



Master Thesis

“What has been the impact of Chinese FDI in Greece? Has Greece gained a strong position in logistics sector and has become a key logistics provider for the EU?”



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ABSTRACT

The basic aim of this thesis is to investigate on the one hand whether the 21st Maritime Silk Road in the context of OBOR initiative has boosted the Greek economy while on the other hand whether Greece has been transformed into a key logistics hub for Europe. In order to acquire an answer on the research question the author deployed both quantitative and qualitative research methods. Through relevant resources a data analysis took place while four interviews were conducted aiming to gain more socio-economic insights of the situation. During the research period (2005-2020), 565 companies of Section H (Transportation & Storage) were incorporated and operate until today in the country. The ports of Piraeus and Thessaloniki show steadily increasing rates on container throughput but Piraeus as the main port and investment recipient presented bigger changes. Piraeus ranked in 4th position of the top 15 container ports in Europe almost doubling its container throughput by the time of Chinese investments. Interviewees highlighted the importance of Chinese FDI in Greece and its positive direct effects (employment). Also, the potentials of Greece as investment destination were mentioned while a simplification of bureaucratic procedures was suggested by the interviewees as an obligatory factor to attract even more FDI. Greece proved to be benefitted by the Chinese investments at an economic, logistics and know-how level.

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1. Introduction

The history of today's Belt and Road initiative (also known as One Belt One Road (OBOR) initiative) are known for many years even from when Genghis Khan arrived in Europe while Alexander the Great reached almost the Chinese province of Xinjiang leaving both of them significant cultural and scientific heritage along this route. Over the centuries, this path began to acquire an important economic and commercial character, motivating China to exploit it and to continue developing its trade relations with Europe. This is briefly how the first called Silk Road in 1870 was born (Hellenic Law Firm, 2016).

Today China is actively engaged in restoring the well-known Silk Road to its former status. Greece plays a key role in this engagement since its geographical location is extremely convenient for bilateral trade operations executed by the sea. From 2000 already, China through COSCO was involved in effectively exploiting the size and the strategic location of the Port of Piraeus. It is estimated that Greece having the world's largest merchant fleet is carrying almost 60% of Chinese exports worldwide (Hellenic Law Firm, 2016).

After signing a 35-year concession agreement for the control of the port of Piraeus and having invested 258 US\$ million in the development of the port, the Chinese COSCO now controls two thirds of the total traffic of the port. COSCO's investment resulted in the rise of the port of Piraeus from the 93rd port regarding container capacity to 39th and has contributed \$ 560 million in taxes and national income to the Greek economy, creating more than 2,000 jobs (Foreign Brief , 2016).

China's investments in the Port of Piraeus are part of the OBOR initiative under the 21st Maritime Silk Road project, which will be analyzed further in this thesis.

According to foreign press (New York Times and Wall Street Journal), the investment in the Port of Piraeus is considered as one of the most successful foreign trade initiatives for China (Hellenic Law Firm, 2016). Of course, this will have positive effects for Greece as well as these investments will help to the country's financial recovery, while for China's OBOR initiative, Greece has been characterized as "an unlikely rising star" (Foreign Brief , 2016).

1.1 Objectives and problem definition

The main research objective of this thesis is to investigate the effects of OBOR initiative, regarding the Port of Piraeus and port of Thessaloniki, in Greece. More specifically the author aims to investigate how Chinese investments in Piraeus affected the Greek economy and logistics sector at a microeconomic and macroeconomic level through investigating relevant indicators. So, the actual research question that we are called to answer is the following:

“What has been the impact of Chinese FDI in Greece? Has Greece gained a strong position in logistics sector and has become a key logistics provider for the EU?”

In order to answer the aforementioned research question, a combination of two research methods will be deployed. Firstly, through data collection from relevant databases the author aims to provide insights regarding the Greek logistics scene and macroeconomic situation of the country. Through this data collection, we aim to explore if and how much the Chinese investments affected the rise on the throughput of containers, the logistics scene, the national GDP, the employment and FDI rates.

Furthermore, some interviews will be conducted in order to obtain a more realistic and direct image of the situation and the future perspectives of Greece as economy, a key logistics provider and an upcoming FDI recipient. The interview questions in combination with certain data will help to acquire a comprehensive image of the situation in order to answer our actual research question. The following questions are the pillars of the interviews while the discussion varies depending on the sector represented by the interviewee.

- What are the regional-economic effects to be expected from investments like OBOR (added value, employment)?
- How will these effects spread into the Greek economy? Are the effects going to be limited only in the Piraeus port or will they be visible at a national level as well?
- Should we expect an increase in GDP of Greece in the upcoming years due to the Chinese investment?

- Could this initiative increase the country's status as logistics investment's destination?
- Do you believe that the presence of China in the Greek ports is a win-win situation? Or one of the counterparts benefits more?

1.2 Contribution of the research

By the completion of this thesis, helpful insights will be provided to both academic and professional community. Regarding the academic community, this thesis is going to contribute to the already existing literature of the relationship between the investments in infrastructure and logistics sector and economy's growth. As far as professional community is concerned, especially through the interviews industry experts and individual firms will be informed on how the OBOR initiative may affect their business at a macro and micro level. In this way, the concerned companies may develop a suitable strategy in order to overcome any probable obstacles or take advantage of any arise opportunity. The aim is to locate the most affected sector by the Chinese FDI so as companies may identify any further investments opportunities either in the core sector or in support activities. At the same time, the combination of interviews will help not only the companies to the aforementioned goals but also the general public acquire a simple and multidimensional view of the Chinese investments' effects on Greek economy.

1.3 Structure of the research

In the second chapter of this thesis, the literature review takes place. Starting by reviewing the international literature some insights of the relationship between infrastructure investments and economic growth are retrieved. Following this analysis, a description of OBOR Initiative, the motives behind it and its importance for the European Union will be presented. Also, a situation analysis is included in this part describing the main investments in the ports of Piraeus and Thessaloniki respectively, and the logistics sector in Greece for 2005-2020 period.

Chapter 3 will be devoted to the presentation of the methodological approach that will be adopted for the research, describing its type and the procedures of data collection and data analysis.

Chapter 4 will present in detail the results of the data analysis, while chapter 5 will conclude by reporting the key findings of the research, its theoretical and practical implications, its limitations, and suggestions for future research.

2. Literature Review

The aim of the literature review is to help us establish a familiarity and understand the current state of knowledge on how investments in infrastructure affect the economic growth of a country. In this way and having seen the effects of infrastructure investments in some countries we will be able to carry out our own investigation and show how the Chinese investments have influenced the Greek economy.

2.1 Relationship between infrastructure and economic growth

The relationship between infrastructure and economic growth is a research area that has significantly attracted the academic community. Consequently, several relevant studies have been conducted throughout the years trying to investigate the impact that investments in infrastructure may have on economic growth, within different economic, political, and geographical contexts. Most of the studies have shown that there is positive correlation between infrastructure investment and economic development.

Berechman, Ozmen and Ozbay (2006) conducted an empirical analysis on how the transportation investments affect the economic growth at state, country, and municipality levels by using longitudinal data observations for 1990-2000 period. Using output as dependent variable and labor, private capital, public capital (transportation capital) and unemployment variables as independent, developed three types of models. The aforementioned model was the basic one, then introduced a lagged model in which 1-5 years period lags were included in order to observe any possible delays in the output in response to additional infrastructure investments. The final model was a spillover type model, developed to examine the hypotheses that highway investments made in one area have economic development effects in neighboring areas and whether these effects become more obvious once the under-examination region gets smaller, for example from country to municipality levels. Based on the results produced by this analysis, the authors concluded that private and public capitals are positively correlated with the output at the state and country level. However, highway's capital impact on output varies among the regions depending on

the socioeconomic characteristics and transportation investments generate strong spillover effects on relative to space and time (Joseph Berechman, 2006).

During the same year, Sahoo and Dash (2006) have conducted a research on the role of infrastructure in enhancing economic growth for South-East Asian countries (India, Bangladesh, Sri-Lanka and Pakistan) using a panel cointegration technique and controlling for investment, labor force and expenditure on health and education for 1980-2005 period. The authors admit that the concerned countries have been under significant improvements regarding their macroeconomic situation, infrastructure investments, exports and employment however in order to maintain a steady economic growth they need to enhance the quality of infrastructure facilities. The study results show that physical infrastructure development in the four countries significantly contribute to their economic growth while the expenditure on health and education also have a positive correlation to growth. So, the study suggests that these countries should continue investing not only in their physical infrastructure but also in the human capital such as in health and education (Pravakar Sahoo, 2012).

However, by looking into China's case there is a quite interesting paradox, as a study has been carried out on whether infrastructure investments lead to economic development or economic fragility. Although China is considered as the second largest economy based on its outward investments, the relationship between infrastructure and economic development has been characterized by negative correlation for the country itself. The results have shown that for China the actual infrastructure costs are higher than estimated costs by 30.6% leading to the conclusion that there is an underestimating bias in the prior calculations. Also, China seems to perform better regarding the speed of absolute construction of a project and the time plans than developed economies however under ambiguous conditions regarding safety, quality, social fairness, and environment. So, the situation of costs overruns, the benefits absence, and the fact that due to their regime all the companies are state-owned is correlated to the country's increasing problem debt which is higher than even advanced economies like United States. So, the conclusion that infrastructure investments can also lead to economic fragility is confirmed by China's case as the country seems to overinvest in underperforming or poorly managed projects. The research suggests that if China will not shift to a lower quantity of higher quality investments plan, then it is in front of an infrastructure-led economic crisis that owing

to its dominant role in the global economy may have serious impact internationally (Atif Ansar, 2016).

After having a brief view of the correlation between infrastructure investments and economic growth the scope of the literature review will be relatively narrowed focusing on how port infrastructure may affect the economic growth. Munim and Schramm (2018) conducted an empirical analysis including 91 countries with seaports to assess how port infrastructure and logistics performance may affect through seaborne trade the economic growth of a country. Through a structural equation model (SEM), the authors aimed to provide empirical results on the impact of port infrastructure and logistics performance on economic development. Also, by dividing the sample into developing and developed countries they made further analysis on how port infrastructure and logistics performance may affect the economic situation of a country according to its economic stage. Assuming that, the port investments are exogenous and so that new technologies and equipment is invested, the logistics performance of the region improves regarding reliability, time and cost efficiencies and shipments' tracking and tracing. Study's results have shown that the quality of port infrastructure has strong positive effects on national economy, while the relation between port infrastructure and logistics performance is analogous. Regarding the distinction between developed and developing countries it seems that port infrastructure and logistics performance have higher impacts on seaborne trade in developing countries and consequently on their economic growth. However, is also suggested for the developed ones to maintain high quality in their port infrastructure (Ziaul Haque Munim, 2018).

On the same path, Rodrigue and Notteboom, note that since port development and international trade are strongly correlated capital investments in port infrastructure have economic impacts in the wider region. The economic benefits related to the ports are measured by indicators such as value-added, employment, taxation revenue and return on investment. They support that the economic benefits of port development are more directly related to the potentials of the supply chains they support rather than to the port activities themselves (Jean-Paul Rodrigue, 2021).

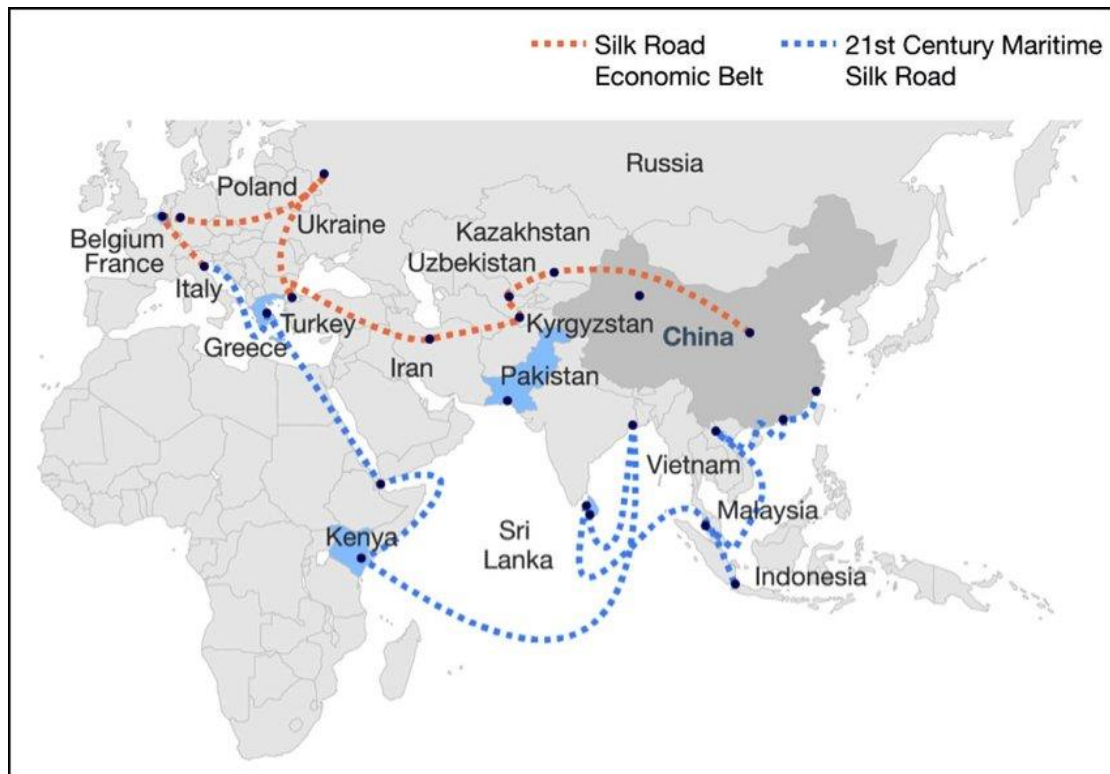
Some years ago, Joseph Berechman, also found evidence that transport infrastructure investments including ports, airports, highways and rail contribute to the improvement of the accessibility of a region and economic development. The author after running a cost-benefit analysis concluded that investment effect, more specifically the income multiplier that is caused by spread of public capital and the accessibility improvement are the main factors that transport infrastructure investments can lead to economic development of a region (Berechman, 2005).

2.2 Description of OBOR Initiative and the motives behind it.

The OBOR project is China's transcontinental investment plan based on the historic Silk Road routes aiming to the infrastructure development and the enhancement of economic integration of the countries along these routes. The revival of the Initiative was announced by the Chinese president Xi Jinping in 2013 and until 2016 was broadly known as OBOR Initiative. Nowadays, 71 countries are taking part on the project representing in total almost 1/3 of global GDP and 2/3 of the world population (Belt and Road Initiative , n.d.). The Belt and Road Initiative consists of two main components:

1. The term "Belt" refers to the Silk Road Economic Belt which is a land-based route. Within this part of the initiative infrastructure development and enhanced connectivity and cooperation among the involved countries of Eurasia is envisioned.
2. The term "Road" refers to the 21st Maritime Silk road which is based on sea-routes. It is expected to establish connections between China and Europe through specific regionals waterways including the Pacific Ocean, the South China Sea, the Indian Ocean, the Persian Gulf and the Mediterranean Sea (Belt and Road Initiative , n.d.).

Figure 1: Routes of OBOR Project



Source: (McKinsey Company, 2018)

The OBOR initiative is based on 6 economic corridors of infrastructure development and upgrade, formulated so as to enhance economic growth. These corridors include: 1) New Eurasian Land Bridge Economic Corridor (NELBEC), 2) China – Mongolia – Russia Economic Corridor (CMREC), 3) China – Central Asia – West Asia Economic Corridor (CCWAEC), 4) China – Indochina Peninsula Economic Corridor (CICPEC), 5) Bangladesh – China – India – Myanmar Economic Corridor (BCIMEC) and 6) China – Pakistan Economic Corridor (CPEC) (Belt and Road Initiative , n.d.).

OBOR initiative seems to be a crucial part of China’s diplomacy. More specifically, from an economic standpoint president Xi Jinping from his first steps in presidency and sure about his popularity in the general public started to reveal his plans regarding China’s future. One of president’s promises was about implementing a program of national rejuvenation in order to be able to accomplish his vision of the “Chinese dream”. The main objective at that time was to enhance China’s international image while improving China’s relationships with countries in its periphery and cultivate closer economic and political ties with countries overseas.

In 2014, shortly before the 22nd APEC Summit in Beijing the feeling that China was a fast-growing power had become a very close to reality sense, the International Monetary Fund (IMF) had made the statement that China had indeed become the largest economy at a global level. More specifically, after IMF's evaluation China was considered the largest economy worldwide in terms of Purchasing Power Parity (PPP) and Gross Domestic Product (GDP). Furthermore, according to China Daily in 2014 was the first time that the Overseas Direct Investments (ODI) were higher than the incoming Foreign Direct Investments (FDI) (Wong, 2015).

Aiming to redraw the trading routes OBOR Initiative is high in the Chinese agenda as the motives behind it are quite significant. As the largest trading nation in the world the preliminary goal of China is to reduce transit time and costs in order to supply effectively and efficiently its products. However, there are some more motives and targets under this initiative. Firstly, China aims to reduce the economy's dependency on internal infrastructure investments and the growth associated with (Simeon Djankov, 2016). Also, the fact that industrial sectors such as iron, cement, aluminum, steel and glass that are considered infrastructure led ones had reached overcapacities investing in infrastructure of the countries along the route seems to be the only sustainable way to continue operating and converting a possible domestic debt into a credit towards the receiving countries under OBOR's cover (Richet, 2018). Under OBOR Initiative, Chinese construction companies, equipment suppliers and other related businesses that helped until now the domestic growth will be forced to seek for opportunities abroad. Also, it is expected that the infrastructure development of the countries along the route will probably lead to their economic growth. For China this could be translated as an increase in demand for Chinese products and services by these countries (Simeon Djankov, 2016).

Furthermore, of crucial importance is the matter of energy supplies for China. Through new pipelines in Russia and Central Asia and the South-East Asian deep-water ports China aims to have adequate energy supplies as the demand steadily grows. It is worth noticing that the number of private cars increased dramatically from 8 million in 1990 to 115 million in 2015, while the growth of the economy increased

the energy demand by more than 500% from the 1980's. China is the largest energy consumer globally, while from 2014 has the largest net imports of oil (Simeon Djankov, 2016). This situation and the heavy dependency on coal for heating and electricity brings more problems to the surface such as the heavy pollution in Chinese cities. Also, behind the focus of the initiative in infrastructure is the trying of China to enhance its reserve currency. More specifically, by offering loans in Chinese currency for infrastructure development, China was introduced in 2015 in the European Bank for Reconstruction and Development while at the same year the Asian Infrastructure Investment Bank was founded. These steps led to the International Monetary Fund (IMF) to include the renminbi to the list of the global currencies (Simeon Djankov, 2016).

From a geopolitical and geostrategic standpoint, it could be stated that OBOR initiative hides China's long-term goal of being dominant nation in Asia. As Central Asia was traditionally aligned with Russia's movements now appears as integral part of the initiative and recipient of several and important investments in transportation, energy, and other sectors. China seems to gain a political and economic advantage in the region of Eastern and South-Eastern Europe too, since the subjective countries that receive Chinese funds for further infrastructure development will be integral parts of China's trade and they are expected to support its thriving at many levels (European Parliament, 2016).

2.3 What are the implications of OBOR for the EU?

OBOR initiative has its views in Europe as well both with projects related to land and through the 21st Maritime Silk Road. Geopolitically speaking, up until now it has been seen that China has reached bilateral agreements for infrastructure investments with countries independently rather than with the EU as an edifice. In these agreements can be included the investments in Greece and the participation of China in the 16+1 scheme. It could be said that these strategic movements of "divide and rule" generate mixed feelings on European side. However, since OBOR is an ongoing project Europe seems that will have some advantageous opportunities to enhance its relations

with China and participating in the shaping of the imminent agenda (European Parliament, 2016).

From an economic and geostrategic standpoint, OBOR initiative seems to be carefully structured. It is expected that OBOR-related trade activities will be able to change the up until now scene by converting even routes from sea-oriented into land-oriented and vice versa. The investments in the Port of Piraeus and in the high-speed railways connecting the Greek port with Budapest and from the port of Constanta in Romania with Vienna via Budapest and Bucharest by rail seem to be significant turn points. The economic importance here can be seen not only in the investments in infrastructure, but also in the significant reduction of transit times for Chinese products by almost 10 days which is something that may lead in a domestic increase in market competition as well. Furthermore, regarding the investments in the Greek port, as a part of OBOR initiative indirectly benefits the EU, since Greece in spite of the unstable financial situation, still remains a foreign investments destination and especially for large-scale and long-term investments. This fact will lead to more stable relationships between Greece and the rest member states of the European Union, as well (Putten, 2014). What should also be included are the potential geostrategic gains for the EU, who through OBOR will may manage to deepen its relations with China and also in a longer-term benefit from new markets in Eurasia and from energy security as well (European Parliament, 2016) .

After carefully examining the OBOR's significance for both China's and European's side the scope of the research will be relatively narrowed. In the following section of the literature review an explanation and assessment of the existing Chinese investments in Greece will be presented. More specifically, the Chinese investments in specific sectors and a situation analysis of the Port of the Thessaloniki will be presented.

2.4 Areas of Chinese investments' interest in Greece

Considering the motives behind the investments of China in Greece Mr. Melas characteristically reported that China's investing focus is on vital economic sectors. More specifically these sectors are supply chain and transportation, energy and telecommunications (Melas, 2019). Under OBOR Initiative China's flagship investment project in Greece was made by COSCO with the concession agreement of Port of Piraeus that will be analytically examined further below. Considering COSCO's involvement in the Port of Piraeus successful companies from energy and telecommunication sectors followed (Qianqian Liu, 2019).

In 2016 the China State Grid Corporation successfully acquired 24% of Independent Power Transmission Operator which previously was fully state owned by the Greek Public Power Company (PPC) with the aim of infrastructure upgrade for better power interconnection between mainland and the islands. Staying on the energy sector, in 2017 Senhua Renewables proceeded to the acquisition of 75% in four wind parks in Greece that were developed by the Greek Copelouzos Group corporation (Plamen Tonchev, 2017).

Regarding telecommunications and technological sector China is presented dynamic too. Characteristic example is this of Zhongxing Telecommunication Equipment Corporation (ZTE) which apart from the establishment of a distribution center in Piraeus to transport its products to the inner European hinterland has signed an agreement with the Greek company Forthnet for developing a next-generation network (NGN) (Plamen Tonchev, 2017).

2.5 Situation Analysis: Port of Piraeus & Port of Thessaloniki

After the 2008 financial crisis outbreak Greece faced serious financial and fiscal issues that was not prepared for. In 2010 the arrival of European Commission, European Central Bank and International Monetary Fund, referred all together as TROIKA marked the beginning of a hard era for Greece. In the context of restructuring and revival of Greek economy TROIKA among others forced Greece to proceed with privatizations of stated owned organizations. The port of Piraeus was a matter of fierce discussion as for many years was the “Dragon’s Head” for China and at the same time was a huge weight for Greek economy due to its low productivity and corporate structure. Under the pressure of TROIKA, the procedures of Piraeus privatization were accelerated but political changes in Greece were obstacles in the completion of the privatization. Finally, in 2016 COSCO was the only company that kept submitting proposals for port’s acquisition and got accepted. The agreement was initially for acquiring 51% of the shares of the port and 5 years later plus 16% (Naftemporiki, 2016). President Xi Jiping characterized the Port of Piraeus as “Dragon’s Head” in the context of 21st Maritime Silk Road. In Chinese culture dragons symbolize auspiciousness and frightfulness (Papageorgiou, 2020).

The Port of Piraeus constitutes the main European port, part of the OBOR Initiative under the 21st Maritime Silk Road part. It is considered as the main entry point or the so-called “China’s gateway into Europe” not only for the Chinese exports in South Eastern, Eastern and Central Europe but also as a transshipment hub for seaborne trade along the Mediterranean and the Black Sea. This could be also confirmed by the interest of Chinese government and Chinese companies to invest in other Greek ports as well other than Piraeus, such as the port of Thessaloniki, but also in infrastructure like high-speed railway and airports. Such investments would occur in value-added activities such as distribution, logistics, assembling and storage (Frans-Paul van der Putten, 2015).

The Piraeus Port Authority (PPA) was established in 1930 and is the biggest company of port industry in Greece. The PPA works with concession contracts, of which the most important arrangement regards the Piraeus Container Terminal (PCT). The port facilities operated by the PPA are part of the Trans-European Network (TEN-T), thus the port is entitled to receive EU financial assistance and specifically from the “Connecting Europe” fund (Bastian, 2017).

The timeline of Chinese involvement in the Port of Piraeus goes back in 2010, when the Greek government offered the concession of Piers II and III container terminals to Chinese state-owned company COSCO for 35 years under TROIKA’s plans pressure. These two container terminals would be at COSCO’s disposal for use, maintain and invest while the Pier I container terminal remained under the management of Piraeus Port Authority. COSCO’s investments resulted in a considerable growth in containers’ throughput, while by the end of 2012 according to the Containerization International Magazine the Port of Piraeus was the fastest growing container port worldwide. In a five-year period (2009-2014) the container throughput increased by five times from 0.7 million TEU to 3.6 million TEU (Frans-Paul van der Putten, 2015), while by the end of 2012 Piraeus had entered the top 10 of the bigger container ports in European scale. COSCO invested the amount of 4.3 billion\$ on harbor facilities aiming to increase the container throughput every year (Tonchev, 2017). Rationally, these results led to further agreements between the two counterparts (Greece-China) for further investments, while COSCO had already established distribution center in the Greek port (Frans-Paul van der Putten, 2015).

The involvement of COSCO in the port of Piraeus, did not only establish the latter as a gateway to Europe but also as a key transshipment hub for the rest of the Mediterranean and the Black Sea, increasing the significance of the port but also changing the regional trade patterns and consequently the European ones. The Port of Piraeus benefited in several ways by COSCO’S involvement. Initially, the Greek Port benefited by the introduction of the most modern equipment available, something that leads to increasing efficiency and productivity in operations. Secondly, COSCO is a major shipping line the Asia – Europe route and consequently a major customer for

the port. What should also be included in the benefits regarding the customers, is the fact that COSCO is member in the Ocean Alliance, including OOCL, CMA CGM and Evergreen, meaning that the rest shipping lines will call at Piraeus in the context of space sharing. Of-course major European shipping lines like MAERSK and MSC, are also make use of the port of Piraeus. Moreover, indicators show that the handling costs per container are lower in Piraeus than in other Mediterranean ports because of high productivity. Regarding the productivity, the local managing director Fu Chengqiu stated that it has increased from approximately 10-12 containers per hour to 44 per hour (Frans-Paul van der Putten, 2015). What is more, after the reshaping of Piraeus port, its potential for growth has been depicted in some decisions made by major technology companies to transfer their distribution centers. The case of Hewlett-Packard (HP) that transferred a significant part of its distribution activities from Rotterdam to Piraeus is a characteristic example. More specifically HP's products such as desktops, laptops, printers and relevant equipment that are transported by large container ships, arrive at Piraeus and then are transshipped in feeder container ships heading to other ports in the wider region of Mediterranean and the Black Sea. At the same time, products that are destined for the Central and Western Europe are transported by rail to the Czech Republic, from where are further distributed (Frans-Paul van der Putten, 2015).

Following Piraeus, Thessaloniki is the second largest port of Greece located in the Northern part of the country acquiring a strategic geographical location as well. The advantage of Port of Thessaloniki that China spotted and reasonably wanted to benefit from is its potential for inland ports and its important hinterland connections. In 2020 Thessaloniki Port Authority (THPA) and China Merchants Port Holdings signed a cooperation agreement regarding the operations of container terminals of the port. In this context, the managing director of China Merchants Holdings stated that Thessaloniki is not only important as a port but also as logistics hub linking Europe and Asia, which will be considered as another success of OBOR Initiative. The agreement has two main goals, firstly to take advantage of the hinterland connections since there is direct rail link from the port to Skopje and from there to the inner Balkan peninsula including Bulgaria, Serbia and Romania. Secondly, China participates in the container terminal expansion with the aim to transform the port of

Thessaloniki as well so as to be able to provide services to Ultra Large Container (ULC) vessels (RailFreight.com, 2020). France has been also involved in the Port of Thessaloniki through Terminal Link SAS. 51% of the shares of Terminal Link SAS is held by French CMA CGM while the rest 49% is held by the Chinese CMPorts (China Merchants Port Holding Company Ltd.) (VIMA, 2018).

In November 2020, the first rail route connecting the port of Thessaloniki with Sofia Dry Port was activated for the first time. The trip lasted 16 hours and is executed on a weekly basis aiming to optimize services between the two cities and improving Balkans' connectivity. Characteristically, for that new direct train connection Franco Nicola Cupolo the CEO of port of Thessaloniki stated: *"Such a development will significantly increase the competitiveness of the port, the country and the economy of Southeast Europe."* (RailFreight.com, 2020)

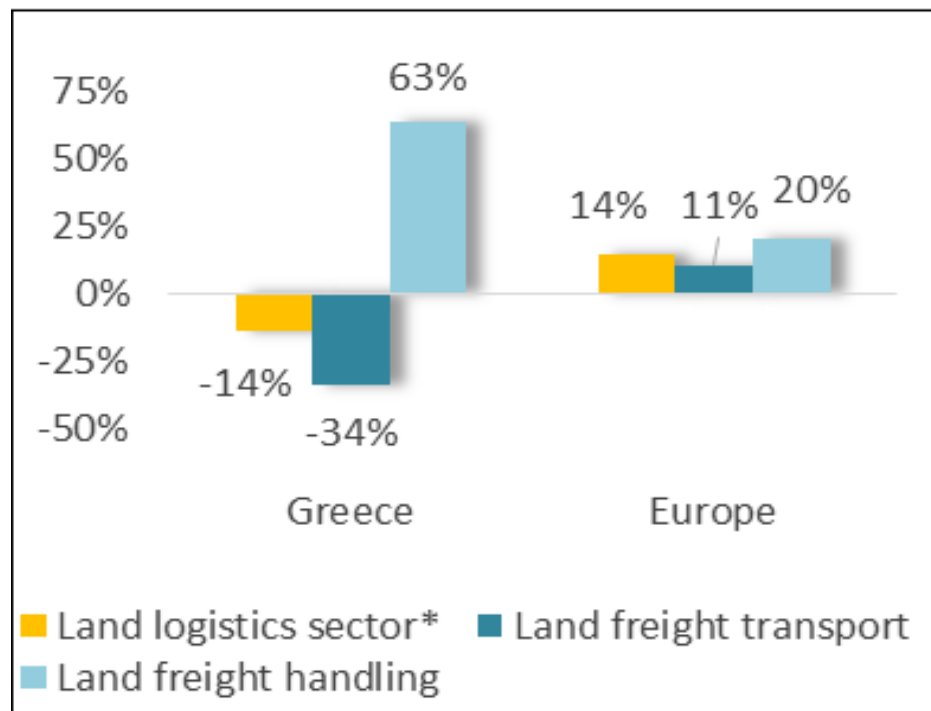
2.6 The Logistics sector in Greece

Due to its geographical location on the crossroad of three continents (Europe, Africa, Asia), Greece stands as a gateway between East and West, developing a strategic node of transport in the wider region, which is also highly attractive for investments in logistics and transport sector. Apart from the two largest Greek ports (Piraeus and Thessaloniki) investments in the road and rail network, in airports and in local commercial logistics hubs (distribution centers, value-added activities) are some of the top listed ones in order to complete an efficient supply chain (Enterprise Greece Invest & Trade, 2020).

During the financial crisis that started in 2008 for Greece, the inland logistics sector that refers to transportation by road network proved to be resilient to the instability of the period. In fact, its market share in 2016 amounted to 2.9% of GDP from 2.5% in 2006, and thus gradually reducing the gap with the European average of 3.4% (NBG, 2017).

However, the two main components of land logistics which are the following, a) the freight handling sector and b) the freight transport sector, describe opposite trends. More specifically, the freight handling sector, which includes operations such as packaging, warehousing, invoicing etc., is increased by 63% in terms of value added for the period 2008-2016, showing a more than twofold increase compared to the period of its mild growth during the years 2000-2008. On the other hand, the freight transport sector shrank by 34% in terms of value added during the period 2008-2016, leaving behind an era of impressive growth (2000-2008) (NBG, 2017).

Figure 2: Value added for 2008-2016 period.

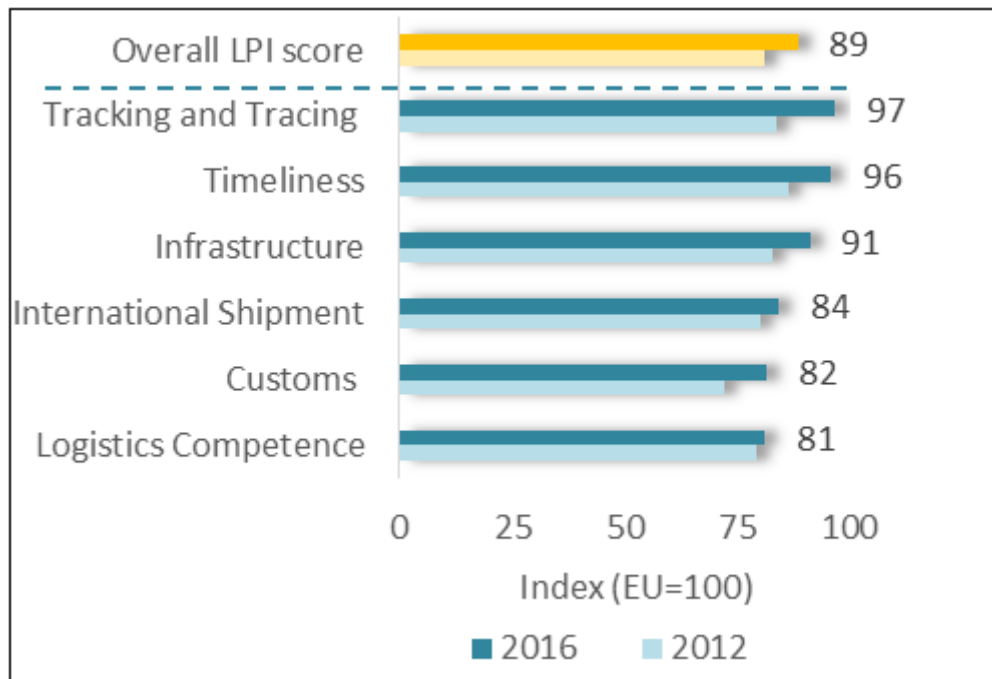


Source: (NBG, 2017).

In addition, 3.7% of total employment in Greece is covered by the inland logistics sector, gradually reducing in this way the gap with the corresponding EU average of 3.9% in terms of labor productivity. What should also be included is that for Greece the value added was 36.000€ per employee in 2016 while for the EU the corresponding amount was 57.000€ per employee (NBG, 2017).

Apart from a quantitative growth, inland logistics sector in Greece shows a qualitative growth as well. According to Logistics Performance Index of the World Bank, the competitiveness of logistics sector in the country improved significantly in some parameters of the indicator narrowing the gap between the Greek and European sector from 19% in 2012 to 11% in 2016. Of course, there is still place for improvement as Greece is still shown in the last places of the European ranking (NBG, 2017).

Figure 3: Logistics Competitiveness Greece vs. EU



Source: (NBG, 2017)

Regarding the sea logistics, from 2010 on, the container and car terminal in the Piraeus port began recovering partly of course due to the arrival of COSCO Pacific, which acquired the Piraeus Port Authority (PPA / OLP S.A) (Enterprise Greece Invest & Trade, 2020).

For 2019, Piraeus ranked 1st among Mediterranean commercial ports, and 25th worldwide, with total capacity of 4.9 million TEUs. The remarkable growth of the Greek logistics sector, aligned with some other observations such as the continuous investment in road and rail infrastructure, the country's convenient geographical location, the high-skilled labor force and the power of Greek shipping representatives,

may lead the country to become a key logistics and assembly hub at the entry point of Europe (Enterprise Greece Invest & Trade, 2020).

3. Methodology & Data

In this part of the thesis, an overview of the methods used to shape an answer on our research question is presented. In order to explore what has been the impact of the Chinese presence in Greek economy a mixed research method was deployed. Firstly, from a quantitative standpoint, data collection from relevant resources were collected and used descriptively aiming to graphically present the economic changes in Greece for 2005-2020 period. Secondly, qualitatively wise, the method of interviews was used to retrieve personal arguments and opinions. The sample constituted by four interviewees.

3.1 Structure of sub-questions

Following the analysis of relevant international literature and the description of Chinese presence in Greece under OBOR Initiative, three sub-questions that will help answer the main research question of this thesis may be now structured. According to most research generally infrastructure and specifically port infrastructure investments are positively correlated to the long-term economic growth of a region but there is no clear time frame characterizing the return of these investments on economy. Also, there is still a doubt on whether port investments may have direct or indirect impacts on national economy. So, in order to observe what has been the impact of Chinese FDI the following sub-questions have been developed.

Q1: Have the Chinese FDI in Greece had direct effects on the national economy?

Q2: Have the Chinese FDI in Greece had indirect effects on the national economy?

Q3: Has Greece been benefited by the Chinese FDI and has been transformed into a logistics hub for South-Eastern Europe?

An answer to the aforementioned questions through the research methodology that will be next presented will enable us to evaluate whether and to what extent Greece has been influenced by the Chinese investments.

3.2 Research Methods

Through the main research question the aim is to reach an answer on what the effects of Chinese presence in Greece have been economically and logistics wise. As some of the investments have already taken place while others are planned to be implemented the situation regarding the Greek economic situation continuously changes. So, in this thesis 2005 is considered as the base year for the research and both qualitative and quantitative methods were used to draw a conclusion.

More specifically, after examining relevant international literature we considered as direct effects of the investments in economy the GDP growth, the employment rates and the container throughput. On the other hand, listening to the opinion that economies are benefited indirectly by port infrastructure investments through the supply chains they support we considered FDI rates, and value-added activities such as warehousing, distribution, packaging and assembling and logistics services as indirect or “spillover” effects in the economy. The method used to locate these phenomena was quantitative by looking into relevant databases. By setting 2005 as the base year for the research we used World Bank, OECD and Bank of Greece as sources to locate most of the direct effects on the economy, and more specifically the change GDP growth, and the employment rates in Greece. Statistics reports from the Piraeus Port Authority (PPA) and Thessaloniki Port Authority were used to measure the evolution on container throughput in the two ports respectively. Due to data unavailability for some years, data on container throughput were collected by Vlaamse Havencommissie as well.

On the other hand, for the value-added activities namely warehousing, distribution, packaging and assembling and logistics services, Orbis database was used. In order to measure these effects, we considered again 2005 as the base year and found the number of companies with these value-added activities incorporated in Greece in 2005. Orbis is a database containing comparable information of private companies and proved to be a useful tool by providing the possibility of filtering in several areas such as country and municipalities, exact industry sector and date of incorporation in order to reach the desired dataset.

According to NEC REV.2 which is the statistical classification of economic activities in the European Community and based on its Regulation we aimed to locate through the appropriate codes the economic activities of our interest in Orbis. The codes' structure is hierarchical as follows: I. a first level consisting of headings identified by an alphabetical code (sections), II. a second level consisting of headings identified by a two-digit numerical code (divisions), III. a third level consisting of headings identified by a three-digit numerical code (groups), IV. a fourth level consisting of headings identified by a four-digit numerical code (classes) (EUROSTAT, 2008). So, for the companies incorporated in Greece from 2005-2019 the following table describes their economic activities.

Table 1 : NACE REV. 2 Classification of Economic Activities & Number of Companies incorporated in Greece 2005-2020

Section H – Transportation & Storage				
Division	Group	Class	Number of companies	Activity
49	49.1	49.10	1	Passenger rail transport, interurban
	49.4	49.41	2	Freight transport by road
	49.5	49.50	1	Transport via pipeline
50	50.1	50.10	81	Sea and coastal passenger water transport
	50.2	50.20	452	Sea and coastal freight water transport
52	52.1	52.10	3	Warehousing and storage
	52.2	52.23	4	Service activities incidental to air transportation
	52.2	52.24	2	Cargo handling
	52.2	52.29	19	Other transportation support activities

Source: (EUROSTAT, 2008), (ORBIS, 2021)

As it is previously stated, since China is actively operating in Greece through new investments projects or managing the already existing ones (e.g. Piraeus Port Authority Management etc.) leading to consecutive changes and new outcomes the qualitative research method of interviews was deployed as well. The goal of this qualitative method was to collect opinions from people involved in decision making process of the country and from the banking sector, in order to acquire as realistic,

direct and clear view of the effects of Chinese FDI in the national economy as possible and assess the combination of data results with interviewees' views. The interview questions were built on the same pillars asking all the interviewees few same questions in order to get several points of view, however the discussion was driven in more details depending on the field and the area of operation of each participant.

The four interviewees were contacted through emails and personal contacts. After they were informed about the purpose of the interview and the research question they were asked to participate and submit their views under their professional identity. As it was stated above as well, the interviews were semi-structured as the goal was to retrieve answers that cover as much spectrum of Greek economy as possible. The interviewees are representatives of the banking and finance sector and political scene of Greece. Due to current situation and under COVID-19 restrictions the interviews were conducted via Skype calls with the participants and had their permission to record the discussion for the purpose of the thesis and the results analysis, while average duration was 30 minutes.

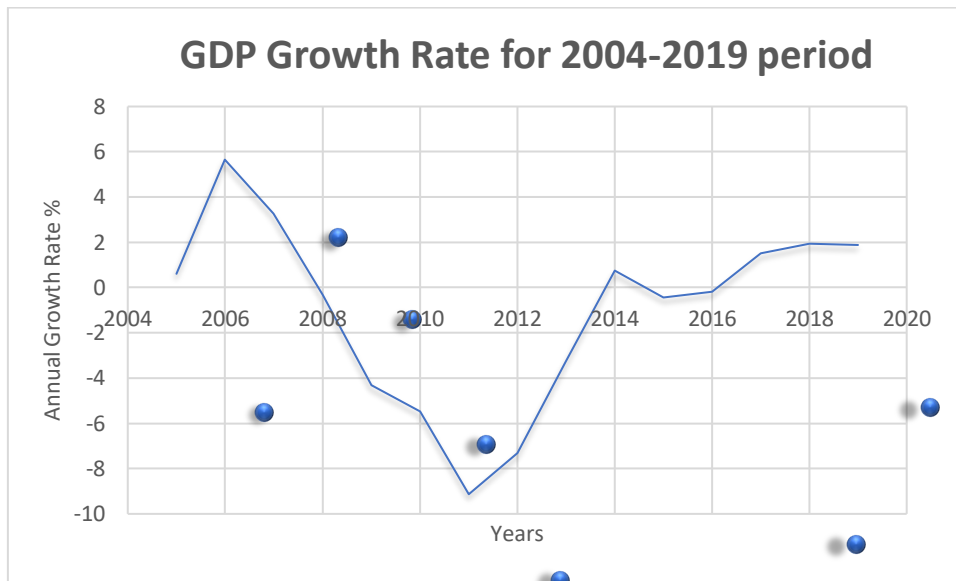
4. Results

4.1 Data Analysis

In this part we will present the results of the research. The goal of this thesis is to locate and evaluate the direct and indirect effects of Chinese FDI in Greek economy and whether Greece has been transformed into a key logistics hub. In order to acquire a clear view of the Greek economic situation an inductive data analysis will follow, starting with macroeconomic observations such as GDP and employment growth that are considered as direct effects of an investment and then a description of FDI rates in Greece and number of companies incorporated in the country in the transport and logistics sector will follow. Also, the ports of Piraeus and Thessaloniki will be analyzed as far as container throughput and their rankings over the years are concerned. The timeline of the research is a 15-year period from 2005-2019.

Firstly, by looking at OECD database the Greek GDP growth rate is depicted in Figure 4 below. The data show an impressive decline during 2008-2014 which were the years that Greece was mostly affected by the international financial crisis of 2008 and during these years Greece was introduced to International Monetary Fund (IMF) for financial support. However, from 2016, when Greece was still under supervision by the EU and IMF, COSCO acquired the port of Piraeus a steady increase on the GDP growth was observed reaching in 2019 almost 2% annual growth. The Foundation for Economic & Industrial Research (IOBE) of Greece made a forecast on the economic impact of the Piraeus port privatization for 2016-2025 period. Using an econometric model to assess the impact of port's sale in Greek GDP, found out a positive correlation. The results have shown that Chinese investments in the port of Piraeus will contribute on the national GDP growth by 0.8% (IOBE, 2016).

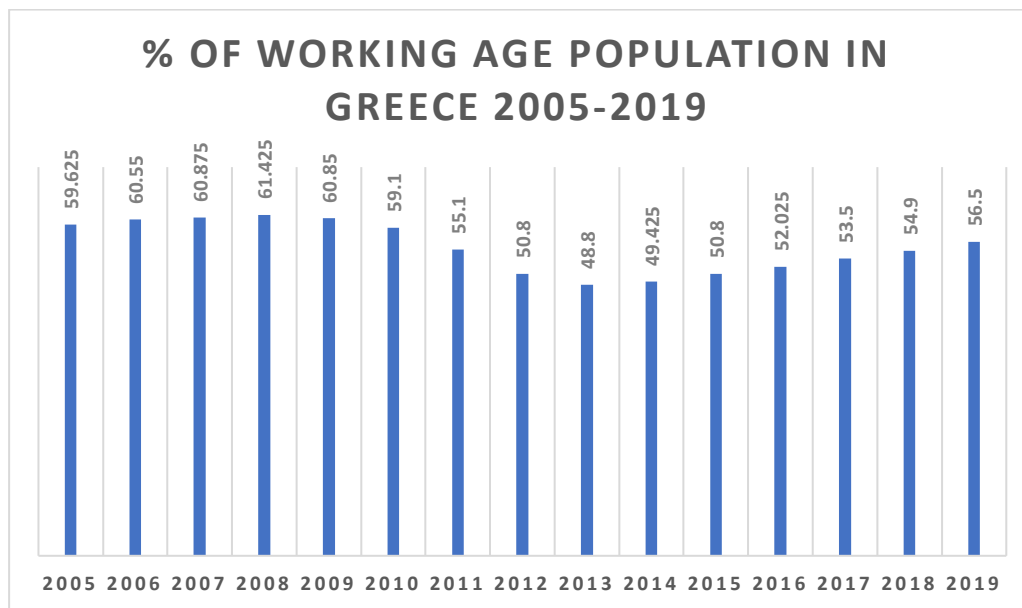
Figure 4: GDP Growth Rate for 2004-2019 period



Data Source: (OECD, 2020)

A similar trend is observed as far as the employment rate in Greece is concerned. Retrieving data from World Bank and OECD for the 2005-2019 period the employment rate was mostly affected between 2009-2014. The data set describes the percentage of people that are in the age range where they are legally allowed to work in Greece. Combined with the similar trend of the GDP growth this 5-year period was the period that Greece experienced serious economic recession. COSCO acquired 51% of Piraeus Port Authority in 2016 and in 2021 officially another 17%, resulting in a total 67%. IOBE predicts that due to this investment 31.000 new jobs will be created between 2016-2025 (IOBE, 2016).

Figure 5: Percentage of working age population in Greece 2005-2019

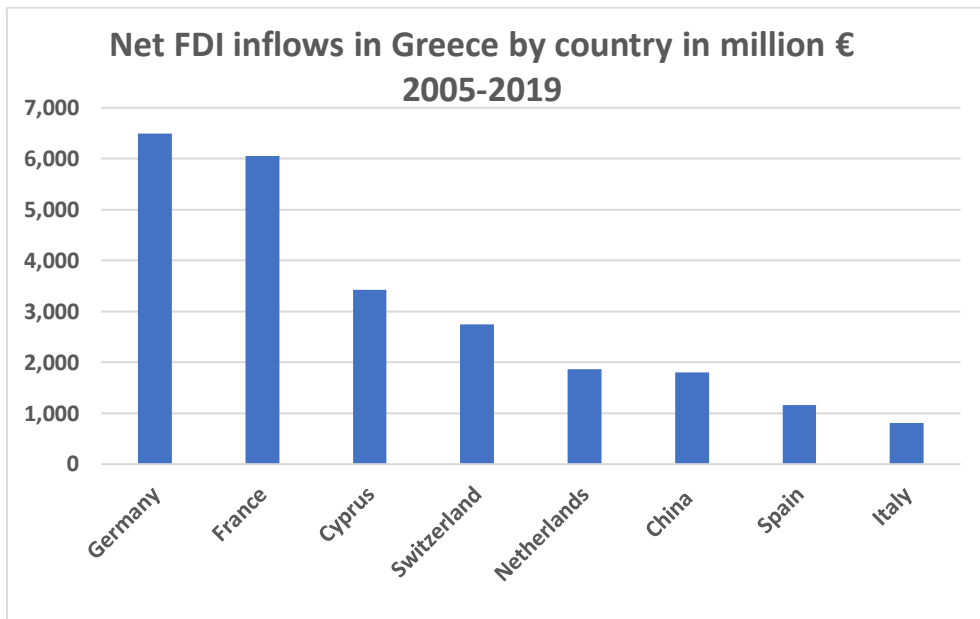


Data Source: (OECD, 2020)

During the 2005-2020 time period Greece was an FDI recipient and it would be interesting to show which European countries were the main investors and when China entered into the game. From the Statistics department of Bank of Greece, we acquired a dataset with the net FDI that Greece accepted from all over the world. The under-examination period was filtered as well as the main European countries that invested above 800 billion € in general in Greece. In the new dataset China with Hong-Kong was included as one observation.

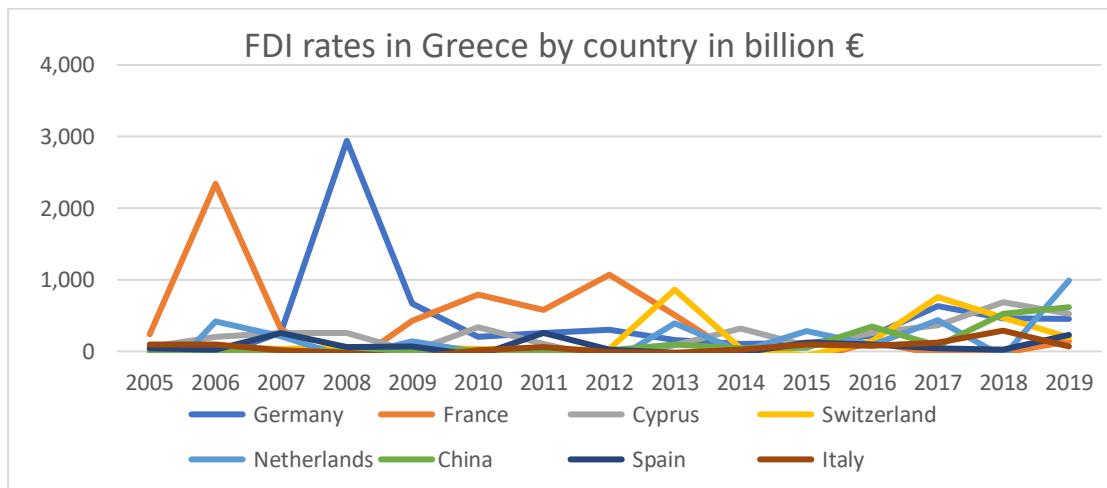
As it can be seen from the below figures over the years Germany and France were the EU countries that have invested the most in Greece. After calculations Germany have invested in Greece 6,489 billion €, France 6,050 billion € while China which is the main variable of our research 1,806 billion € in total during 2005-2019 time period. What is interesting to observe by comparing the two below figures is the timeline of the FDI. Greece was accepting FDI mainly from Germany and France while France kept investing in Greece even during the years of the recession by providing capital to the Greek banks etc. China started investing in Greece in 2016 in the context of OBOR initiative and more specifically under the 21st Maritime Silk Road project keeping a steady growth on its investments towards Greece.

Figure 6: Net FDI inflows in Greece by country in million €



Source: (Bank of Greece, 2020)

Figure 7: FDI rates in Greece by country in billion €

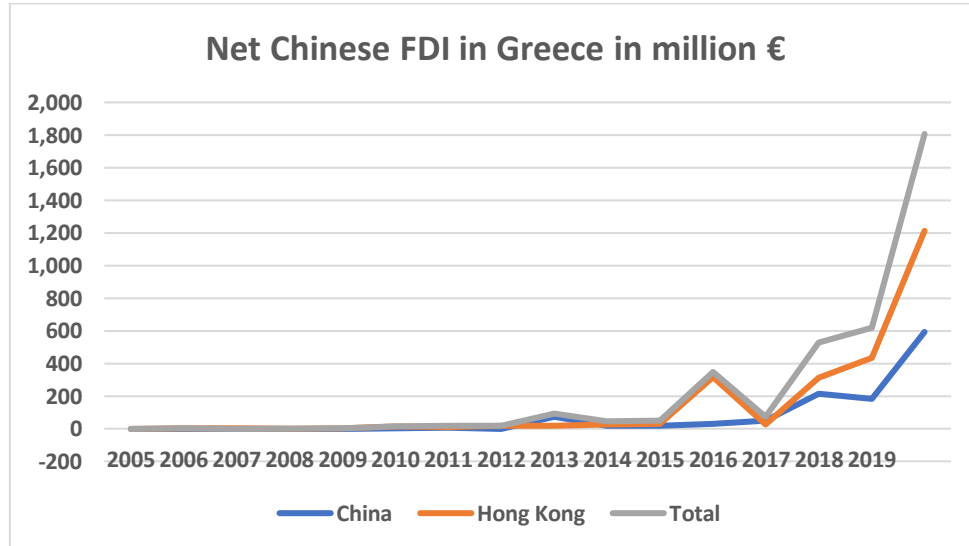


Source: (Bank of Greece, 2020)

From the dataset retrieved from Orbis which will be next analyzed we could not locate the total number of Chinese companies or the Chinese shareholders since the

Ownership codes were invalid. The only observation that we made to locate through filtering shareholders names was the ownership of the two companies of code 52.24 which refers to Cargo Handling. These two companies were PCT S.A (Piraeus Container Terminals) and PCDC S.A (Piraeus Container Distribution Center) both owned by COSCO Shipping Ports Greece Ltd. However, in order to acquire a clearer view of the Chinese presence in Greece and the Sino-Greek economic relations we looked into Bank of Greece’s data and located the actual value of Chinese investments between 2005-2019. In the below figure, the actual values in millions of Euros of Chinese foreign investments towards Greece is represented. Initially, we describe analytically the amount invested by China and Hong Kong individually while the total amount of investments originated from China is also included and agrees with the amount stated further above (1,806 billion €) for 2005-2019 period.

Figure 8: Net Chinese FDI in Greece in million €



Source: (Bank of Greece, 2020)

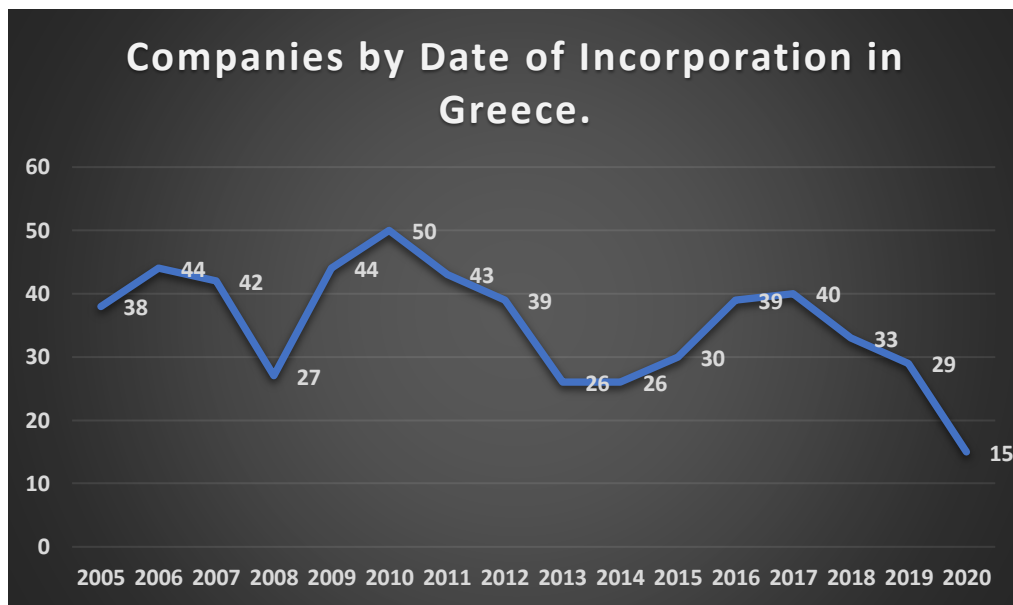
As it can be seen, between 2005-2014 the figures are close to zero while, from 2015 and onwards there is a remarkable increase of Chinese investments in Greece. This increase can be justified by the sale of Port of Piraeus to COSCO and by the

establishment of distribution centers of ZTE, Huawei and HP in Piraeus in order to transport from there their products to the rest of Europe. Also, in 2018 the Chinese company State Grid bought 24% of Independent Power Transmission Operator (ADMIE), while there was Chinese participation in French Terminal Link SAS company in Thessaloniki Port Authority. Mr. Melas characteristically stated that Chinese investments target in key areas of Greek economy such as logistics and supply chain, energy and electronics (Melas, 2019). The aforementioned investments from 2015 and onwards constitute the 92% of total Chinese FDI in Greece reaching the amount of 1,660 billion €.

Furthermore, using ORBIS database we aimed to reach a view of the companies incorporated in Greece during 2005-2020 in transport and logistics industry. The filters included to locate the sample was “Location”, “Sector”, “NACE Rev. 2 codes”, “Date of incorporation” and “Shareholders Name”. In the sample 565 companies were included and they are presented based on their code in order to observe in which sector these companies are specialized.

The codes of the companies incorporated in Greece during 2005-2020 were between 49-52. Below, the timeline of the incorporation dates is presented where the largest number of companies incorporated in Greece happened in 2010 with 50 companies of the sector. Again, a similar trend of recession is observed between 2011-2016. From 2016 started a growth again but didn't reach the 2010's levels. What is also interesting to observe is a severe decrease for 2020 almost 50% decline, which is maybe one of the consequences of COVID-19 outbreak. In the dataset both foreign and Greek companies are involved as a distinction in Orbis was not feasible. In the sample transportation referred to passengers is included because COSCO invests in passengers' terminals of the Port of Piraeus as well aiming to increase cruise stops in the Greek port. However, since there are no available relevant data no further analysis on passengers' sector is included.

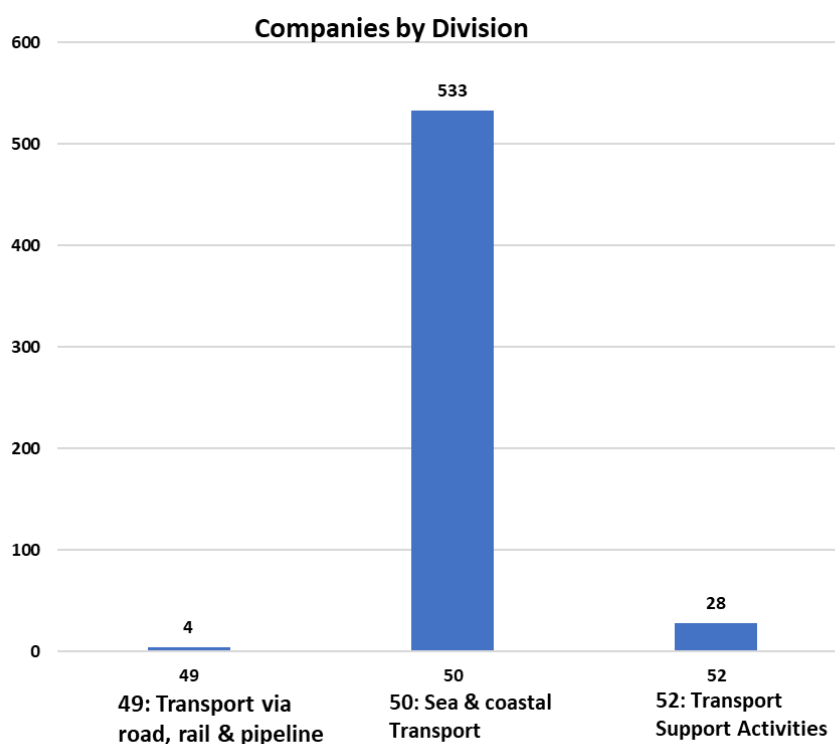
Figure 9: Companies by Date of Incorporation in Greece



Data Source: (ORBIS, 2021)

What is also interesting to observe is the distribution of the companies incorporated in Greece based on their activities. Only 4 companies of the code 49 whose classes specifically represent passenger rail transport (1 company) and transport via pipeline (1 company) and road (2 companies) were incorporated. On the other hand, code 50 has the highest share on the sample and its classes refer to sea and coastal passenger water transport and to sea coastal freight water transport. 28 companies were under 52 code whose classes represent warehousing & storage, service activities identical to water and air transport and other transportation support activities.

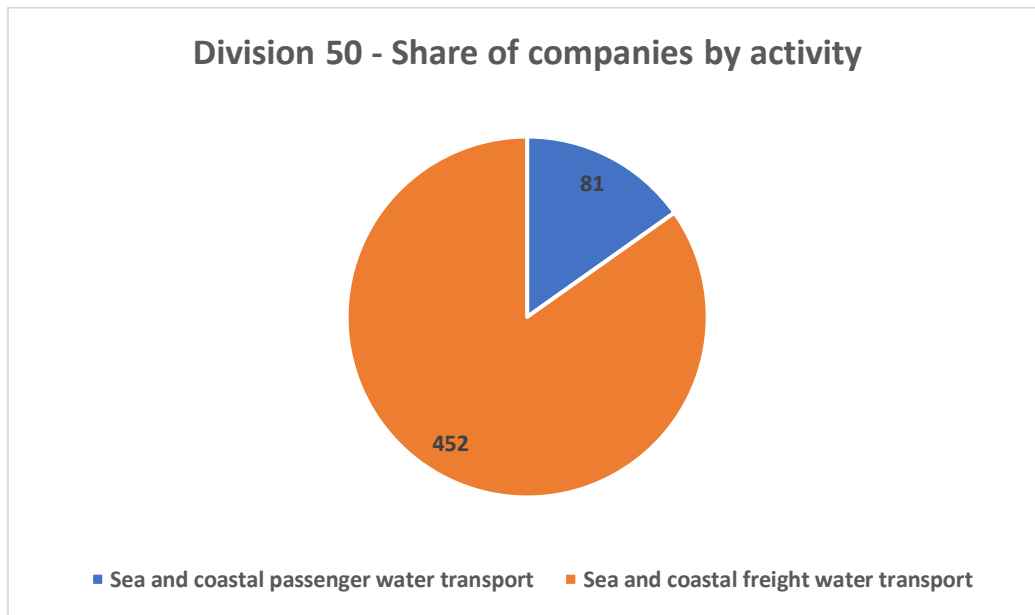
Figure 10: Companies by Sector Division



Data Source: (ORBIS, 2021)

The shares of divisions 50 and 52 are presented below comparatively as there is an interesting distribution among their activities. Regarding division 50, 452 out of the 533 companies are referred to sea freight transport which is a percentage of 84%. In the total sample of 565 companies that means that 72% of the companies incorporated in Greece between 2005-2020 in transport sector have to do with sea freight transport.

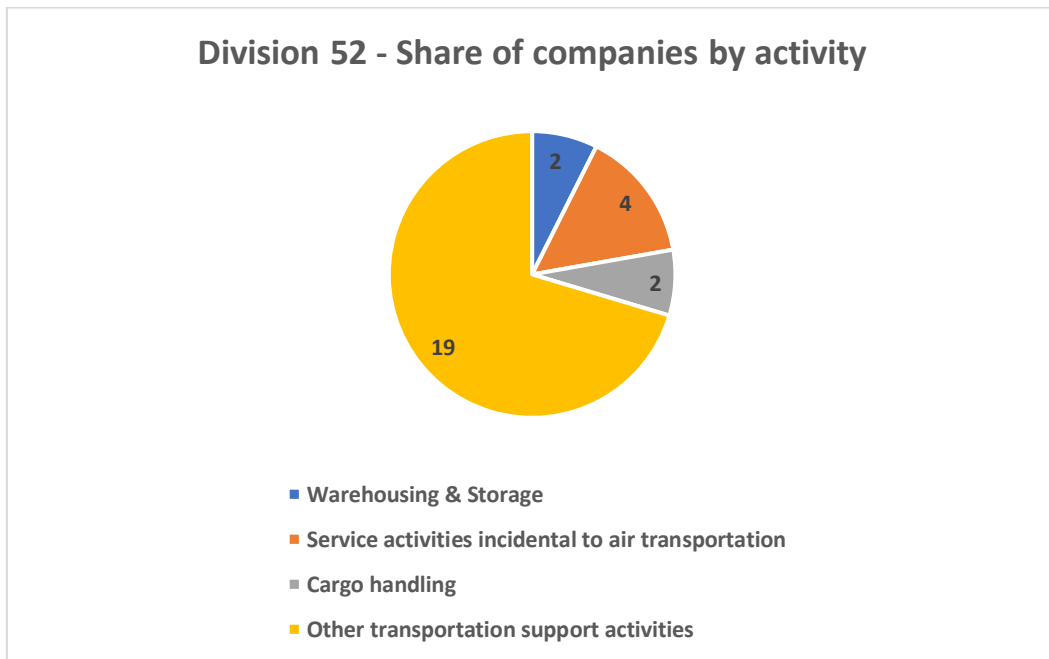
Figure 11: Division 50 - Share of companies by activity



Data source: (ORBIS, 2021)

At the same time, in Figure 12 below 70% of the companies incorporated in Greece under division 52 have to do with transportation support activities that could not locate exactly the field in Orbis. However, by looking in “Shareholders” filter in Orbis we managed to locate the ownership of the two Cargo handling companies that both are owned by COSCO. These two companies are PCT S.A (Piraeus Container Terminals) and PCDC S.A (Piraeus Container Distribution Center) both located in Port of Piraeus.

Figure 12: Division 52 - Share of companies by activity

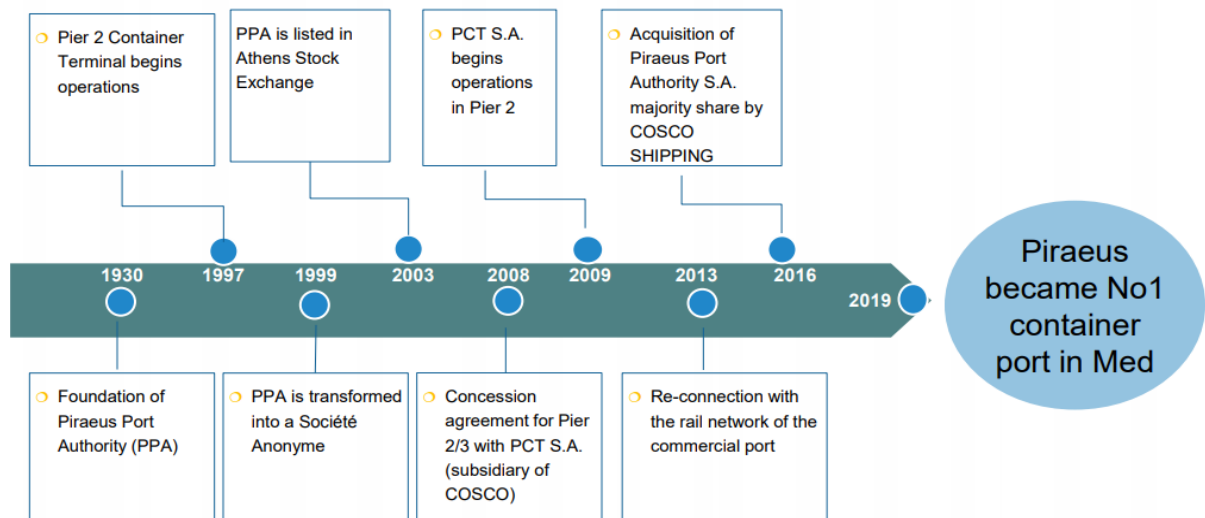


Data source: (ORBIS, 2021)

4.2 Port of Piraeus

Firstly, by looking at the annual financial results of port of Piraeus for 2018 and 2019 we will see the changes in the revenues in the port activities for a period 2014-2019 when COSCO shipping fully operates all the container terminals. The figure below briefly presents the key milestones of Port of Piraeus (Piraeus Port Authority , 2020).

Figure 13: Brief presentation of Piraeus Port key milestones



Source: (Piraeus Port Authority , 2020)

According to the financial results of 2019, the Port of Piraeus climbed in the 4th place of the largest European container ports in terms of throughput, while held the 1st place in the Mediterranean Sea. This is a significant upgrade for Piraeus, since in 2018 ranked in the 6th place while in 2007 in the 17th (Piraeus Port Authority , 2020). Theo Notteboom, characteristically noted that it's the first time in the European history since the start of containerization in the late 60's that a Mediterranean port joins the top 4 container ports as ever before ports of the so-called Hamburg – Le Havre range acquired the top rankings (PortEconomics, 2020). The table below shows the ranking of the top 15 European container ports in terms of throughput. Piraeus noted an impressive growth of 6.1% in the throughput in 2019 compared to 2018 (PortEconomics, 2020).

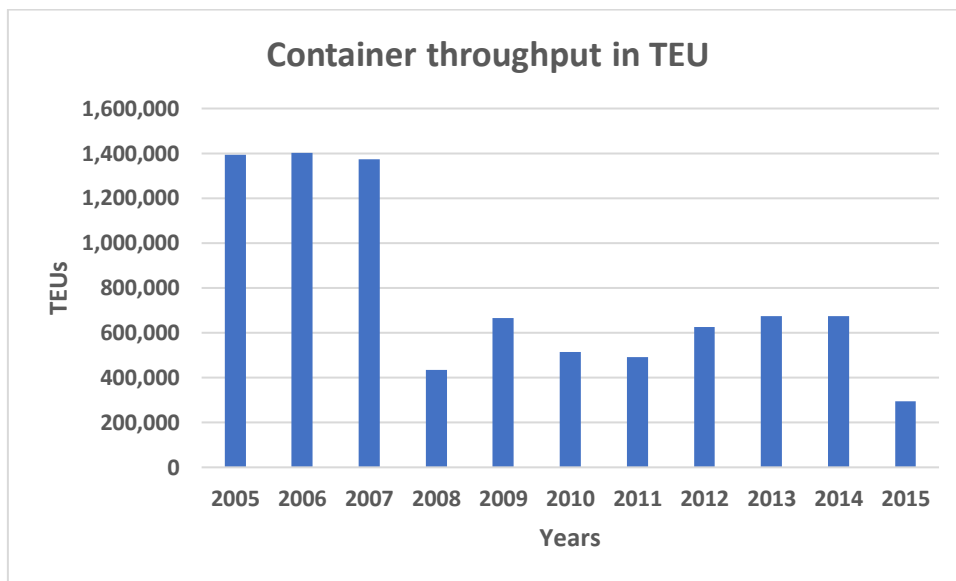
Figure 14: Top 15 container ports in Europe in 2019



Source: (PortEconomics, 2020)

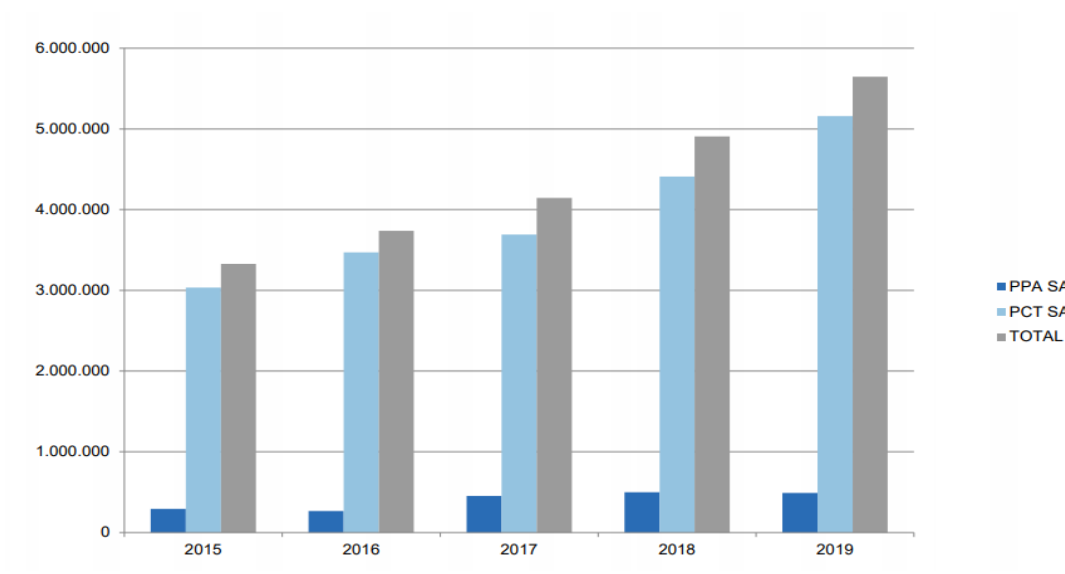
Below, the evolution of the throughput during 2005-2019 is presented in the two figures. The data for 2005-2015 period were retrieved by Vlaamse Havencommissie and show a serious decline in the throughput during the years of economic recession. However as of 2015 and on the Chinese presence in the Port of Piraeus improved not only the operation of pier II and III that fully acquired but also the operations of pier I which was under PPA control. PCT stands for Piraeus Container Terminal S.A which is the company established by COSCO for the operation of the container terminals. It should be noted the fact that from 2015 the throughput almost doubled reaching hardly 6 million TEUs. Also, despite the fact that COSCO was operating partially in the Port of Piraeus the remarkable change in the container throughput happened from 2016 and when the acquisition took place.

Figure 15: Container throughput evolution during 2005-2015, Port of Piraeus



Data Source: (Vlaamse Havencommissie, 2016)

Figure 16: Container throughput evolution during 2015-2019



Source: (Piraeus Port Authority , 2020)

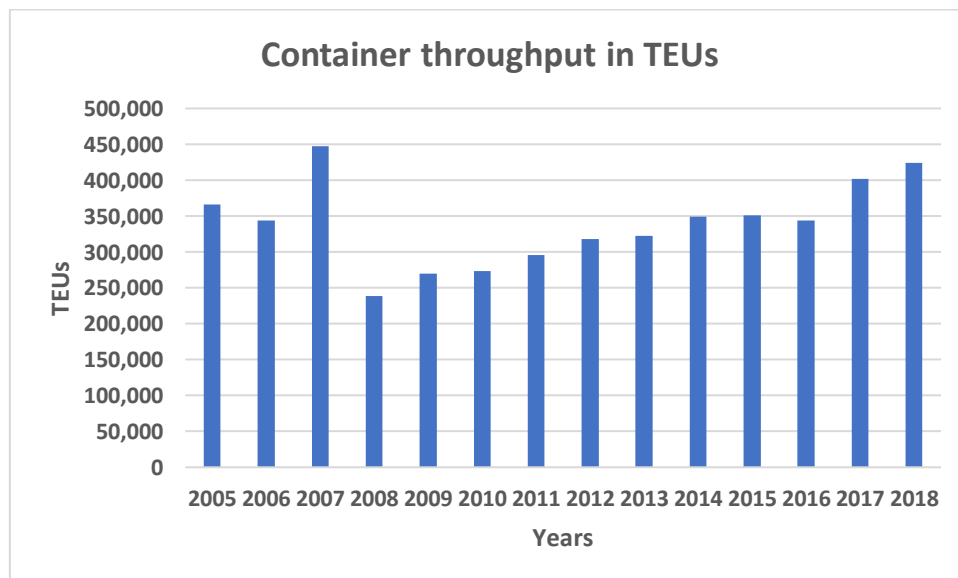
Apart from the involvement in container terminals China has agreed to proceed to further investments as well. Investments included in China’s master plan for Piraeus regard the quality improvement and expansion of cruise terminals for the enhancement of tourism which is already one of the major sources of income for Greece. The estimated cost for this investment account for 1.500.000 €. Also, the

ship repair zone that is planned to be improved and expanded in Perama, Attiki is estimated to cost 55€ million (Piraeus Port Authority , 2020).

4.3 Port of Thessaloniki

Regarding the port of Thessaloniki, there is a lot of potential mainly due to its advantageous geographical location. The port of Thessaloniki is located in the Northern part of Greece providing efficient hinterland connections. The distance between Thessaloniki and inner Balkan is less than 300km. As of November 2020, the first rail connection established and started operating on a weekly basis connecting Thessaloniki with the Sofia Dry Port in Bulgaria. The data availability for container throughput were limited so the time period examined was 2005-2018. The data were partly retrieved from Vlaamse Havencommissie and partly from Thessaloniki Port Authority.

Figure 17: Container throughput evolution during 2005-2018, Port of Thessaloniki



Source: (Vlaamse Havencommissie, 2016), (THPA, 2018)

What is interesting to observe is that despite the decline on the throughput in 2008 Thessaloniki shows a steady growth during the next years. In Thessaloniki there was

no Chinese presence through investments. In 2020 started discussions and plans for investments in Thessaloniki's port container terminals. Compared to Piraeus Thessaloniki has in general lower throughput however the trend during the years of recession is upward.

4.4 Collection of Opinions

In this part the opinions collected through the conduction of interviews will be presented. The aim of the interviews was to acquire a more realistic and closer to society views of the impacts of Chinese investments in Greek economy apart from some quantitative results. The structure of the questions was inductive starting from a general level where interviewees were asked to describe Greece as an investment destination and to highlight based on their experience and knowledge some direct and indirect effects of an investment in a country. Following, the scope was narrowed to the specific Chinese investments in the Greek ports, where the participants' awareness of 21st maritime Silk Road was examined and they were asked to describe the main characteristics that affect Greece. Furthermore, whether the Chinese investments in Greece has been proved a win-win situation for both counterparts and how any regional economic effects have been spread into the whole country apart from the port regions was discussed. Finally, the participants were asked to provide their suggestions and opinions on the path that Greece should follow in order to develop as a powerful logistics provider in Europe.

So, having a set of prepared questions combined with their specific knowledge on the topic the discussions with the four interviewees proved quite interesting as opinions from different educational and professional backgrounds were collected and synthesized providing an interesting version on the impacts of Chinese FDI in Greek economy.

Regarding participants' insights of OBOR initiative occurred that all the interviewees were aware of this project, pointing in many cases China's ambitions to further connect with Europe in the context of its strategic plan. Mr. Chousouridis anticipates that China's efforts to connect with Europe through Greece will have positive effects for both sides, mentioning that *“Opening the trade boarders, socioeconomic relationships are automatically enhanced too. We do need open roads with China and apart from their geostrategic motives China is an interesting and profitable market for the Europeans”*.

Furthermore, when they were asked whether the Chinese presence in Greece a win-win situation is, all of them were positive. Economically wise all of them stated that of course any investment in order to take place should give back to counterparts' benefits. However, on the same context Mr. Tsivanidis highlighted that, *"If the signed agreements are equitable and address issues like training and up-grading human capital it should be a win-win for both sides"*. Also, Mr. Chionidis described the win-win potential as: *"China gains a port that leads easily to rest of Europe both by land and sea and so there are both economic and geostrategic incentives. On the other hand, Greece is benefitted through the increase of the employment rates, new technologies and know-how"*. The latter's view economically wise, may be a bit ambiguous since COSCO operates as a monopoly in the port industry, however Greece suffered for many years by strikes of labor parties because their interests were not in line with each government at a time so up until now the opinions on the Chinese presence in the Greek ports are aligned to a positive sense.

On the context of direct and indirect effects that Greece should expect at a national level from the Chinese investments employment rates were highlighted by everyone as a direct effect of crucial importance for the country. Development of new services and logistics along with the introduction of new management ideas and upgrade of the local workforce quality were mentioned as indirect effects. Also, a boost in the infrastructure around the ports is expected that will operate as entry points for trade between Asia & Europe, while trade between Greece and its neighboring countries should be encouraged. However, at a political level, the balance between the relations of Greece, China and European Union was discussed, and as stated by Mr. Chionidis *"we welcome all the investors in Greece, and we do recognize China as a key player in Greece during these years but we should never forget that we are one of the oldest members of the European Union and during the ages our interests and views were always aligned with the European edifice and our future should be too"*.

Surrounding the Greek logistics sector and whether Greece is transformed into a logistics hub the opinions were varying on the context of there is more to be done in

order to consider Greece as a well-established logistics hub. The trigger of the question was set given the placement of Chinese existence in the Greek ports. Mr. Chionidis, highlighted that Greece should utilize its geographical position and its strategically placed ports (Piraeus & Thessaloniki) and start attracting more companies to establish their distribution centers at the respective regions *“Ports are of great importance for a country and its economy especially if we combine it with distribution centers, that are available territories around the port of Piraeus and of course with offering intermodal choices”* However, he noticed that an efficient rail network with stations along the route from Piraeus to Thessaloniki and from there to inner Balkan and Europe should exist and upgrade any infrastructure that does not respond to the current logistics needs.

Moreover, in the context of Chinese FDI in Greece the interviewees were asked to describe Greece as an investment destination and suggest solutions for any considered bottleneck. Mr. Chionidis mentioned: *“Greece offers stability and perspectives. China which is not the only important investor in Greece saw these two points and even during the years of crisis and recession stayed in the Country considering the perspectives”*. Greece is characterized by heavy bureaucratic procedures that was a bottleneck not only for potential foreign investors but also for the local companies, so reconsideration bureaucracy was suggested by all the interviewees. Mr. Tsivanidis very aptly suggested among others: *“Streamlining the bureaucratic apparatus. Creating “free ports” with special tax status that benefit the companies that move in the area”*.

Finally, a specific question was addressed to Mr. Chousouridis regarding the role and position of Thessaloniki. Mr. Chousouridis as CEO of Group Bank of Central Macedonia works hardly in improving and promoting Thessaloniki as investment destination and the port specifically. He characteristically stated: *“I believe that the weight of interest is now on Thessaloniki. After some investment movements American and Chinese interests seem to be aligned in Thessaloniki. Time will show since as you know, there are several discussions and evolution around THPA and the port”*. Thessaloniki Port Authority (THPA) is under corporate changes and in the

near future a clearer view will be available for assessment. However, the importance of Thessaloniki as logistics hub was also highlighted, with the rail route connecting the port with the Sofia Dry Port in Bulgaria on a weekly basis. This route started operating in November 2020 and its contribution to Greek logistics performance is remained to be seen.

The interview results were mostly aligned with the view confirmed by the literature review as well, that investments in infrastructure and more specifically in port infrastructure will have positive effects in a country's economy. In general, the interviewees had a positive attitude towards Chinese investments in Greece. Almost all the interviewees considered as direct effect the employment rate growth as it is a matter of crucial importance in Greece, while the introduction of new management ideas and the development of new services were characterized as important indirect effects. However, regarding the third hypothesis whether Greece has been transformed into a logistics hub for Europe and even seeing from the quantitative data that indeed there is a significant increase in the throughput of containers mainly in the port of Piraeus, the interviewees kept a more modest position. They find that regarding logistics services Greece is facing some serious bottlenecks such as the inexistence of efficient stations along the rail network of the country in order to optimize the container flows, but there are perspectives for improvement. They do find important the distribution centers in the port regions, but they believe that there is a vital need for a better coordination especially regarding the rail network.

5. Conclusions

5.1 Key Findings

The aim of this thesis was to investigate, on the one hand the impacts of 21st Maritime Silk Road in the context of OBOR initiative, on Greek economy, while on the other hand whether Greece has gained a powerful position in logistics industry and is able to act as a key logistics provider in Europe. The sub-questions created whose potential answer could lead to an conclusion were three. Firstly, whether Greece has already had direct effects from Chinese investments, secondly whether have been indirect effects in Greek economy by the Chinese investments and finally whether Greece has already benefited and has been transformed into a key logistics provider for South-Eastern Europe.

To acquire an answer to the research question the author deployed both a quantitative and qualitative analysis based on relevant databases and conduct of interviews, respectively. While acquired a view of how the Chinese investments affected Greek economy and logistics sector through data analysis, the interviews with the four professionals with financial and political background provided realistic insights for the investments and shared their views for Greece's potentials as investment destination. All the key findings are presented below:

- After some years of severe recession Greek GDP presents a steady annual growth reaching an almost 2% annual growth based on the latest data available. However, we cannot conclude that this growth is ultimately due to Chinese investments since Greece was for almost 6 years under financial and fiscal restructure by TROIKA and successfully completed the restructure program and entered again in international markets. On the same pattern the employment rate has similar trends reaching after 2016 almost 57% of the working age population. The figure represents the employment rate of the whole country for the people that are in the permissible age range of employment. Chinese investments helped Greece on this path, but they were not the only and ultimate reason.

- During 2005-2020 period Greece was an FDI recipient by both EU countries and China. France and Germany proved to be the largest investors in Greece while France kept investing in the country even during the years of financial crisis. France has been involved in Greek ports and specifically in the Port of Thessaloniki through Terminal Link SAS. 51% of the shares of Terminal Link SAS is held by French CMA CGM while the rest 49% is held by the Chinese CMPorts (China Merchants Port Holding Company Ltd.) (VIMA, 2018).
- China invested in Greece 1,806 billion € in total and through the respective figure is shown that the Chinese investments in Greece started to grow from 2016 and on. So, China is a key player in Greece during the last five years leading to a conclusion that we should recognize the Chinese contribution in the Greek economy but not also exclude its geostrategic motives. Mr. Melas characteristically stated that China carefully targets its investing areas in Greece. Supply chain and logistics, energy and electronics are the main areas of interest and investments. Characteristic examples are the acquisition of Port of Piraeus, the 24% purchase of Hellenic Independent Power Transmission Operator and ZTE distribution center in Piraeus (Melas, 2019). Greece has been benefitted by the Chinese investments but should keep balance with its European counterparts as well.
- Listening to the opinion of Mr. Melas about the strategy that China follows with its investments in Greece we could draw also a conclusion that China tries to build her own ecosystem in the country. The combination of investments in transport, energy and technology could create an interesting economic circle within an already existing economy. However, since all these investments are either recent or still in progress it's hard to conclude whether China has built her own system and what are the implications of it in Greece.
- In order to acquire a view of whether Greece has been benefitted logistics wise from Chinese investments we looked into the companies that operate over the 2005-2020 time period in Greece in the field of Transportation & Storage. By

locating the number of companies incorporated in Greece between 2005-2020 in Section H of NACE REV.2 classification (Transportation & Storage) we found out that 565 companies of the sector are operating until today in the country. 452 of the companies operate in sea freight water transport, 81 companies in passengers water transport, 4 companies operate in road and rail transport and transport via pipeline while the rest 28 companies represent warehousing & storage, service activities identical to water and air transport and other transportation support activities.

- From the Orbis dataset we were not able to locate the total amount of Chinese shareholders of the 565 companies' sample. Only in the code 54.24 through filtering the shareholders names, we found out that the two companies under this code which refers to Cargo Handling are the PCT S.A (Piraeus Container Terminals) and PCDC S.A (Piraeus Container Distribution Center) both owned by COSCO Shipping Ports Greece Ltd. However, we found out through Bank of Greece data we located the value of Chinese investments in Greece that in total reach 1,806 billion € for 2005-2019 period. Again, the interesting part here is that while the investments inflows in Greece from China were close to zero until 2014, from 2015 and onwards when the 21st Maritime Silk Road was officially deployed through the 35-year concession agreement of Piraeus Port Authority the Chinese investments followed a rapid growth. 92% of the total Chinese investments in Greece happened between 2015-2020 with COSCO acquiring the Port of Piraeus, State Grid buying 24% of Independent Power Transmission Operator, CMPorts having 49% of Terminal Link SAS which is a basic shareholder of Thessaloniki Port Authority and ZTE establishing its distribution center in Piraeus (Melas, 2019).
- Regarding the port of Piraeus, the Chinese investments played a key role on progress of the Port. An important increase is presented in the container throughput while the port ranked 4th for 2019 among the top 15 container ports in Europe. Also, in Piraeus new services and production lines such as shipbuilding are already operating and planned to be expanded on the context of OBOR initiative. On the other hand, Thessaloniki is now on the center of

many discussions. Numbers shown a steadily increasing trend in the container throughput of the port. However, due to current corporate changes in the port authority the available data analyzed were until 2018.

- Thessaloniki is now in the center of discussion and is expected to contribute into the logistics performance of the country due to the direct rail route connecting Greece with Bulgaria.

- The interviewees confirmed the perception of GDP and employment growth as two of the most important and most wanted direct effects of Chinese FDI in Greek economy however we cannot connect the increase in GDP in the recent years directly with the Chinese FDI as other factors referred further above have played a role too. Furthermore, another view reported by the interviewees is that the Chinese presence in the country is considered as a win-win situation as China gains a port that operates as a gateway to the rest of Europe while Greece is exposed to new management ideas, know-how, and modern equipment and infrastructure suitable to respond in the changing needs of the sector. The aforementioned view can be proved by the renovation of Piers II and III in the port of Piraeus and the allocation of modern equipment (cranes) resulting in an impressive increase of container throughput. Also, through the establishment of PCT (Piraeus Container Terminals S.A), a company devoted in cargo handling, capacity and container flow management of Piraeus' port COSCO made to efficiently restructure port's operations resulting in 6 million TEUs throughput in 2019 which is five times larger than the beginning of the research period (2005). However, by researching into Greek press worries about negative externalities were also spotted. Worries about the potential dependency of Greece by China and effects in other market areas such as real estate that are not obvious at a first glance have been reported. Also, the workforce of Port of Piraeus protested for Chinese mentality working conditions such as increase of working hours without the respective increase of salaries and silence of working accidents in the name of rapid transform and profit that are not compatible with Greek and European regulations (Papageorgiou, 2020).

- Investments like OBOR initiative should be welcome from Greece. In this context the interviewees highlighted the need for simplification of bureaucratic procedures in order Greece to become a friendlier investment destination and “free ports” with special tax incentives for new companies to come.

Summing up, through our research and the data we acquired we have seen economic reactions, but we cannot draw a clear conclusion that Greece has been economically benefitted by the Chinese investments. By looking the situation at the Greek ports seems that Chinese involvement improved their performance and competitiveness. However, worries have been reported as well about the investments strategy of China who apart from the Greek ports focuses her interest on energy and telecommunication and technological sectors. Regarding logistics sector from the interviews results, we did acquire data that the Greek logistics sector improved but serious bottlenecks were also highlighted and suggestions for improvement were stated. Furthermore, among the suggestions of the interviewees, a modernization and simplification of bureaucracy is needed in order to continue attract new investors. This information helped us to conclude the importance of simple regulatory framework, public administration, flexible tax system and highly trained workforce as variables considered before an investment takes place.

5.2 Limitations of the research & Recommendations for future research

One of the most important limitations of this thesis is the number of interviewees on the qualitative part of the research. Due to limited time and available resources surrounding COVID-19 the author proceeded with the conduct of four interviews. The participants represent the financial and political sector of Greece and abroad and the aim was to acquire a socio-economic view on the topic as well. However, it would be

quite interesting to include people from shipping, logistics, construction or other industry that its business is directly affected by OBOR initiative.

Another important limitation is the available data. The goal for research time period was 2005-2020, however for some categories the available data stopped in 2019 as the respective data for 2020 were not yet published by the official resources. Regarding the evolution in container throughput on the Greek ports due to unavailability the data were collected synthesized by the respective port authorities and Vlaamse Havencommissie. For Thessaloniki, the last available year of statistics was 2018.

Finally, as 21st Maritime Silk Road has already taken place in Greece, but the Chinese operations and investments are expanding beyond Piraeus as well, it would be interesting a similar research to be conducted few years later again. In this way and moving ahead from the years of crisis and heading also to an era of digitalization of shipping and transport industry more indicators and data will be available to assess this situation.

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APPENDIX

Interview Transcripts

Mr. Haralabos Tsivanidis: Engineer/Asset Manager

1. How would you describe Greece as investment destination?

A lot of potential. Highly educated workforce. Opportunities in the renewables area, software, agriculture, tourism, leisure sectors. Entrepot into the Balkans.

2. According to your opinion, what are the the most important direct and indirect effects of an investment in the economy of a country?

Bringing in know-how, introducing new management ideas, training the local workforce, benefiting the current account. Fostering greater co-operation between countries, increasing the value of human capital.

3. Do you know the "One Belt, One Road" (OBOR) project? If yes, what do you consider the important characteristics of the project?

Not very familiar with the project. Very superficial knowledge.

4. According to your opinion, what are the regional-economic effects to be expected from the OBOR investment (e.g in terms of added-value, employment etc)?

It should increase employment and result in newly created infrastructure. It should boost the infrastructure around the ports that will become the entry points for trade between Asia & Europe. It should encourage more trade between Greece and the neighboring countries.

5. Do you believe that the presence of China in the Greek ports is a win-win situation? Or one of the counterparts benefits more?

A lot depends on the signed agreements. The devil as always is in the details. If the signed agreements are equitable and address issues like training and up-grading human capital it should be a win-win for both sides.

6. What are your suggestions in order for Greece to become a powerful logistics provider for Europe in the upcoming years? Do you think the investments like the OBOR project could support this effort?

Streamlining the bureaucratic apparatus. Creation of a task force empowered to make the necessary decisions. Creating "free ports" with special tax status that benefit the companies that move in the area. Encourage the diaspora Greeks to move back. Ensure that Greek Universities produce the type of graduates that such a venture needs. Co-ordinate its efforts with the EU. In theory, the OBOR project should support this project, but a lot depends on the terms embedded in the relevant signed agreements. Transfer of know-how and training is very important for Greece.

Mr. Stagkos Dimitris – Economist, Investment Consultant Executive member of the Board of Directors of Group Bank of Central Macedonia, Greece

1. Do you know the "One Belt, One Road" (OBOR) project? If yes, what do you consider the important characteristics of the project?

I am aware of the OBOR initiative.

2. What would be the impact of Chinese FDI in Greek economy?

Any investment is beneficial for the recipient country. In our case is China and of course has positive effects in the national economy.

3. According to your opinion, what are the the most important direct and indirect effects of an investment in the economy of a country?

Direct employment is the most crucial, as indirect effect multiplier effects I would say the development of services, transport and logistics, and generally an important turnover.

4. Could this initiative increase the country's status as investment's destination?

Of course.

5. Do you believe that the presence of China in the Greek ports is a win-win situation? Or one of the counterparts benefits more?

Both counterparts are benefitted at their respective areas of interest economically wise. I cannot proceed in a geostrategic analysis as it is not in my field.

6. What are your suggestions in order for Greece to become a powerful logistics provider for Europe in the upcoming years? Do you think the investments like the OBOR project could support this effort?

We should consider the potential investors in Greece as friends and not as enemies. Through the simplification of bureaucratic procedures, we need to offer a simple and attractive investment destination.

Mr. Savvas Chionidis: Elected member of Greek Parliament, Former mayor of city of Katerini Greece

1. Are you aware of OBOR initiative and the Chinese FDI in Greece?

Of course, among other Chinese appeared in Greece as potential investors around 2007-2008 and the first large project suggested was the investments in the port of Piraeus.

2. As civil engineer do you believe the port infrastructure is important for a country?

Ports are of great importance for a country and its economy especially if we combine it with distribution centers, that are available territories around the port of Piraeus and of course with offering intermodal choices. In my opinion the existence of an efficient railway network along with efficient connections is the most important part of infrastructure.

3. As a politician do you believe that we should expect some positive effects?

For sure any investment brings positive effects to its recipient. But when there is a know-how behind any investment which in our case is the Greek ports will play a key-role in the economy. More specifically the utilization of port of Piraeus will play a key role if we combine it with seaborne trade which is a cheap way of transportation since ancient years. However, logistics nowadays are evolving, and we need the know-how to manage the volume of goods that are imported and make use of our advantageous geographical location and through rail network to spread the goods to the rest of Europe. Also, we should mention here that apart from Piraeus which is the largest project that already operates there are also contests regarding ports of Thessaloniki and Alexandroupoli. But I would like also to mention that we welcome all the investors in Greece, and we do recognize China as a key player in Greece during these years but we should never forget that we are one of the oldest members

of the European Union and during the ages our interests and views were always aligned with the European edifice and our future should be too

4. Do you believe that the presence of China in the Greek ports is a win-win situation? Or one of the counterparts benefits more?

Yes, it is a win-win situation since China gains a port that leads easily to rest of Europe both by land and sea and so there are both economic and geostrategic incentives. On the other hand, Greece is benefitted through the increase of the employment rates, new technologies and know-how.

5. Do you believe that we should expect companies establishing or moving their distribution centers in Greece like HP?

It is obvious that ports are the gates where you can have large amounts of cargo and low cost in transport and management. Apart from that if we consider that our ports in this logic attracting companies establish their distribution centers in Piraeus, it is very important the use of rail network. It is an obvious revolution. Also apart from the main distribution centers that exist mainly in Athens and in Thessaloniki, what is missed is smaller stations along the rail network.

6. How would you describe Greece as investment destination?

Greece offers stability and perspectives. China which is not the only important investor in Greece saw these two points and even during the years of crisis and recession stayed in the Country considering the perspectives. Apart from China we should also have in mind investments like the ones of Amazon services, Microsoft and Pfizer innovation center project who will transfer a lot of technological knowledge in the country and apart from a convenient place for trade and transshipment we can expect to be and R&D center.

7. What is your suggestion that Greece should invest in the next years?

Energy sector, Greek economy, logistics are the sectors we should insist investing.

We expect that logistics will bring more money to the country than tourism in the next years.

Name Chousouridis Nikos Economist, CEO of Group Bank of Central Macedonia

1. Do you know OBOR Initiative?

I am aware, I can see it as a huge investment strategy from China's side. The main characteristic apart from the economic liberalism, has to do with redistribution of wealth and resources from China to the rest of the world and in our case in Europe. Opening the trade borders, socioeconomic relationships are automatically enhanced too. We do need open roads with China and apart from their geostrategic motives China is an interesting and profitable market for the Europeans.

2. Do you believe that the presence of China in the Greek ports is a win-win situation? Or one of the counterparts benefits more?

For sure win-win situation

3. How would you describe Greece as investment destination?

I don't believe that the size of investment can itself transform the country into a more attractive investment destination however it leads to that direction.

4. According to your opinion, what are the regional-economic effects to be expected from the OBOR investment (e.g in terms of added-value, employment etc)?

Clearly direct effects, increase employment rates, economic circles in the regional societies, new services etc. So, we should expect the spread of the effects in the whole country.

5. How would you describe the choice of Thessaloniki which is a matter of fierce discussion nowadays?

I believe that the weight of interest is now on Thessaloniki. After some investment movements American and Chinese interests seem to be aligned in Thessaloniki. Time will show since as you know, there are several discussions and evolution around THPA and the port. However, what should bring new data soon regarding the logistics performance of Greek logistics sector is the new train route that operates on a weekly basis starting from the port of Thessaloniki to Bulgaria, Sofia Dry Port