan, which aims to meet the requirements of the first reporting period, RP1, 2012-2014.

The Greek state has synthesized this plan at national level, and it refers to Greece's positive intention to successfully achieve the objectives set by the Single European Sky during the first reference period. In addition, the State's objective is to ensure the balance of the needs of all airspace users and the supply of services provided by air navigation service providers.

The relations between Greece and the European Union in the period of the Economic Crisis, started in 2008/2009, have faced several challenges. Greece has been in a long period of economic recession and, up until today, receives instructions on economic adjustment programs, the memorandums, which include agreements with its lenders and the International Monetary Fund (IMF). Thus, the Greek economy has gradually managed to

leave behind this difficult period through its economic adjustment programs and return to economic growth.⁵⁰

However, in the beginning of 2014, Europe, and particularly Greece, has faced a Refugee Crisis, which is considered to be one of the biggest economic and social crisis in the recent history of the European Union. Greece, despite the economic crisis it had just faced, managed to tackle and regulate this problem, with the instructions and the assistance of the European Union. Thus, their cooperation has been successful, as many important legislative acts have been promoted in areas such as employment, growth, strengthening of the banking union, migration and transport.⁵¹

3.2. Economic performance of Greek airports managed by Fraport

The expansion of Fraport in Greece and its 14 Regional Airports is a major investment, at a crucial time when the Greek economy is trying to recover from the economic crisis.

The benefits of the Fraport investment in Greece should be beneficial for the State. The project includes the advance payment of 1,234 billion euro, the annual payment of 22.9 million euro and an annual variable price to the Greek State.

The plan agreed by the state and the Fraport forecasts that 14 regional airports will make investments totaling around 330 million euro by 2020.

The Greek economy benefits from the fact that it has been given the opportunity to promote the touristic product, which it offers worldwide, resulting in the development of Greek tourism, the increase in arrivals at regional airports and the expansion of the tourist season.

In addition, another important factor offered by Fraport is the upgrading of the local societies of the 14 airports. The project aims to enhance the depiction of 14 cities as tourist destinations. Furthermore, the development of new routes by Fraport Greece will improve the accessibility to these regions from abroad, hence it will increase passenger traffic. Thus, the improvement of tourist traffic will create openings in other sectors of the economy, such as agriculture, fisheries, industrial production, construction, trade, hospitality

⁵⁰ Official website of the European Union: <https://europa.eu/european-union/index>
(28.12.2018)

⁵¹ Official website of Hellenic Republic - Ministry of Foreign Affairs: <https://www.mfa.gr>
(28.12.2018)

services, rental of houses and vehicles, the exploitation of real estate and it will also provide an incentive for new investments in these areas.⁵²

Moreover, local authorities will be working closely with Fraport Greece to improve both the air services and the image of the local communities by ensuring a good impression for the passengers. At an airport level, that will be achieved with the help of a skilled workforce that will work to enhance the image of the airports, in terms of the cleanliness of public spaces, the friendliness of the staff, the reasonable waiting times and some attractive shopping venues.

However, Fraport-Greece aim at respecting the principles of corporate social and environmental responsibility. Thus, the company, having the experience of the joint venture in the operation of airports worldwide, follows some of the best relevant practices at the 14 regional airports, reducing as much as possible its environmental impact. Moreover, another goal of Fraport-Greece is to improve the communities of these regions with investments in tourism and culture.

By targeting the development and modernization of airport services and airport facilities, the improvement of general practices and the provision of high quality services, security and protection, according to the relevant international standards, both local communities and the whole country benefit, to a great extent, from this investment.⁵³

3.3. Factors limiting performance benchmarking in Greece

The Greek economy has faced several difficulties over the last decade. Thus, there are many risks, such as financial risk factors, market risk, credit risk, liquidity risk, and macroeconomic and business environment risk. For this reason, Greece is not a center of attraction for Foreign Direct Investment. However, Fraport Greece, having explored all the dangers of the economy, has also taken appropriate measures.

The Greek Economy is not in a position to provide absolute certainty in the financial sector. Fraport-Greece has undertaken procedures to predict these risks. Given that, the Company has proceeded to a synthesis of a general plan for the management of the Company's

⁵² Fraport Greece, 2017, Fraport Management Company of the Regional Airports of Greece, Hyperlink: https://www.fraportgreece.com/uploads/page_art/0/235//GR_FRAPORT_REGIONAL_AIRPORTS_OF_GREECE_MANAGEMENT_COMPANY_SOCIETE_ANONYME_2017.pdf (12.12.2018)

⁵³ Official website of Fraport- Greece: <https://www.fraport-greece.com> (27.12.2018)

according to the mentioned risks and it is also trying to reduce the potential negative impact of the volatility of the financial markets on the Company's Financial Performance.⁵⁴

Thus, the company has appointed its financial department to observe and avoid the risks that stem from the Greek Economy. Market risk holds individual risks as well. The risk of value reduction is shaped by the country's general economy. However, Fraport-Greece is not exposed to changes in equity prices because it does not have investments that its financial position. Another market risk is the risk of cash flows and the risk of changes in fair value due to interest rate changes.

However, there is no currency risk for the company, as these are two countries that are part of the Eurozone group of Member-States. However, the Company is exposed to credit risk, which arises from cash and cash equivalents and deposits with banks and financial institutions, as well as open customer credits, including outstanding claims and legally binding transactions. For this reason, the Company only works with financial institutions with a high credit rating.⁵⁵

With regard to liquidity risk, Fraport Greece remains at low levels, as it has sufficient cash holdings, having sufficient credit limits with the cooperating banks and the parent company.

The macroeconomic and financial environment in Greece shows constant signs of stabilization, but there is still uncertainty. Thus, the Company expects that, in order to avoid the dangers of the Greek economy, it has to influence its course.

All these financial factors have a significant impact on the performance benchmarking⁵⁶ of Greece, especially on the process of improving performance in terms of the country's economy.

⁵⁴ Fraport Greece, 2017, Fraport Management Company of the Regional Airports of Greece, Hyperlink: https://www.fraportgreece.com/uploads/page_art/0/235//GR_FRAPORT_REGIONAL_AIRPORTS_OF_GREECE_MANAGEMENT_COMPANY_SOCIETE_ANONYME_2017.pdf (12.12.2018)

⁵⁵ Fraport Greece, 2017, Fraport Management Company of the Regional Airports of Greece, Hyperlink: https://www.fraportgreece.com/uploads/page_art/0/235//GR_FRAPORT_REGIONAL_AIRPORTS_OF_GREECE_MANAGEMENT_COMPANY_SOCIETE_ANONYME_2017.pdf (12.12.2018)

⁵⁶ E-Benchmarking: <http://www.e-benchmarking.org/el/files/benchmarking.pdf> (20.12.2018)

3.4. The consequences on the Greek Economy

In spring 2010, Greece joined the three-year Economic Adjustment Program and consequently adopted extensive fiscal consolidation measures. Thus, domestic demand was negatively affected. However, successful and credible fiscal adjustment efforts have offset the economic cost of adaptation and led to a recovery in the coming years. Furthermore, the cut in public wages and the increase in tax burden had the effect of rendering Greece as a non-attractive country for investment.⁵⁷

Nevertheless, the aviation sector in Greece is driving the domestic economy through passengers and cargos traffic, as well as supporting the development of other sectors of activity, especially in the island regions of the country.

The industries that are related to and benefit from air transport are hotels, food industry, banks and general commerce. At GDP levels, the economic contribution of aviation to the domestic demand is estimated at around 1,077 billion euro.

However, island and border regions of the country have greater benefits, because they are linked to tourism and the development of the primary and manufacturing sectors. The long-standing problems of island regions that can be recognised are the increased transport costs that tourists have to pay to reach their destination, the seasonality of the tourist sector, mainly during the summer months, and the inadequate connection with the continental areas, which affects their attractiveness in terms of both visitors and those working in this sector. Thus, the country had to find a way to reduce the cost of air transport system.

By combining the impact of aviation demand with all the significant effects, the total contribution of the domestic activities of the industry is estimated in terms of GDP at around 10 billion euro or 6% of the country's total GDP, while in terms of employment it is approximately 200 thousand jobs (or 6.2% of total employment).

In terms of GDP, the overall impact is 1.077 billion euro, which is about 0.8% of the country's total GDP. In particular, the direct effect is 200 million euro (fares), indirect to 220 million euro and 657 million euro.⁵⁸

⁵⁷ HELLENIC AIR NAVIGATION SUPERVISORY AUTHORITY, NATIONAL PERFORMANCE PLAN-GREECE- RP1-2012-2014:
https://www.eurocontrol.int/sites/default/files/field_tabs/content/documents/single-sky/pru/performance-plans/gr-pp.pdf (29.12.2018)

⁵⁸ http://sete.gr/media/3004/simasia_tourismou_sete_intelligence_report.pdf (27.12.2018)

The contribution of the aviation sector to the national and local economy depends on the level of expenditure incurred by producers and consumers in the industry. The economic impact of aviation is spread across the economy through a multidimensional income effect.

The economic benefits from the operations of airlines that affect the local, regional and national economy are benefits that stem from the used supplies such as consumables, food, clothing, safety equipment, fuel and lubricants and replacement aircraft systems, as well as revenues for the air services, such as fees, aircraft landing costs, tax revenue for the state, revenue from further costs for passengers and crew aircraft and airline expenses.

The aviation industry generates for the state a direct revenue of more than 60 million euro from Athens airport alone, considering the financial results of 2015. Based on reports, the largest airport in the country has a share of 30% of the total activity. Then, the airports of Thessaloniki, Heraklion and Rhodes follow. Expenditure on aviation is mostly exogenous, not carried out by the economy itself. However, they result in an increase in demand for domestic services and products. In fact, the increase has as a main result the increase in labor, income and consumption.⁵⁹

In 2015, Frankfurt-based Fraport AG decides to invest in Greece, aiming at the management of fourteen regional Greek airports. In 2017 the cooperation of the Greek State with this company becomes true.

The report of the first year of management and operation of the 14 regional airports by Fraport-Greece indicate positive financial results. The company aims to invest 400 million euro by 2021.

The first positive results at the fourteen airports were seen as fast-paced upgrades occur both in airport operations and in their facilities. The company managed to redesign the old facilities of these Regional Airports.

At the same time, the company's investments improve the Greek economy and, consequently, assist in overcoming the Greek Economic Crisis. The price paid by Fraport together with Sleptel's interest in Copelouzos to the Greek State was 1.2 billion euro for the management of the 14 airports for the next 40 years. From these airports, the three are located in the mainland and 11 on tourist islands.

⁵⁹ The contribution of tourism to the Greek economy in 2014 - summary of basic sizes
http://sete.gr/media/3004/simasia_tourismou_sete_intelligence_report.pdf (28.12.2018)

The first business year seemed beneficial to Fraport and for Greece. The number of passengers increased by 10% and reached 27.6 million people, while turnover exceeded 235 million. In addition, the company was employing 550 employees, at a time when the unemployment rate in Greece in January 2017 reached 23.2%.⁶⁰

By 2021, Fraport- Greece announced that it is going to invest 400 million euro, with the biggest share going to the airports of Thessaloniki, Corfu, Kefalonia, Lesvos and Kos. At the end of the investment, Airport terminals will grow by 50% to 300,000 sqm. At the same time, boarding and disembarkation checks will be enhanced to better serve a larger number of travelers.⁶¹

⁶⁰ Kathimerini Newspaper:
<http://www.kathimerini.gr/912010/article/epikairothta/ellada/eurostat-sta8era-prwth-h-ellada-sta-pososta-energias-ths-ee> (30.12.2018)

⁶¹ Kathimerini Newspaper:
<http://www.kathimerini.gr/959093/article/oikonomia/epixeirhseis/h-fraport-allazei-rizika-ta-14-aerodromia> (30.12.2018)

CONCLUSIONS

European air transport must continue to compete globally and exploit the opportunities created in the fast-changing global economy in a sustainable way. Thus, in December 2015, the European Commission presented an "Aviation Strategy for Europe", which set out an ambitious vision for the future of European air transport. This strategy aims to stimulate the economy of Europe, strengthen its industrial base and its leading position in the aviation sector at a global level, while at the same time addresses the environmental and climate challenges, thereby directly contributing to the Commission's strategic priorities.⁶²

The configuration of Greece's strategic development of air transport requires, in principle, an understanding in depth of both Greek Governance and European Governance. Within the framework of Greek and European Governance, the legislation, which differs for each Member State of the European Union, is defined as well. Thus, the air transport policy of each Member State is shaped both by the directives and regulations laid down by the European Union and by the route that a State wishes to choose.

These changes are a benchmark for the European air transport with two main factors. The first concerns the economic and political unification of the Community area, as prescribed by the Single European Act, which has a large impact on the volume and nature of the activities.

The second concerns the progressive but rapid overthrow of the monopoly of air transport as prescribed by the new European institutional framework, which has led to radical changes of both the operating structure and the organization of air transport in Europe.

These factors create a new reality for the Greek and European space and have an important impact on the air transport sector, which was weak due to the old monopoly regime. One could argue that they managed to change the shape of the international aviation environment.

This is a fact that requires the airspace to be seen as a system in which a number of economic, social, political and operational factors and policies interact. This requires a thorough knowledge of European and Greek air transport and services legislation and reliable partnerships such as the Fraport Group, which in its experience has provided significant benefits to the Greek economy.

⁶² <http://www.europarl.europa.eu/legislative-train/pdfs/legislative-train-schedule-theme-deeper-and-fairer-internal-market-with-a-strengthened-industrial-base-services-including-transport-10-2016.pdf> (17.12.2018)

The move by the Greek government towards the privatization of Greek Airports was deemed necessary after the financial crisis. The derived advantages were long-term investments that could bring economic growth, revenue diversification, aeronautical or non-aeronautical, investments at airports that have proved profitable and the goal of upgrading the services offered to passengers and providing secure services .

Thus, the Government decided to create a modern European framework for Greek airports by grouping regional airports into Group A and Group B.

In Greece, in recent years, the goal of reducing greenhouse gas emissions and improving energy efficiency in the aviation sector has been partially achieved by both public and private entities, such as Fraport Greece. Moreover, the improvements of infrastructure and services related to the air aviation sector are essential for the Greek economy, thus, the private initiative is necessary to continue this progress in the future.⁶³

Taking into consideration of all these aspects, it is concluded that the exploitation of the regional airports by both Greek Governance and Fraport-Greece is expected to have multidimensional benefits. The decision taken by the Greek State for those regional airports with significant passenger traffic that is largely independent of the Greek economy seemed to have brought great benefits and it will continue to bring even greater in the future.

⁶³ Official website of Hellenic Civil Aviation Authority: <http://www.ypa.gr> (24.12.2018)

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