

THE CONTRIBUTION OF THE PORT OF SINES FOR ITS REGIONAL  
ECONOMIC GROWTH AND DEVELOPMENT

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*“If you want to go quickly, go alone. If you want to go far, go together”.*

African proverb

## **Abstract**

This project concentrates on the stakeholder perspective on the factors that may contribute the most for the economic growth and development of the region of the port of Sines.

Through an analysis of FDI (Foreign Direct Investment) determinants, agglomeration economies and clusters and attractiveness factors in ports, it was possible to establish a framework to discuss this theme. Following this chapter, and to frame to literature review in this specific case, a brief characterization of the Port of Sines is presented.

In the process of contacting the stakeholders, there was a design of the interview guide, and its aftermost application. The results of these interviews were subjected to a content analysis, which was subsequently discussed regarding the literature review done in the first chapter.

The information retrieved from the contact with the stakeholders about the development of the port region allowed to perceive three main pillars:

- 1) Development of infrastructures (Railway to Spain; expansion of the container terminal; more road connections)
- 2) Attracting Investors (Creation of a logistics hub; increase competitiveness in order to attract more maritime traffic)
- 3) Development of supporting activities to the port (Stakeholder management; new training facilities; development of R&D)

**JEL Classification:** F230; L900

**Keywords:** Foreign Direct Investment; Regional Development; Port Stakeholders; Sines

## **Resumo**

Este projeto concentra-se na perspetiva dos stakeholders quanto aos fatores que mais podem contribuir para o crescimento económico e desenvolvimento da região do Porto de Sines. Através da análise de determinantes de IDE (Investimento Direto Estrangeiro), economia de aglomeração e clusters e fatores de atratividade em portos, foi possível enquadrar a discussão deste tema. Após este capítulo, para enquadramento da revisão literária no caso específico a ser abordado, é apresentada uma breve caracterização do Porto de Sines.

No processo de contacto com os stakeholders, houve a elaboração de um guião de entrevista e a sua posterior aplicação. Os resultados destas entrevistas foram sujeitos a uma análise de conteúdo, que foi subsquentemente discutida tendo em consideração a revisão literária feita na primeira parte.

As informações obtidas através do contacto com os stakeholders sobre o desenvolvimento da região do porto, permitiu interpretar três principais eixos:

- 1) Desenvolvimento de infraestruturas (Linha férrea para Espanha; expansão do terminal de contentores; mais estradas)
- 2) Atrair investidores (Criação de um hub logístico; aumentar competitividade para atrair mais tráfego marítimo)
- 3) Desenvolvimento de atividades de apoio ao porto (Gestão de stakeholders; novos estabelecimentos de ensino; desenvolvimento de I&D)

**Classificação JEL:** F230; L900

**Palavras-Chave:** Investimento Direto Estrangeiro; Desenvolvimento Regional; Stakeholders Portuários; Sines

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## **Introduction**

Nowadays, the importance of economic development in a country like Portugal is a growing matter and it is a main concern regarding the future of its economy. Not only the overall performance of the country is important but also the contributions that each region makes for this effort are crucial. Thus, it is important to assess what are the conditions in terms of economic growth and development in each region that allow contributing for the country's wealth.

In this research project, the analyzed region is Sines, located in the Setúbal district and where one of the main Portuguese ports is located. In 2011, INE (Instituto Nacional de Estatística) compared all the NUTS III in Portugal through a Regional Development Sintetic Index in which the NUTS of Alentejo Litoral (where Sines is located) had the lowest result in the overall ranking, regarding three partial indexes: competitiveness, cohesion and environmental quality.

In spite of these results, Sines is one of the main motors of the Portuguese economy, due to its refining industry, and more recently due to its container platform.

Regarding these facts, one can extrapolate how can a successful venture like the port of Sines contribute for the regional development and which factors are decisive in order to have a successful growing development strategy for the region. Thus, the question that this research is trying to answer is: **“How can the port of Sines contribute for Sines' economic growth and posterior regional development?”**

As it was mentioned before, the importance of the Port of Sines for the Portuguese economy is high: besides being the main port on the Atlantic seaboard of Portugal due to its geophysical characteristics, is the main gateway to the energy supply of Portugal: natural gas, coal, oil and its derivatives. The ability to receive post-Panamax vessels is an advantage for this port and with the opening of the new Panama Channel, Sines will have an increase in traffic regarding these ships. There is also a plan for a rail connection to transport merchandise through Alentejo to Badajoz in order to reach the Madrid region.

These two situations can show the expectation for an increment of the port activity in Sines and can result in an economic growth for the region. This attracts other companies to operate in the region and can originate more employment for the local population.



These are positive outcomes that can contribute for a higher competitiveness of this region and posterior development.

This subject will be analyzed in three main parts throughout the project: 1) a literature review regarding Foreign Direct Investment (Location and investment factors), Clusters and Agglomeration Economies and Attractiveness Factors in ports; 2) An analysis of the port and its conditions; 3) The findings that result from this assessment of stakeholders; 4) a discussion of these results confronting them with literature review; 5) Conclusions

## **Literature Review**

### Foreign Direct Investment

Foreign Direct Investment took an important role in the global economic development following World War II and some of the main authors that contributed to its initial study were J.H. Dunning, S. Hymer and R. Vernon, through their studies regarding Multi National Enterprises (MNEs), product life cycles and determinants of Investment, like the OLI paradigm.

The literature about FDI describes three alternative strategies for a company in the context of a spatial economy composed by different countries or regions (using a manufacturing company as an example):

- 1- The company concentrates its production in one single factory, located on the country of origin and supplies other markets through exports. In this case, there is no FDI and there are economies of scale at production level that allow the company to withstand the commercial costs of exporting (such as transportation costs or tariffs).
  
- 2- The company applies **horizontal FDI**, (Buckley & Casson, 1981) setting a factory in each market, in order to be close to the consumers. If the company's economies of scale are higher than the ones verified in the factory, it is more beneficial to assemble various factories in different countries, using jointly the results of R&D. If the commercial costs are higher regarding the economies of scale, it is more profitable to locate factories in several countries, replacing the external commerce for FDI and its local production for its subsidiaries.

- 3- The company applies **vertical FDI**, (Markusen, 1995) with the focus on low costs of production instead of access to markets. The productive process is divided in several segments, vertically orientated. Each productive phase is situated where the most used factor is abundant. One example is the geographical separation between the headquarters (executes R&D and has more skilled labor) and the factories (execute the manufacture and have less skilled labor). Vertical FDI complements the commercial practices, promoting exports of manufactured goods (from the factories in foreign countries to the market of origin of the company) and intermediate goods (between factories with productive phases vertically related). This is only possible with low commercial costs.

Following the reference to Buckley & Casson, these authors also contributed the theory of Internalization in 1976, defending that there is an incentive to internalization when the markets present transactional imperfections. Markets of intermediate goods such as production and marketing techniques, management competencies, components or services, are imperfect and risky, causing considerable transaction costs. The authors also refer that there is an incentive to the internalization of knowledge market, for its characterization as a public good and easily transmittable beyond borders.

According to Faeth (2009) companies opt for the internalization of its operations by engaging in FDI when transaction costs (such as information, fiscal and business costs) are higher than internationalization costs (such as communication and internal organization costs).

Dunning's OLI paradigm (1977) was also an important contribute for the understanding of the determinants for FDI.

According to Faeth (2009), the main objective of this approach was to group the developments of existent theories (such as Internalization or traditional trade) organizing the advantages for companies to operate internationally and connecting them with selected entry modes (FDI, exporting and licensing).

The theoretical proposition developed by Dunning (1977) is based in three types of advantages:

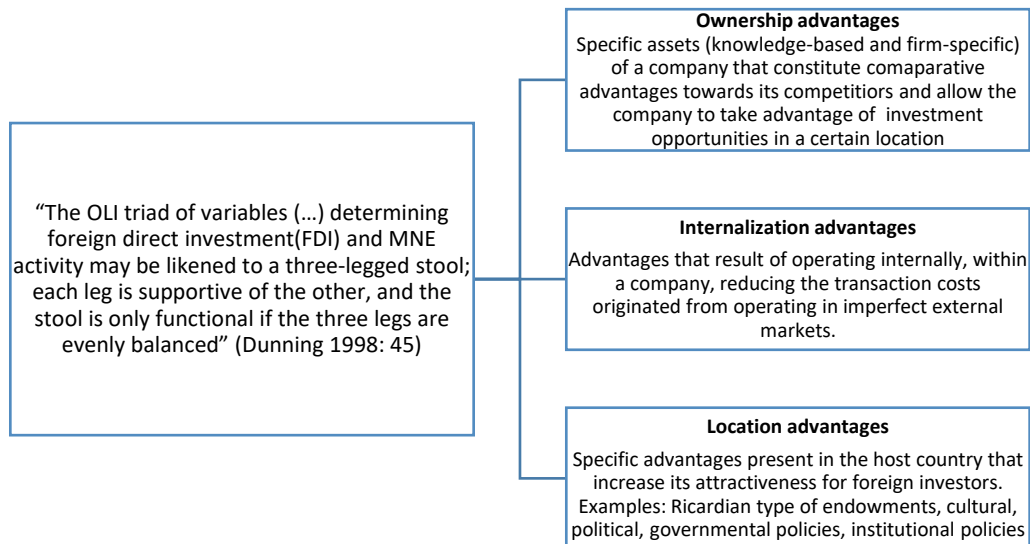


Figure 1: Schematization of the OLI Paradigm

According to Dunning (1988), ownership advantages consist in the possession of tangible or intangible assets, including technology, determining efficiency in resources usage, exclusively and temporarily, granting a superiority towards its competitors in foreign markets.

When this first condition is observed, the company should seize this opportunity and use it and not sell them to foreign companies. In this way, it can expand its value chains, or even add new ones, exploring the advantages of internalization.

When a company obtains benefits from the two previous conditions, it should combine these advantages with some production factors existing in foreign markets (such as human resources) and that allow, at the same time, to achieve location advantages (lower wages, for example, using the reference above ).

**Ownership advantages:** Production management, innovation capacity, knowledge

**Internalization advantages:** Transaction costs reduction, control of the supply in terms of quantity and quality

**Location advantages:** Economic and political stability, human capital, infrastructures, market growth, market size, openness of the economy, production cost and financial/economic incentives

Dunning & Lundan (2008) reunited a series of Location determinants of FDI in a host country by general policy framework, policies specific to FDI and economic determinants by type of investment (Market seeking, Natural resources seeking, Efficiency seeking and Asset seeking investments). In annex 1, there is a detailed table with these determinants

Although not all theories regarding this theme were exposed in detail in this research, it is possible to have a holistic view through the table presented below containing a synthesis of the various approaches and theories regarding location determinants for FDI:

<b>Approach/Theories</b>	<b>Main Ideas</b>	<b>Contributes</b>
Product Life Cycle	Characteristics of the Production function	Vernon (1966)
Internalization	Market Inefficiencies	Buckley e Casson (1976) Caves (1971) Knickerbocker (1973)
Market Imperfections	Ownership Advantages Economies of Scale	Hymer (1976) Kindleberger (1966)
Eclectic Paradigm	Ownership Advantages Internalization Advantages Location Advantages	Dunning (1977)
New trade theory	Market dimension Factor endowment	Krugman (1983) Helpman (1984) Horstmann and Markusen (1987, 1992)
Institutional	Political variables	Hubert e Pain (2002) Cleeve (2008)

Table 1: synthesis of various approaches and theories regarding location determinants for FDI. Adapted from Assunção et al (2011)

### Agglomeration economies and Clusters

Agglomeration economies have an important role for location choice and it is largely discussed in urban, regional and international economics. The clustering of economic activities results in productivity increases and cost savings for companies, and these advantages influence their choice of location (Hilber and Voicu, 2007).

The first studies referencing this theory started with Marshall (1890), who viewed this concentration as a way of magnifying the advantages of the location. This originated cost savings from scale effects of concentrating facilities in the same place. This proximity between various industries generates several benefits such as:

- Deep labor pools (high level of flexibility of labor factor);
- Better information and access to information (encouraging R&D activities);

- Well-developed intermediate input suppliers (reduces the transaction cost).

These agglomeration economies can generate externalities and positive spillovers.

In terms of externalities (the costs or benefits of transactions that are not reflected in price), these can be divided in two types: pecuniary externalities (caused by market interactions and might be part of activities that influence the cost) and technological externalities (that occur from non-market interactions between firms that have the same location) (Griliches, 1979).

The positive spillovers reflect mainly in knowledge spillovers. It occurs when the knowledge created by one agent can be used by another without costs or, with fewer costs than the value of the knowledge (Jaffe, 1996).

According to Matei (2007), *“In the case of tacit knowledge is even more obvious that proximity is important, due to the fact that it is transferred through direct interaction between individuals. Other implication they reached is that when certain locations have a larger stock of knowledge, they tend to be characterized by sustained growth rates, increasing returns and other positive externalities that attract new investors.”*

In addition, other determinants of absorptive capacity are for spillovers can be:

- Cultural and psychic distance;
- Trade protection and institutional framework;
- Degree of foreign ownership;
- Nature of industries and host countries;
- Size of the firm;
- Development level of the country.

Following this exposition, it is relevant to refer the concept of cluster, which has many definitions, being the definition given by Porter (1998) the most used: *“clusters are a geographical concentrations of interconnected enterprises and institutions in a particular field”*. This means that clusters can be perceived as a group of linked enterprises and other entities that are important for competition (e.g. suppliers of raw materials, machinery or other service providers) that sometimes include elements from downstream value chain such as distribution channels or even clients, for instance.

Facing the two definitions of agglomeration and clustering, these present some differences, being agglomeration based upon locational concentration and giving equal importance to proximity and specialization as the cluster is based on the strength of inter-firm linkages giving more importance to specialization.

According to Matei (2007), Porter *“stated that “traditional” agglomeration economies were focused on cost minimization, while nowadays a shift to productivity occurred”*.

Besides this theory, there are other perspectives that complement it, such as the *new economic geography*. This literature suggests (Fujita, 1988; Krugman, 1991; Venables, 1996) that companies tend to locate where other companies from the industry are located, and its defining issue is “how to explain the formation of a large variety of economic agglomeration (or concentration) in geographical space” (Fujita and Krugman, 2004: 140).

A key framework for the new economic geography is Krugman’s (1991) core-periphery Model, which considers the process of localization of business in two forces: the centripetal force that pulls economic activity together and the centrifugal force that pushes it apart.

Krugman demonstrated how the economy’s spatial structure can be influenced by interactions among increasing returns, transport costs and factor mobility.

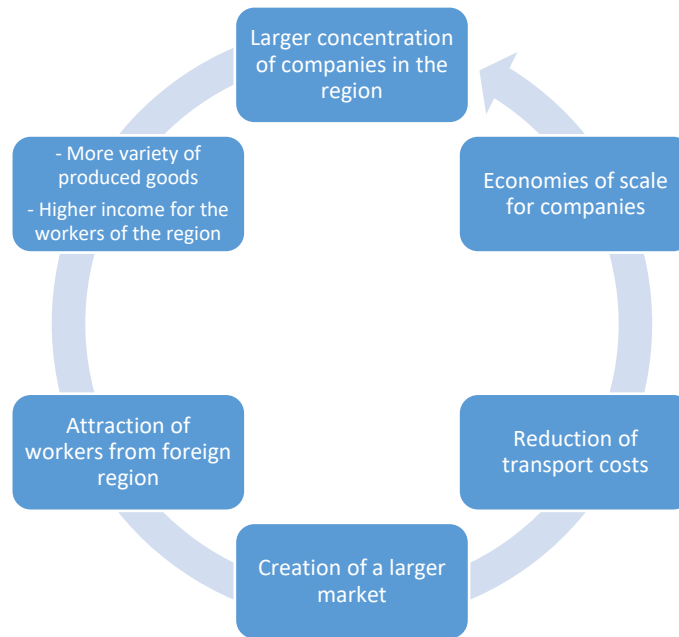


Figure 2: The relation between increasing returns, transport costs and factor mobility: Core-periphery model

Having the above figure as reference it is possible to verify a “circular causation of forward linkages (the incentive of workers to be close to the producers of consumer goods) and backward linkages (the incentive for producers to concentrate where the market is larger)” (Fujita and Krugman, 2004). If the described linkages prevail over the centrifugal force, manufacturing is concentrated in one region and the economy will follow a core-periphery pattern (Fujita and Mori, 2005).

### Port attractiveness factors

The academic literature available that relates the themes of port activities and regional development is not extensive, but there are articles that approach these themes thoroughly.

First, a definition for port region is difficult to find and according to Ducruet (2009), “*The port region remains a broad term, and is rarely given central concern by scholars, as seen in the limited score of port region compared with other regions (e.g. administrative, urban, agricultural, economic, and industrial)*”. This author also states that a possible explanation for this is the perception of ports by scholars themselves, due to studies done by James Bird for whom gateway functions make port regions and port cities different from other regions and cities. In spite of this, most geographers consider functional regions to be structured and polarized by cities and not by activities.

In terms of regional port development and its implications, Bryan et al. (2007) studied the economic significance of port activity through the APB (Associated British Ports) operations in industrial South Wales. The main findings of this study are that these ports by focusing on the employment, incomes and output supported by the ports lead to ignore important dimensions of the role of ports in improving regional competitiveness. The recommendations of the authors for this authority are: instead of focusing in employment as regional objective, the authority should assess the needs of the infrastructure providers; the road/port interfaces must be efficient to prevent local bottlenecks, whether freight or passenger; the pressure to achieve sustainable trade/transport in the region will probably make ports (including short sea shipping) much more important in the future. Thus, it should consider an efficient port infrastructure in strategic policy development for the region.

In this article, there was also present this figure (Evans, Hutchins; 2002) that portrays the possible economic impacts regarding the performance of port assets:

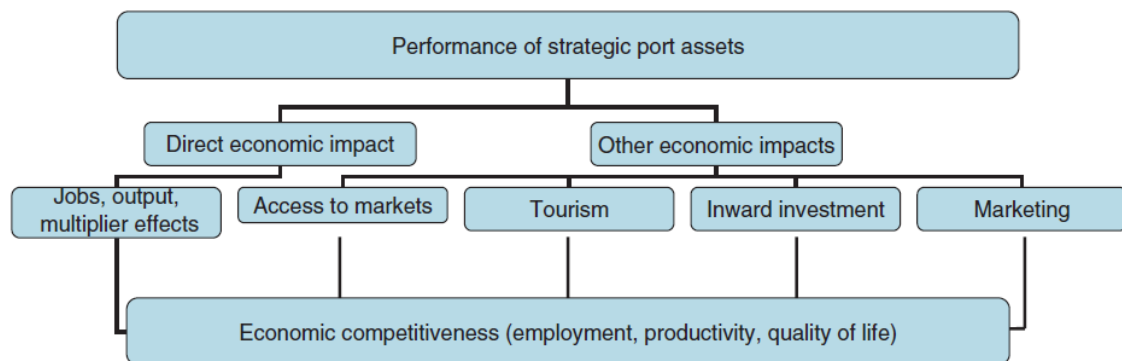


Figure 3: Ports and regional economic benefits

One of the most important and competitive markets in the maritime industry is the containers market and Veldman et al (2011) assess the determinants of port choice in Spain (in which the conditions of the market are similar to Portugal). Through an econometric analysis of the impact of cost changes in market shares, the authors considered a regression with Inland Costs (LC), Maritime Costs (MC) and Mohring Costs (Mo). After the estimation, Veldman verified that for both exports and imports, the absolute values of the coefficients for LC are greater than for those MC, but are rather close. This suggests that port choice is more sensitive for variations in LC than for MC,



while they are both expressed in the same monetary units, i.e. EURO per ton. Veldman also stated that *“Measurement of costs, however, is not so accurate that we can state that a EURO spent at sea is valued less than one spent at land transport.”*

J.I. Castillo-Manzano et al. (2013) also did a study regarding Spanish ports discussing the intermodal connections at Spanish ports and their role in capturing hinterland traffic. The authors compared several Spanish ports through their data and also surveyed port managers in order to assess their views of the determinants of Spanish mainland ports' hinterland traffic capture.

When analyzing the data a regression was made having as dependent variable the Hinterland Traffic, and as regressors the GDP for Spain, GDP for Province, World Maritime Traffic, Rail (usage of railways instead of road), Logistics (Existence of Logistics Parks near the port), Other Traffic, Size of Port, Latitude, Longitude and Maritime Routes.

The main findings in this study were that *“Traffic capture is closely linked to the particular features of each port, such as its location (LATITUDE, LONGITUDE and MARITIME ROUTES) or its own particular dynamics. It also depends on the way that the national and local economies are evolving (GDP<sub>Spain</sub> and GDP<sub>Province</sub>). Although there does not seem to be a relationship between the dynamics of hinterland traffic and other traffic (OT), the overall size of the port (SIZE) is relevant.”*

The authors also verified some discrepancies that when confronting the data analysis of the ports with the survey results: *“This would be the case of the high score that the managers awarded the railroad-international maritime traffic interconnection, and also their underestimation of port size, the presence of logistics parks and the distance from certain routes. Whilst the first two were not significant in our empirical model, the other three were significant at 1%, which highlights their ability to explain traffic capture.”*

Concerning the particular case of the Port of Sines, Moreira (2012) proceeded to an analysis of Sines as a Geostrategic National Asset, taking into account its maritime chain and port macrostructure (as a macroeconomic, physical and logistical hinterland); the quantitative and qualitative analysis taking into account the Cargo Dependence index, the Localization Coefficient and the factors that condition the port competitiveness; plans for

governance, marketing and strategy of the port; prospective scenarios for Sines in 2030 taking into account the iTren-2030 research project for the European transport policy.

The main recommendations of this author regarding a strategy for development are a larger intervention of Sines Port Authority (APS) in a joint effort with other local political, social, private and public forces in order to invest more in industries related to maritime economy such as aquaculture and exploration of mineral resources, desalinization stations and in other industries, such as tourism, or environment related such as recycling materials, or capture and storage of CO<sub>2</sub>.

Regarding the scenarios proposed for port in the future, Moreira states that there is uncertainty about the evolution of maritime routes and the impact of the opening of the new Panama Channel. There is an optimistic scenario, in which much of the international traffic uses the Panama Channel and subsequently, increases Sines' traffic and importance in the global market or the pessimistic scenario in which commercial trade decreases and the traffic in the Panama Channel does not register alterations after its opening. Either way, the author recognizes the potential that this port has in fulfilling the needs the country in the areas in which operates.

The same author also did a study regarding the impact of the railway connection of the Port of Sines as structural element of regional development. According to Moreira (2013), *“A new rail link should serving Sines as a catalyst - together with other regional infrastructure - for the setting of several clusters of high value added industries targeted for export, so Sines not be reduced to a mere link extension to Spain.”*

The main conclusions of this study are that Sines in spite of being a possible entry door for products directioned for the Spanish market (mainly the Madrid region), its distance (it is larger than the main Spanish ports, relatively to Madrid) and the fact that Spanish producers/carriers prefer their own ports, it is difficult to compete with such a large infrastructure. Thus, the recommendation of the author is that this railway should planned in order to reach new exporting markets through production, due to several advantages in this region: abundant space for futures expansions, existing infrastructures (such as the port, refineries, Alqueva dam), proximity with Lisbon, Alentejo and Algarve and its

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environmental, landscape and tourism resources (Costa Vicentina, for example). Taking into account these assumptions, Moreira states that this railway should be destined to reduce regional asymmetries in Portugal rather than be only a mean of product outflow for the Spanish market.

## Port of Sines

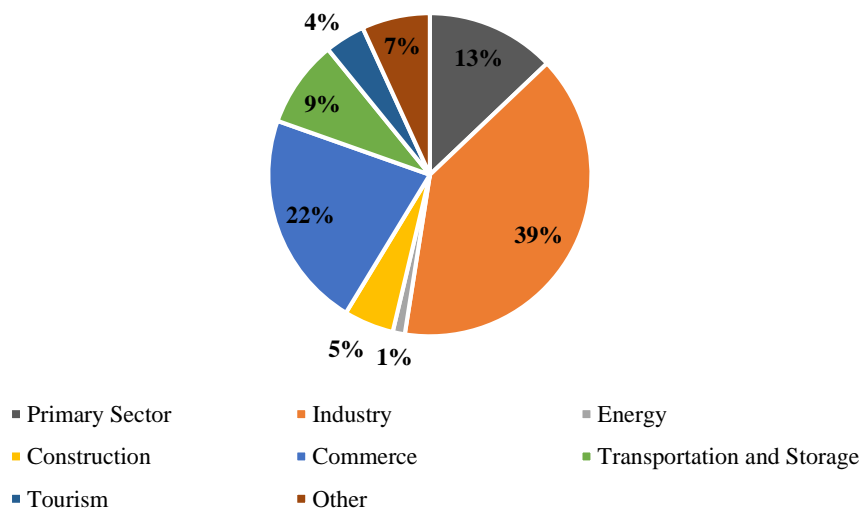
The Port of Sines has an important role in the Portuguese economy for the impact of the activities developed in its space and for its role as a gateway for international trade.

The port of Sines presents nowadays an excellent geostrategic location, which determines competitive advantages that allow attracting and receiving containerized cargo traffic from the main navigation lanes, setting as a junction point for the main maritime international routes. Due to its natural features, as a deep-water port, it has the ability to receive ships of larger dimension that nearby ports cannot receive (e.g. Post-Panamax ships) and that constitutes a comparative advantage.

The impact of the port of Sines in the regional economy is high, and according to J.S.L. Lam et al. (2013) *“In the era of intense competition and integration of multimodal supply chains, it is increasingly important to implement port governance and planning at port cluster levels. Playing a key role in facilitating trade and specialization of economic activities, the performance of ports is pivotal to regional economic development”*.

Sines’ economic hub plays an important role in the Portuguese economy by its commercial, logistical, and even energetic impact and that is reflected in the increasing importance of its activities in international trade.

Sector Distribution in Alentejo Litoral (NUTS III) - 2014



Graph 1: Sector Distribution in Alentejo Litoral (NUTS III) – 2014; Source: PORDATA

Due to its natural characteristics (as a deep water port) and modernized terminals, the Port of Sines is the leading Portuguese port in volumes of cargo handled being also the leading container port (According to AMT (Autoridade da Mobilidade e dos Transportes), Sines had 53, 3% of national port movement from January-May 2016) (Silva, 2016).

	1st Quarter 2015	2nd Quarter 2015	3rd Quarter 2015	4th Quarter 2015	Accum. 2015	Accum. 2014	Var 2015/14 (%)
<b>Number of Vessels</b>	<b>483</b>	<b>553</b>	<b>577</b>	<b>574</b>	<b>2 187</b>	<b>2 003</b>	<b>9,19%</b>
Total GT (Gross Tonnage)	17 426 614	19 873 974	21 955 477	20 815 052	80 071 117	70 233 725	14,01%
<b>Total Cargo</b>	<b>9 993 373</b>	<b>11 785 964</b>	<b>11 481 917</b>	<b>10 704 649</b>	<b>43 965 903</b>	<b>37 582 922</b>	<b>16,98%</b>
Load	3 772 273	4 774 538	4 270 118	4 154 450	16 971 379	14 563 976	16,53%
Unload	6 221 100	7 011 426	7 211 799	6 550 199	26 994 524	23 018 946	17,27%
<b>Type of Cargo (Ton)</b>							
Liquid Bulk	5 283 678	5 520 894	5 461 283	5 270 657	21 536 512	18 076 672	19,14%
Dry Bulk	1 366 776	1 508 572	1 745 555	1 229 034	5 849 937	4 894 913	19,51%
General Cargo	3 342 919	4 756 499	4 275 079	4 204 958	16 579 455	14 611 337	13,47%
<b>Containers</b>							
TEUS	279 348	397 608	345 431	309 815	1 332 202	1 227 694	8,51%
Number of Containers	182 017	254 533	221 832	206 387	864 769	819 565	5,52%
<b>Countries of origin/destination (Ton)</b>							
Portugal	824 372	791 221	802 876	786 464	3 204 933	3 610 673	-11,24%
EU Countries	2 096 702	2 789 477	2 057 813	2 262 106	9 206 098	7 722 181	19,22%
Extra-EU Countries	7 072 299	8 205 267	8 621 227	7 656 077	31 554 870	26 250 068	20,21%

Table 2: Vessels, Cargo Handling and Containers – 2015 Statistics (Source: APS)

Table 2 shows the evolution of the number of vessels, cargo handling and containers registered in the Port of Sines in 2015. The comparison between the 2015 results with the 2014 ones shows that in every segment of cargo there was an increase of operations. The decrease of the weight of national cargo (-11,24%) and increase of international cargo (19,22% in EU zone; 20,21% in extra EU countries) shows that this port has a growing role in the international commerce.

### **Terminals**

The port of Sines has an ancient history, dating back to the Roman Empire period in which it served as an important commercial outpost for trading. During centuries, its activities regarded mainly fishing until the 1970s in which there was an industrialization of the region, with the installation of a refinery and petrochemical infrastructures, using the natural conditions of this port as a gateway for supplying raw materials. The following information was provided by the Port Authority:

- Liquid Bulk Terminal

The TGL – Liquid Bulk Terminal, inaugurated in 1978, is the largest liquid bulk terminal in the country, designed according to a multi-client and multi-product architecture. With six jetties and natural beds down to 28 metres ZH, it has the capacity to receive vessels up to 350,000 tonnes Dwt, and allows the simultaneous handling of different products (crude, refined products, liquefied gases and other liquid bulks).

It has a network of pipelines for moving products between the port, the adjoining tanking area and the ZILS – Sines Industrial and Logistics Area where the main industries are located which use the terminal, including the Sines refinery, the petrochemicals and the resins factory.



Figure 4: Liquid Bulk Terminal

- Petrochemical Terminal

Since 1981 the Port of Sines has a terminal dedicated to petrochemical products, the TPQ – Petrochemical Terminal, which allows the handling of goods via a dedicated pipeline between vessels and the petrochemical complex located in the ZILS – Sines Industrial and Logistics Area of Sines. This terminal is operated by Repsol Polímeros on a private use concession regime.

The TPQ has two jetties with beds of 12 metres ZH, allowing the reception of vessels up to 20.000 m<sup>3</sup> of cargo capacity, moving products such as Propylene, Ethylene, Butadiene, ETBE, Ethanol, MTBE, Aromatic Compounds, Methanol.



Figure 5: Petrochemical Terminal

- Multipurpose Terminal

The TMS – Sines Multipurpose Terminal began operating in 1992 under a public service concession granted to the company Portsines. It is endowed the handling dry bulks, general cargo and ro-ro.

The terminal offers 4 berths with a total length of 645 metres at the extrados, and 296 metres at the intrados, with draughts down to 18 metres ZH, thus allowing the reception of vessels up to 190.000 Dwt.

To handle dry bulks, namely coal to national power plants, the terminal is equipped with two gantry cranes with an average handling capacity of 2.000 tonnes per hour each. It also has a coal storage facility and its run-off is usually carried out by a conveyor belt to the Sines power plant and by rail to the Pego power plant.



Figure 6: Multipurpose Terminal

- TGN Terminal

The TGN – Natural Gas Terminal started its activity in 2003 and is run under a private use concession by the company REN Atlântico, today handling over 50% of the Natural Gas consumed in Portugal. It is the main national source for supplying this product and has a great national strategic importance, due to being an alternative to the land gas pipeline.

Endowed with one jetty with beds of 15 metres ZH, it allows the reception of LNG tankers up to 225.000 m<sup>3</sup>. For the storage of the natural gas received, the terminal has two storage tanks with the capacity for 120.000 m<sup>3</sup> each, and a third storage tank with a capacity of 150.000m<sup>3</sup>, which guarantees a total storage capacity of 390.000m<sup>3</sup>.





Figures 7 and 8: The TGN Terminal and the storage tanks

- Container Terminal (Terminal XXI)

The Sines' Container Terminal, called Terminal XXI, started its operations in 2004 under a public service concession by the company PSA Sines (PSA – Port Singapore Authority). Terminal XXI provides natural depths down to 17.5 metres ZH, allowing the reception of the last generation container carriers performing intercontinental routes, as well as the concerning feeder. Presently it has a quay length of 946m + 200m and 9 post-panamax and super post-panamax gantry cranes, this terminal possesses a yard with 36,4ha, and a total capacity of 2.100.000 TEU per year.

The next development phase will comprise an expansion to a 1350m quay, thus increasing the Terminal's annual handling capacity to 2.500.000 TEU.

Concerning the hinterland, there are direct connections to the national rail and road network, both integrated on the Trans European Transport Network.



Figure 9: Container Terminal (Terminal XXI)



- Fishing Harbor

The fishing traditions of Sines go back centuries. The Fishing Harbor is composed by a tackle wharf, an unloading wharf, a slipway and several land facilities. It is formed by an inner basin sheltered by a breakwater which offers protection for docking and anchoring fishing boats.

The tackle wharf is 220m long and 2,5 metres deep, while the fish unloading wharf has 140m, offering depths of 4,5 metres, whether on the maneuvering or the docking basins.



Figure 10: Fishing harbor

- Leisure Port

The Leisure Port is located next to the Vasco da Gama beach – the only leisure port between Setúbal and Algarve, which benefits from an intense yachting activity during the all year.

The Leisure Port consists of a breakwater, hauling wharf, slipway, mobile crane, marginal restraint, embankments, pontoons and fingers where yachts can berth. It has capacity for 230 place berths.



Figure 11: Leisure port

Besides all these infrastructures, the Port of Sines has also several zones in the vicinity where the main industries of region are installed, such as ZILS (Zona Industrial Logística de Sines) and ZAL (Zona de Atividades Logísticas de Sines). In the image below, there is a map with the main terminals and projects for maritime works. In yellow and darker blue, there are the logistic areas referenced above:

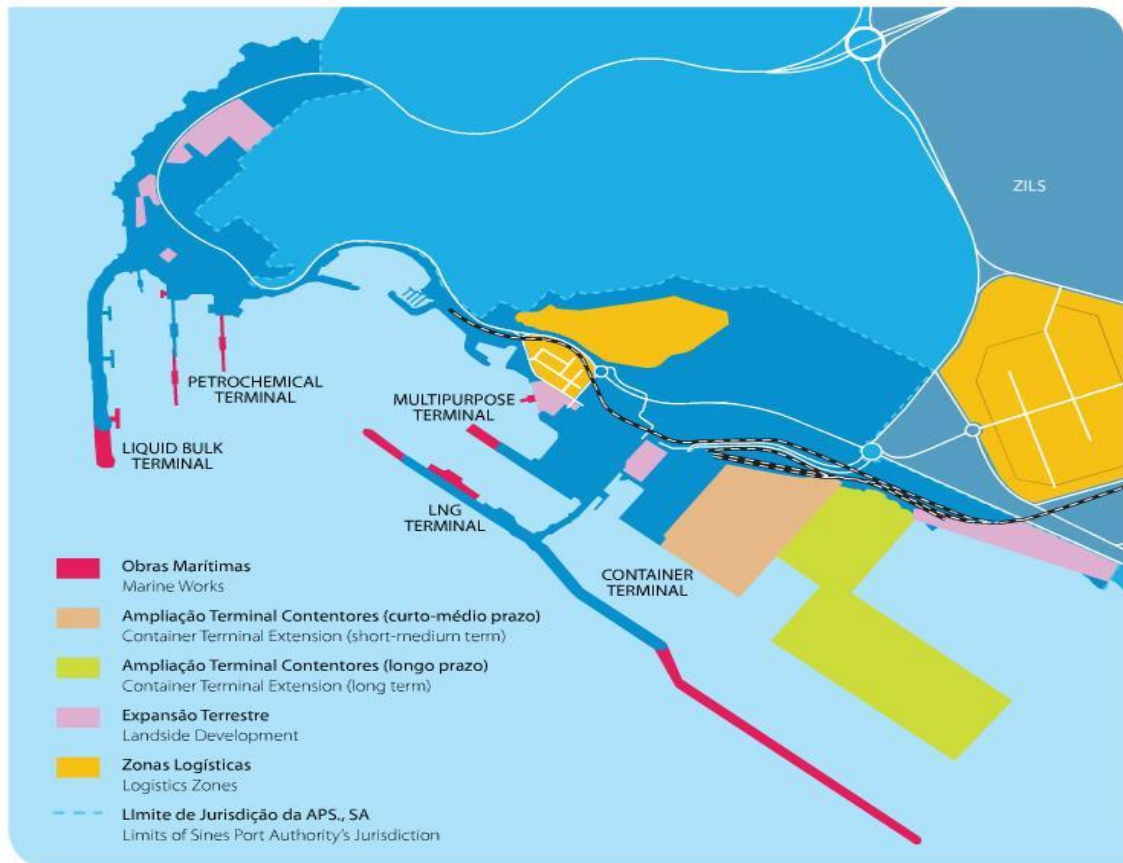


Figure 12: Map of the region of Sines (Source: APS)

The influence of the port of Sines goes beyond its close urban centers, it is also an important point of supply for the Portuguese market, receiving essential resources (energetic, for instance) and goods through its container terminal.

To be connected to every participant of the value chain, it is imperative that a good network of transports is established. The existing one connecting Sines to the rest of the country has been improved during the last decades, but there is still a missing connection, that is projected since long time ago: a direct freight railway connection to Spain.

The construction of the railway connecting Sines to the border, in Caia, is expected to begin in 2017 (Transportes e Negócios, 2016).

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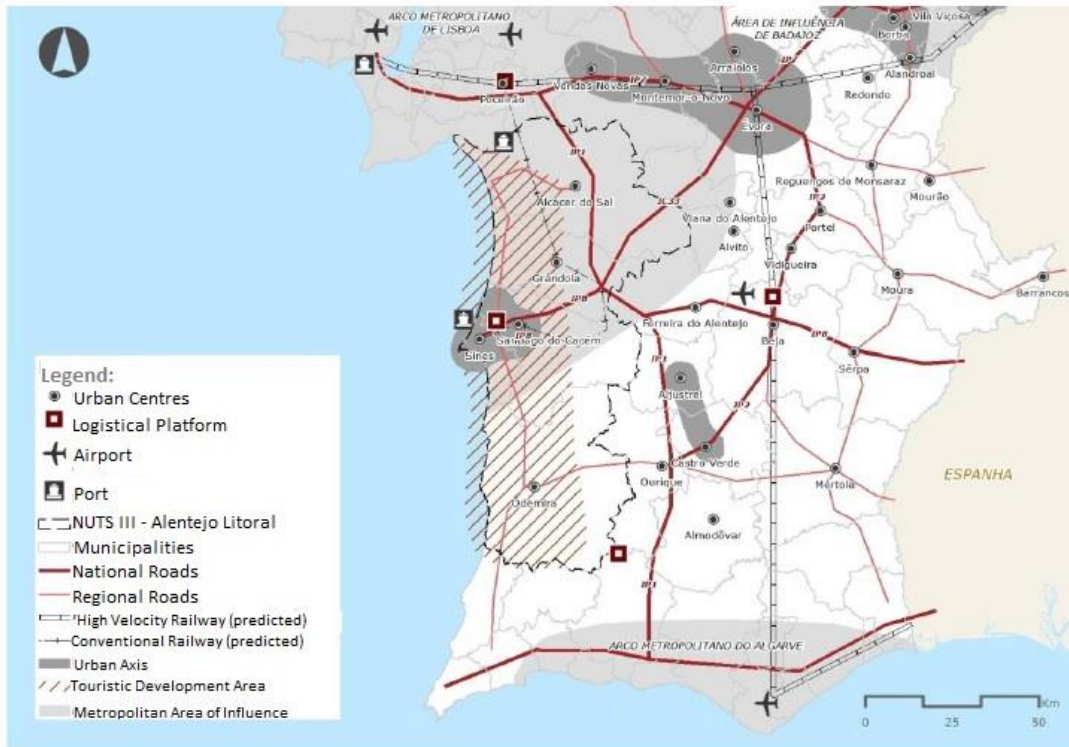


Figure 13: Urban system of the Alentejo region (Source: EIDTAL)



Figure 14: The “missing link” in the railway connection to Spain (Source: Moreira, 2013)

## **Method**

### Methodology

In this project, in order to assert the current conditions in the Port of Sines, the most interesting approach was contacting several stakeholders whose activities are impacted by this infrastructure.

Nowadays, in the era of intense competition and integration of multimodal supply chains, stakeholders are an important part in the holistic view of port management.

*“Port stakeholders, such as the government, shipping companies, terminal operators, shippers, logistics service providers and parties in related and supporting industries are within the same value-driven chain and thus need to work with each other so as to create and sustain customer values”* (Lam, 2011).

Following this statement one can surmise that the importance of engaging the different stakeholders in port management is an ever-growing tendency and can be influential in the success of the port itself.

It is the purpose of this project to verify these assumptions, by involving several stakeholders of the Port of Sines and to assess their vision about it, the influence of the port in their activities and their opinion about the future of the port.

Regarding the latter statements, it was chosen a qualitative methodology because it allows to have a more in-depth comprehension of the observed phenomena valuing the particular significance that each individual attributes to reality (Bryman, 2008). The chosen method for engaging these stakeholders was the interview, due to its direct approach and as mean to promote comprehension and achieve reality (Ruane, 2005).

In the first part of this chapter there will be a brief characterization of the several participants in these interviews, followed by the construction of the guidelines for the interview and in the final part, the analysis of the results of the documental information and interviews.

In the beginning of this project, there were identified several potential stakeholders whose impact in the activities of the Port of Sines were considerable, regarding several areas (from educational to port operations) from public and private sectors.

These entities were contacted via telephone or e-mail, followed by several means of response to the interview questions (in person, in written response, or by secondary sources such as clippings and corporate communication materials).

The initial population for this analysis was composed by 5 public entities and 6 companies:

- The public entities include local government, industrial property management, and port authority.
- The private companies are from energy, logistical, petrochemical and port operations sectors.

Two of these entities did not respond to the enquiry, so for further analysis, there will be a population of 9 entities (4 public and 5 private).

#### Construction of interviewing guidelines

Regarding the interviewing process, the basis for its execution was a semi-structured guideline combining open response and direct response questions in order to potentiate the interventions of the participants (See Annex 2). By adopting this guideline, it was possible to guide the interview flexibly and allowing that other themes could be included (this was only applied to “in person” interviews).

The first two questions of this guideline were contextual, in order to assess the intervention of this entity in the port activities:

- 1- What is the intervention of this entity in the activities of the Port of Sines?
- 2- Since when does this intervention exist?

The third question referred directly to the priorities of said entity on the activities related with the Port of Sines (in order to assess how different are the priorities and grades of importance regarding these activities within the population):

- 3- Which are the priorities of this entity regarding the activities related to the Port of Sines?

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The fourth and fifth questions regarded the impact of the entity in the economic growth and development of the region and then the influence of the Port of Sines in the referred activities:

- 4- How does this entity contribute to the economic growth and development of the region?
- 5- Which part of this contribute is related with Port of Sines?

The sixth question regarded the investments related to transportation that are predicted to happen in the near future in Sines and the impacts that may affect these entities and how:

- 6- The investments that will be executed within the scope of the Port of Sines will affect your entity in which way?
  - a. Expansion of the container terminal
  - b. Construction of roads and railways

The seventh and eighth questions assessed the perception of the entity regarding the strengths and weaknesses of the Port of Sines:

- 7- In which fields do you consider that Port of Sines has a larger potential of growth?
- 8- And in which fields may have vulnerabilities?

The ninth and last question assessed the perception of these entities about the factors that are important for attracting maritime traffic for the Port of Sines (in order to verify the alignment of these entities of the same value-driven chain about the port attractiveness factors):

- 9- Which are the factors that you consider as most important for attracting maritime traffic to the Port of Sines?

One of the basis for the documental analysis will be *Estratégia Integrada para o Desenvolvimento Territorial para o Alentejo Litoral (EIDTAL)* a publication that regards the strategy of regional development for Alentejo Litoral, in which Sines is included.

Published in 2014, EIDTAL includes the strategy for the region in the next years (horizon 2014-2020) and has in the Port of Sines one of the main centers of development.

The action plan for this strategy includes 7 initiatives that try to respond to the necessities of the region and to develop it further more:

1. To guide companies for competition and innovation
2. To construct differentiated touristic experiences
3. To promote corporate initiatives for job creation
4. To assure sustainability and efficient use of resources
5. To support cohesion and social inclusion
6. To plan to attract and populate
7. Network governance

Regarding this project, the initiative that is going to be analyzed is number 1, because it is directly related to the Port of Sines (initiatives 6 and 7 regard solely government responsibilities).

The first initiative includes eight actions to achieve the objective of guiding companies for competition and innovation:

1. Internationalization of the industrial and logistic complex of Sines
2. Support in capacitating and consolidating infrastructures for business localization
3. Construction of railway connecting Sines to Badajoz
4. Promotion in access to systems and infrastructures of transports and logistics within the Trans-European Transport Networks (TEN-T)
5. Improvement in regional mobility
6. Reinforce business capacitation for internationalization
7. Consideration of criteria of territorial merit in programs for stimulating investment
8. Sea energy Academy

#### Analysis of stakeholders' feedback

Following this documental analysis, it is in this part that the feedback of the stakeholders will be analyzed. The answers of these interviews will be subjected to a content analysis, in which the answers given by the stakeholders to each question will be catalogued in different categories of answer. From that cataloging, it will be presented a quantitative analysis by the frequency of said answers by category.

As questions 1 and 2 were merely contextual, these will not be analyzed in detail. As mentioned before, 4 of the interviewed stakeholders are public entities and the remaining 5 are private entities. On the duration of the activities regarding the Port, some entities have been related to it since its genesis as an industrial gateway in the 1970s, and others only recently, when installed in the industrial complex.

About question 3, the set of answers can be distributed by the following categories:

Question	Categories	Number of Answers
Which are the priorities of this entity regarding the activities related to the Port of Sines?	Quality of Service and Efficiency	2
	Infrastructure Management	2
	Institutional Relations	2
	N/A	3

About question 4, the set of answers can be distributed by the following categories:

Question	Categories	Number of Answers
How does this entity contribute to the economic growth and development of the region?	By its operations	3
	Job creation	3
	Regional Initiatives	2
	Attracting Investment	2
	N/A	1

About question 5, the set of answers can be distributed by the following categories:

Question	Categories	Number of Answers
Which part of this contribute is related with Port of Sines?	The totality	3
	Through third parties	1
	Institutional Relations	2
	N/A	3



About question 6, the set of answers can be distributed by the following categories:

**The investments that will be executed within the scope of the Port of Sines will affect your entity in which way?**

Question	Categories	Number of Answers
a. Expansion of the container terminal	No impact	2
	Economic impact	3
	Impact on population	1
	Impact on environment	1
	N/A	2

**The investments that will be executed within the scope of the Port of Sines will affect your entity in which way?**

Question	Categories	Number of Answers
b. Construction of roads and railways	No impact	2
	Economic impact	5
	Impact on population	0
	Impact on environment	0
	N/A	2

In questions 7, 8 and 9 the answers are presented by topics, in order to reflect the different points of view of the stakeholders:

Question 7 - In which fields do you consider that Port of Sines has a larger potential of growth?

- Its natural geographic conditions (as a deep water port)
- Creation of a logistics complex
- Developing the existing industrial zone

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- The construction of other container terminal (Terminal Vasco da Gama)
- The Port of Sines as a main gateway to the European market

### Question 8 - And in which fields may have vulnerabilities?

- The high dependency on the existing industries in the region in terms of moved cargo (e.g. when industries stop their activities for maintenance, the amount of moved cargo decreases, mainly in the liquid bulk type)
- Delays in the construction of the railway may detract potential investors in the region
- Competition from other ports
- Lack of capacity to attract maritime traffic
- The fragility of the Portuguese economy
- A lack of adjustment in terms of human resources for potential alternative industries that install their activities in the region
- Lack of competition between shipping agents

### Question 9 - Which are the factors that you consider as most important for attracting maritime traffic to the Port of Sines?

- Creating a logistic hub in the region
- A larger capacity for cargo
- Increasing competitiveness in order to obtain a bigger quota in the market
- Attracting investors
- The railway connection to Spain
- Its geographic location and natural conditions
- A healthy relationship between all the Port stakeholders
- Strategic navigation lines that connect to worldwide ports
- Competitive sea freights
- Attractive port tariffs

## **Discussion**

In this part the results of the enquiries analyzed in the previous chapter will be confronted with the literature review in order to assess in which dimensions these perspectives have more in common or more discrepancies.

The first inference retrieved from this comparison, is that stakeholders value location factors as main advantages of the port of Sines, such as its geographic location and natural conditions (as a deep water port) and the capacity to receive new industries.

These “land endowments” can be interpreted as determinants factors for location, using Dunning’s OLI paradigm, in which natural conditions can be a determinant when choosing to locate investment. Assunção et al. (2011) note that there is a lack of studies about factor endowments, such as natural resources, in spite of its relevance for the decision to invest.

### Railway connection to Spain

The connection to Spain through railway was a much discussed topic in the interviews; several stakeholders recognize its importance and its advantages in terms of savings in time and costs. This is a factor of attraction for maritime traffic for containers, as Veldman (2011) concluded: the Inland Costs (transportation costs inland, by road or rail) (although not significantly) are more important when choosing a port than Maritime Costs. Thus, port choice is more sensitive for variations in Inland Costs than for Maritime Costs.

This also an attractive factor for market-seeking type of investments, in a way that this railway connection will allow a larger range of the port hinterland and a more easy access to the Spanish market, besides the Portuguese.

In spite of the previous information, Moreira (2013), asserts that the railway connection to the Spanish market (mainly the Madrid region) is not decisive to surpass the competitors, due to its still larger distance than the Spanish counterparts. There is also an overlap of hinterlands, making it a difficult task to absorb and capacitate exports in the comfort zones of the competitors. It is the recommendation of this author that the planning of this railway should be made in order to reach new exporting markets through production, using several advantages in the Alentejo region.

### Competition with other ports

The container terminal has given a major contribute for the growth of the Port of Sines and although has the most records in cargo movement, it is also the port with a larger competition, mainly by the Spanish ports such as “*Barcelona, Valencia, Algeciras, Las Palmas and specially Cadiz since both Cadiz and Sines compete for the same hinterland*” (Costa, 2014) and Moroccan ports (such as Tanger-Med).

It was noted by some stakeholders that this was one of the main threats to the continuous growth of Sines container terminal. There were some proposals for increasing the port competitiveness in terms of maritime costs (also referenced by Veldman) such as competitive sea freights and attractive port tariffs.

### Installation of a logistics hub

A recurrent theme was also present in some interviews: the need to install a logistics hub in the region. The participants justified this choice of industry with the need to capture maritime traffic and to be possible to develop the hinterland. Most of Sines Port traffic is composed by transshipment (80% of total activity), which means that there is not much added value for goods, when passing by this port.

For instance, by installing companies that assemble products in the region, it creates economic value for it, developing a relation between increasing returns, transport costs and factor mobility of human capital, citing Krugman’s Core-periphery model.

The existing ZILS is an example of economy of agglomeration, where several industries are concentrated and there are synergies between their activities, which can benefit new companies that can be able to install their production in the region (such as share of knowledge and other spillovers). This zone is largest in the Iberian Peninsula (2.375 ha) and is directed for industrial, logistical and services activities.

### Expansion of container terminal

Besides the construction of a railway, the infrastructure of the port itself will be changed on the years to come. An expansion of the containers terminal (Terminal XXI), to a 1350m quay and increased capacity to 2.500.000 TEU per year is already approved and there is also projected a second container terminal, on the south side of Terminal XXI (Terminal Vasco da Gama) (Palma-Ferreira, J.F, 2015) (Transportes em Revista, 2015).

The interviewees recognize its importance, with some impacts not only on the economic perspective but also on the environmental and population perspectives (impacting in the biodiversity and the tides of that zone and the job creation that will attract more labor force).

This opportunity to increase the size of the port is viewed as a determinant factor when choosing a port: J.I. Castillo-Manzano et al. (2013) proceeded to an econometric analysis of the variables that contribute for capture of hinterland traffic. The authors assert that *“Traffic capture is closely linked to the particular features of each port, such as its location (LATITUDE, LONGITUDE and MARITIME ROUTES) or its own particular dynamics. (...) Although there does not seem to be a relationship between the dynamics of hinterland traffic and other traffic (OT), the overall size of the port (SIZE) is relevant.”*

Thus, by increasing the capacity, and consequently, the size of the port, one can assess that this is an important step to capture more hinterland traffic for the region.

### Human capital

There was a reference at the possibility of existing a lack of adjustment in terms of human resources for potential alternative industries that install their activities in the region.

Although there are several technical schools (ATEC and ETLA – Escola Tecnológica do Litoral Alentejano) that provide training adjusted to the needs of the industry present in the region, with the installation of new companies, these molds must be reviewed in order to prepare the workforce for the future.

This can be an opportunity to develop the skills of the local workforce and attract new people to the region. Besides these advantages, it is also an opportunity to create conditions for R&D, in a partnership with higher education institutions.

### Port Stakeholders

There was a reference to a healthy relationship between the stakeholders of the Port of Sines. This is corroborated by Ng (2013), asserting that *“there is a need for ports to move away from emphasizing technical efficiency of individual ports to regional competitiveness of port clusters. Thus, port authorities, terminal operators and other port stakeholders should explore collaborative, complementary opportunities that could be capitalized”*. There is already an effort in strengthening these relations through an initiative in Sines: CPSI – Comunidade Portuária de Sines. Since 2011, it has reunited several local players and has held annual conferences discussing the future for the port.

### EIDTAL

Analyzing the answers of the stakeholders and comparing them to the initiatives presented on EIDTAL, there is a confluence between the strategy designed to reinforce regional development and the views of the several interviewees.

### Panama Channel

Besides the themes related to interview guide, there was also the opportunity to obtain feedback of some stakeholders about the opening of the expanded Panama Channel<sup>1</sup>. This was a recurrent theme regarding the future of the Port of Sines, because of its location (geographically closer to Panama, when crossing the Atlantic Ocean) and its capability to receive Post-Panamax ships due to its natural advantages as deep-water port.

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<sup>1</sup> The new extended Panama Channel opened on June 26, 2016

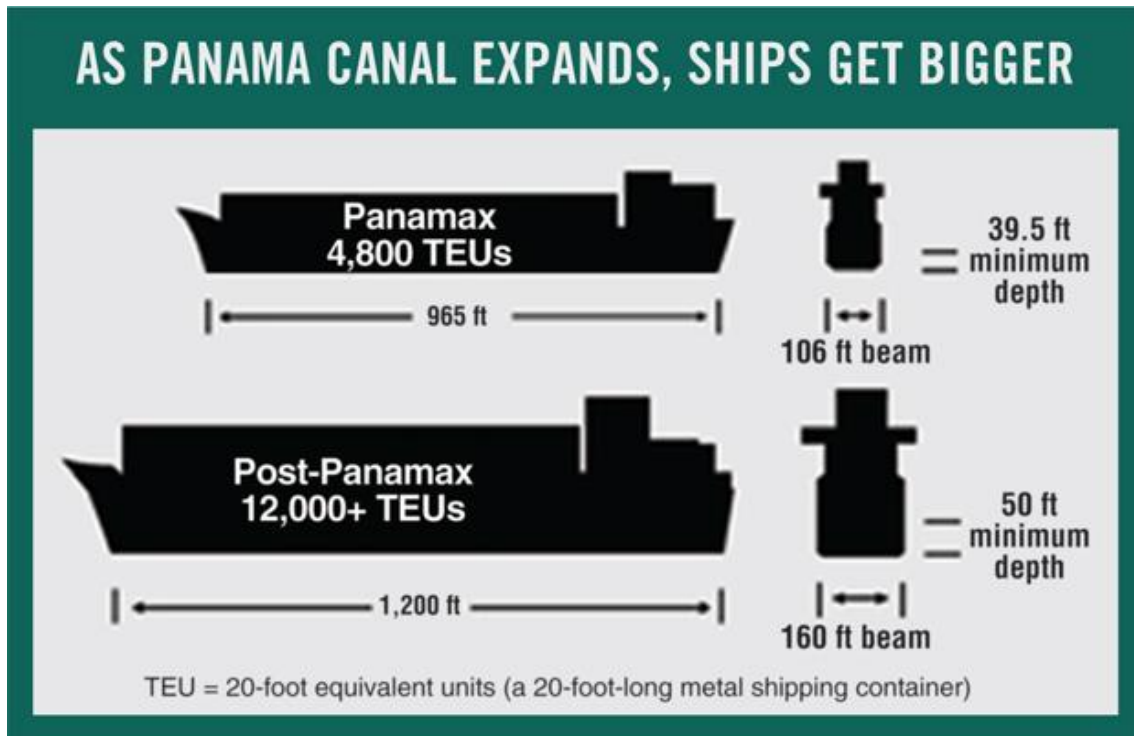


Figure 15: Comparison between Panamax and Post-Panamax ships (Source: Business Facilities Magazine, 2013)

Three stakeholders referred this subject in the interviews. All recognized the positive effect of more traffic in Port of Sines in the future. In spite of this opinion, two also stated that this would not have a large effect in the growth of traffic.

According to Moreira (2012), the possible growth is conditioned by the proximity to the Algeiras Port, which functions as a main piece in the interlining service and may capture a large part of maritime traffic coming from the Panama Channel. The author also states that if conditions are created, Sines can be a main player in the global beltway (crossing traffic from east-west and north-south).

João Franco, president of APS stated that with this expansion, an annual increase of 200 ships is expected in terms of traffic. (Stoffel, L & Relvas R., 2016)

### Comparison with theoretical background

Following the discussion of these cases and responses of the stakeholders, it is also important to frame them in the theoretical background of FDI determinants.

#### - Political and Economic Stability

In this dimension, there were some references towards some of possible setbacks that could condition the growth of the economic activity, such as the fragility of the Portuguese economy or the high dependency on the existing industries in the region in terms of moved cargo. The first factor has a systemic nature as the second one has a local impact.

These are risks to consider because Portugal has just recently finished the Financial Assistance Programme which has been active since 2011 and conditioned the national economic activity. The second factor is related to the dependence of the cargo movement in terms of moved cargo, mainly the fuels for the industry present in the area. When some of these industries stop their activity for maintenance, there is a decrease in moved cargo in the port, which may destabilize, at least, the economic activity of the region.

#### - Infrastructure

Concerning infrastructure, the two main points in which Sines may benefit more is the increase of capacity by expanding the container terminal and improve its connection to other markets through a new railway.

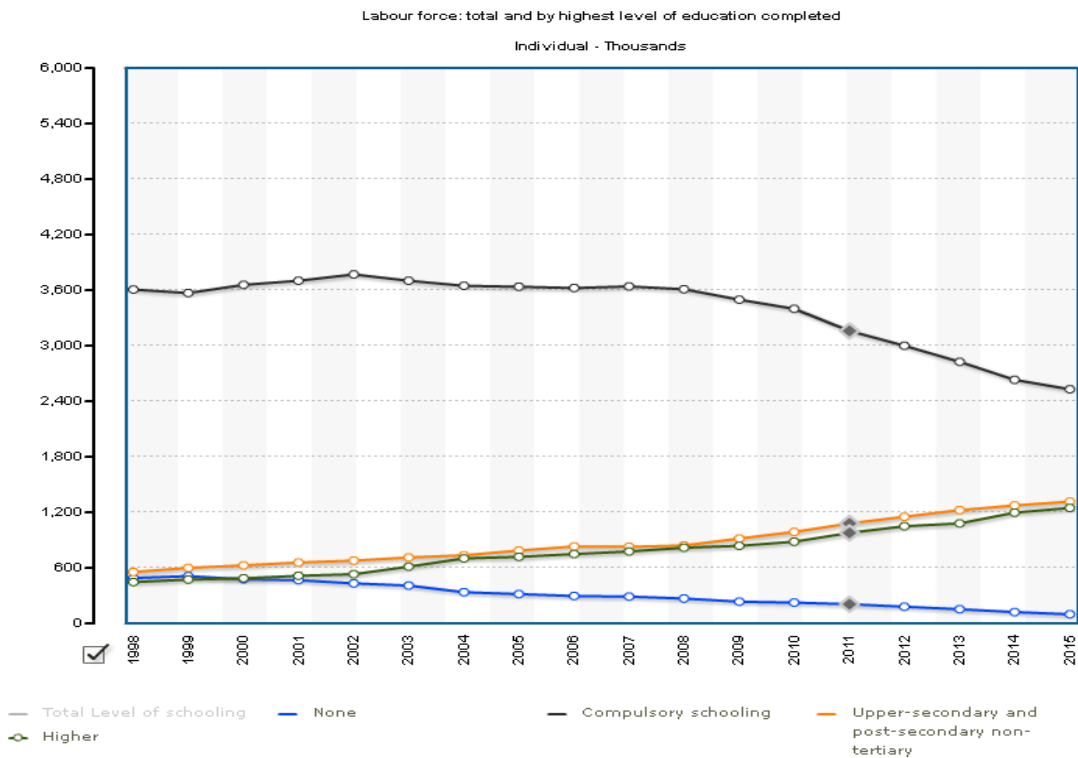
For instance, Fung, Iizaka, Lin and Siu (2002) consider as one of the determinants for attracting FDI the number of KM of roads and railways in a study about location choice of Hong Kong and U.S. direct investment in China. Also, a study developed by Castro (2007) references that the variable KM of paved road per capita is one of the most important proxies for infrastructure where an increase of 10% on km per capita leads to an increase of 17% to 33% in FDI on the host region. As referenced before, Veldman et al. (2011) remark the relevance of the size of the port, as one the determinants of choice in the containers market.



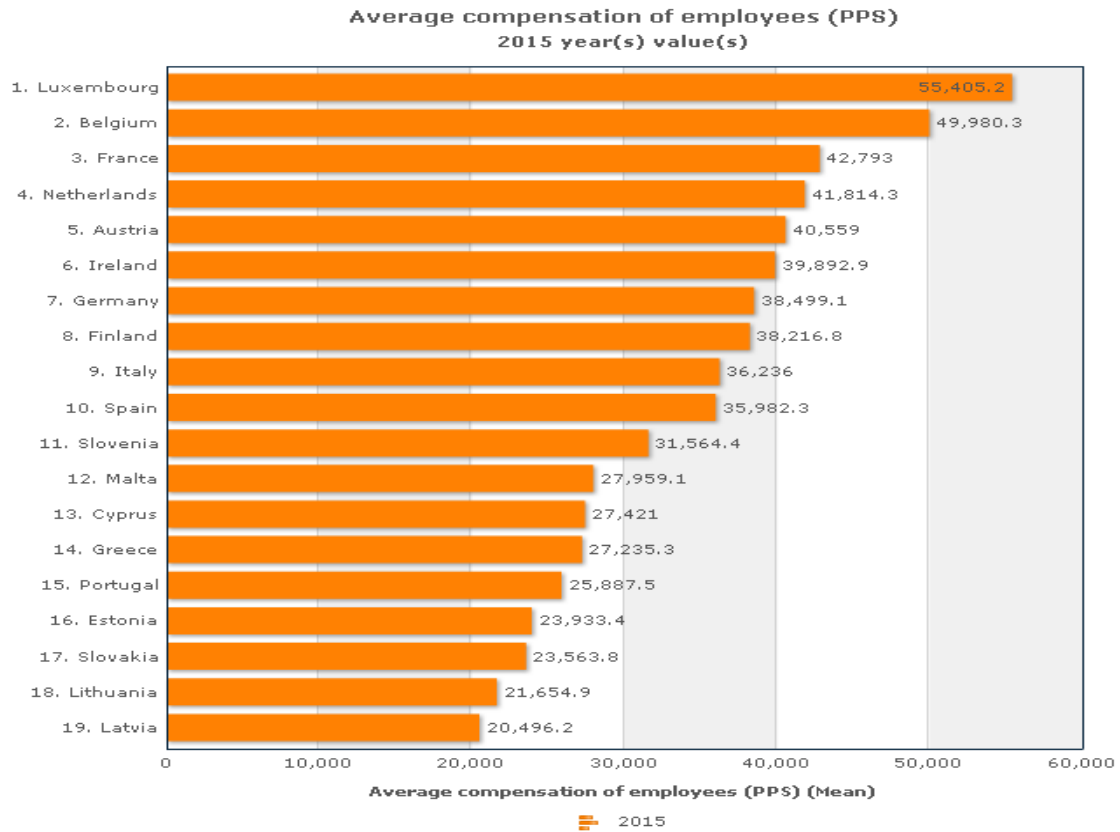
- Access to markets

Sines is in a privileged position, in geographic terms, and it can be seen as an Atlantic gateway for Europe and its Common Market. For countries outside the Euro zone, this can be an opportunity to invest in a region which is served in terms of infrastructures (assuming the investments referenced before) to enter the Iberian market, on a first step and then move throughout the European market.

Costa (2014) concluded that in the case of a market seeking investment, Portugal is a good choice because of its infrastructure near the deep water port, rail network, and low costs and high qualifications of the labor factor, as graphs 2 and 3 show:



Graph 2: The evolution of the qualified labor force 1998-2015 (Source: PORDATA, INE)



Graph 3: The Portuguese average wages in 15<sup>th</sup> place among the Euro countries (Source: Eurostat)

Comparing with the responses of the stakeholders, it is possible to frame the creation of a logistics hub as an action to increase market seeking investors.

Severiano (2011) did an econometric analysis of FDI in Portugal (1980-2009) determinants on a sector approach and concluded that only the manufacturing sector exhibits agglomeration economies. Taking the case of ZILS and its predominant manufacturing industry, it is clear that a logistics hub would be an interesting addition to the industrial conglomerate in the region.

- Financial / Economic Incentives

It was mentioned by some stakeholders the need to attract new investments to this region was a point to improve on.

One example that was mentioned in the interviews was the concession of fiscal incentives, mainly on the local scope (but also at a national level), that could increase the willingness to invest.

As Costa (2014) mentioned, according to AICEP Global Parques (the company that manages ZILS), Sines usually is perceived as one of the best places to invest but in the end loses to other competitors due to higher economic and financial incentives.

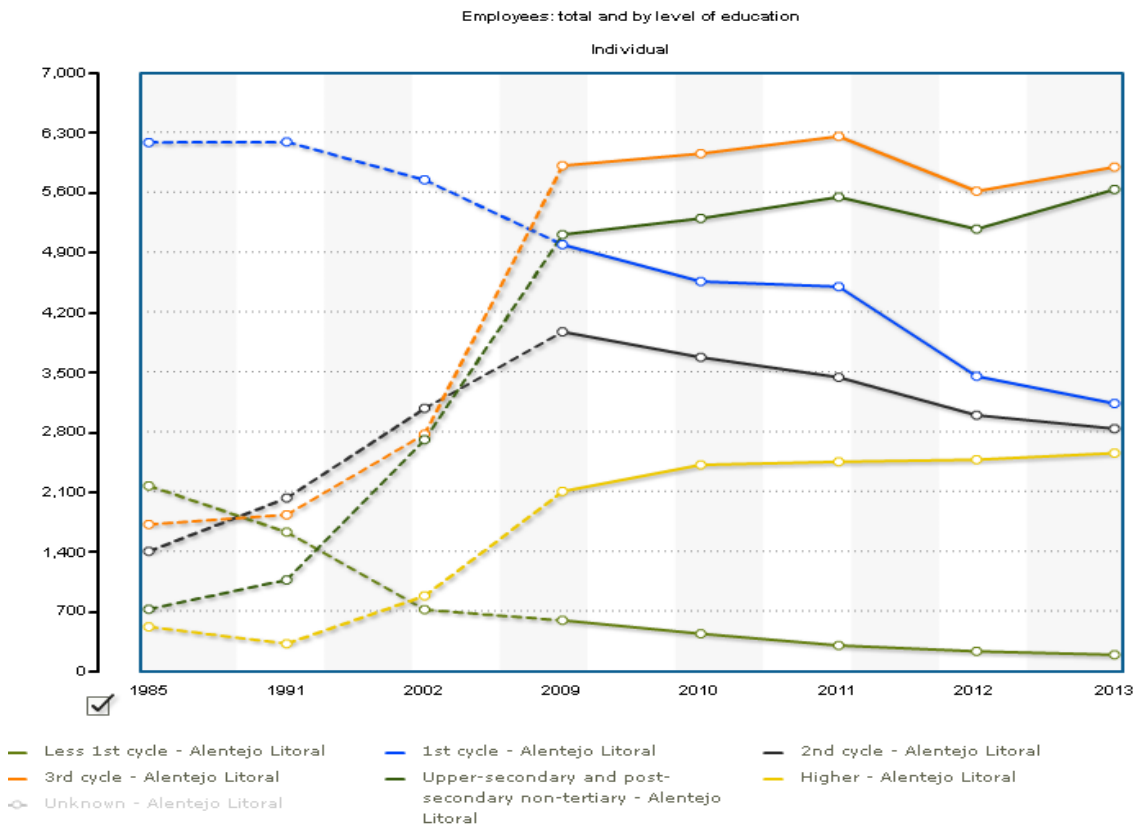
The same author purposes that Portuguese Government should try to lower taxes in order to increase the competitiveness of the cluster of sines versus the Eastern Europe clusters.

Bellak and Leibrecht (2009) also agree that countries with a lower tax rate attract more FDI. However, authors enhance that the relative importance of the corporate tax rate must not be overemphasized as their results reveal that during the period 1995 to 2003 the tax burden had no exceptional influence on FDI when compared to other determinants. Thus a simple decrease of taxation may not be enough to attract FDI.

- Human Capital

Brooks et al. (2010) assert that human capital is found to be a relevant determinant, basically in skilled labor intensive sectors where the level of education improves productivity and facilitates technological innovation.

Graph 4 shows the evolution of the employed population by qualification level. In the last years, there has been a significant increase in the 3<sup>rd</sup> cycle and upper secondary levels, being part of it contributed by the technical schools installed in the region. The number of employees with higher education has been growing steadily in the last years.



Graph 4: Education level of employees in Alentejo Litoral

One of the topics regarding this theme was referenced by one of the stakeholders regarding a necessity of adjusting the competences of local workers for new opportunities that may appear from new investors. This can be done by adjusting the courses to the demands of the surrounding industries and in an effort to attract more workers with higher qualification skills, to create spaces where R&D can be developed in partnership with higher education entities.

These two factors (labor and investigation) have are impacted by the type of FDI inflow, as Costa (2014) asserts: *“Each type of FDI has its own impact on regional growth, for instance, Vertical FDI increases local labor demand and Horizontal FDI enhance spillovers effects when compared with Vertical FDI since is more knowledge based.”*

## Conclusions

Sines is an interesting case study regarding the potential of a port in the context of a small open economy like the Portuguese case. It makes an important contribution for the national economy and its activities already reflecting 53, 3% of total cargo movements in 2016 are a proof of it.

In spite of this growth, there is room for improvement in several areas, and these economic benefits can also be reflected in the development of the region.

There were significant academic works addressing this theme from Moreira (2012) and Costa (2014) and provided profound analysis about the factors that influence this potential. One of the purposes of this project was to detect where this room for improvement existed, through the perspective of stakeholders that are directly and indirectly involved in the activities of the port.

From the previous discussion, it is possible to assess that many of the results of the interviews show that the perceptions of stakeholders about the development of the port region are concentrated in three main pillars:

- 4) Development of infrastructures (Railway to Spain; expansion of the container terminal; more road connections)
- 5) Attracting Investors (Creation of a logistics hub; increase competitiveness in order to attract more maritime traffic)
- 6) Development of supporting activities to the port (Stakeholder management; new training facilities; development of R&D)

In order to overcome the challenges of an ever increasing competition in a global economy, it is important to take advantage of the existent conditions and to create new ones, when necessary, in order to be successful. These guidelines can serve as a way to make the Port of Sines an important player in the maritime global market.

On a final and personal note, this was a very rewarding project to work on, not only because of the personal connection to Sines and its region, but also due to opportunity to

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experiment a different approach and contact directly with some of the Port stakeholders and understand their views.

This work allowed to explore a different perspective of this subject and to contribute for its deeper understanding.

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**Annex 1**

List of FDI location determinants:

<b>General Policy framework</b>	<ul style="list-style-type: none"> <li>▪ Economic and social stability</li> <li>▪ Good Governance</li> <li>▪ Policies functioning and structure of markets</li> <li>▪ Private property protection</li> <li>▪ Industrial and regional policies; development of competitive clusters</li> <li>▪ Trade policy and stable exchange rates</li> </ul>
<b>Policies specific to FDI</b>	<ul style="list-style-type: none"> <li>- Bilateral international investment agreements ( IIAs)</li> <li>- Investments incentives</li> <li>- Social amenities</li> </ul>

<b>Economic determinants by type of investment</b>	
<b>Market seeking</b>	<ul style="list-style-type: none"> <li>• Markets size and income per capita</li> <li>• Market Growth</li> <li>• Country- specific consumer preferences</li> <li>• Structure of markets</li> <li>• Physic distance</li> <li>• Access to regional and global markets</li> </ul>
<b>Natural resources seeking</b>	<ul style="list-style-type: none"> <li>• Land and building costs</li> <li>• Cost of raw materials, components and parts</li> <li>• Low-cost unskilled labour</li> <li>• Availability and cost of skilled labor</li> </ul>
<b>Efficiency seeking</b>	<ul style="list-style-type: none"> <li>• Cost of resources and capabilities listed on Natural resources seeking investment adjusted for productivity and labor inputs</li> <li>• Other input costs (transports and communication costs from and within host economy)</li> <li>• Membership of a regional integration agreement</li> <li>• Quality of market facilitating institutions</li> </ul>
<b>Asset seeking investments</b>	<ul style="list-style-type: none"> <li>• Competition policy</li> <li>• Technological, managerial, relational and other created assets</li> <li>• Physical infrastructures</li> <li>• Macro-innovatory, entrepreneurial and educational capacity/environment</li> </ul>

Source: Costa (2014), adapted from Dunning and Lundan (2008)

## **Annex 2**

### **Interview Guide**

**In the framework of the project masters' thesis "How can the Port of Sines contribute for Sines' economic growth and posterior regional development?", developed in ISCTE Business School these questions are intended to inquire the perceptions of several stakeholders of the Port of Sines regarding the region's economic growth and how it can be amplified in order to benefit it.**

#### **Entity:**

#### **Activities:**

- 1- What is the intervention of this entity in the activities of the Port of Sines?
- 2- Since when does this intervention exist?
- 3- Which are the priorities of this entity regarding the activities related to the Port of Sines?
- 4- How does this entity contribute to the economic growth and development of the region?
- 5- Which part of this contribute is related with Port of Sines?
- 6- The investments that will be executed within the scope of the Port of Sines will affect your entity in which way?
  - a. Expansion of the container terminal
  - b. Construction of roads and railways
- 7- In which fields do you consider that Port of Sines has a larger potential of growth?
- 8- And in which fields may have vulnerabilities?
- 9- Which are the factors that you consider as most important for attracting maritime traffic to the Port of Sines?