International Strategy

Foreign Direct Investment Opportunities for German Firms in Portugal

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Finally, I dedicate my thesis to my Grandmother, for her strength and courage.

Abstract

This dissertation's purpose is to study the attractiveness of the Portuguese automobile industry as a destination for Foreign Direct Investment (FDI), particularly of German companies. In order to analyze this, both the perspective of the Portuguese authorities and of German companies already operating in Portugal were considered and interviews were conducted to representatives of these German companies, who shared their experience and perspective on this matter.

The results suggest that the automobile sector in Portugal is one of the most dynamic and innovative in the national economy, having a significant contribution in the GDP and export level. Further, it's the most appellative sector to German FDI in Portugal.

From the interviews we can also conclude, that Portugal gathers all the necessary conditions to be a successful FDI destination, in terms of physical, technological and human resources. However, this fact has not been adequately promoted. Some measures and reforms must be taken at an industry and national level in order to restore the trust of foreign investors in the Portuguese economy and to improve the level of FDI in Portugal.

Sumário Executivo

A finalidade deste trabalho é estudar a atractividade da indústria automobilística portuguesa como um destino para o Investimento Directo Estrangeiro (IDE), em particular de empresas alemãs. De forma a analisar esta questão, serão consideradas tanto a perspectiva das autoridades portuguesas como das empresas alemãs que já operam em Portugal, tendo sido realizadas entrevistas com representantes de tais empresas alemãs, os quais partilharam a sua experiência e perspectiva sobre o tema.

Os resultados sugerem que o sector automóvel em Portugal é um dos mais dinâmicos e inovadores na economia nacional, tendo uma contribuição significativa no nível do PIB e das exportações. Além disso, trata-se do sector mais apelativo para o investimento alemão em Portugal.

A partir das entrevistas também podemos concluir que Portugal reúne todas as condições necessárias para ser um destino de IDE bem-sucedido, em termos de recursos físicos, tecnológicos e humanos. No entanto, este facto não tem sido adequadamente promovido. Algumas medidas e reformas terão de ser tomadas, tanto a nível da indústria como a nível nacional, com o fim de restaurar a confiança dos investidores estrangeiros na economia portuguesa e melhorar o nível de IDE em Portugal.

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I. Introduction

The purpose of this work is to study the attractiveness of the Portuguese automobile industry[1] as a destination for Foreign Direct Investment (FDI) of German companies.

In this sense, I'll analyze both, the perspective of the Portuguese authorities and of the German companies already operating in Portugal, in order to identify the main challenges and opportunities of this industry.

The aim is to understand how German companies perceive Portugal as a destination of FDI, and therefore, I'll analyse the specific drivers of German investment in the past, gaining insights of the entry and expansion modes of German firms in Portugal and focusing on the accessibility and quality of the Portuguese resources.

Interviews were conducted to representatives of German firms operating in the Portuguese automobile industry, who shared their perspective on the matter under study. The interviews conducted to the companies intended to analyze four main aspects of the Portuguese automobile industry, in terms of its attractiveness to the investment of German firms. These aspects are factor conditions, demand conditions, related supporting industries and firm strategy, structure and rivalry[2].

The added value of this work lies in the ability to analyze the underlying reasons for the investment of German firms in Portugal, this entailing the study of the competitive advantages of the Portuguese nation. From this analysis, we'll conclude that there must be a better articulation of the several capabilities of the automobile sector in Portugal in order to improve its attractiveness as a potential destination of FDI. And, in the end, we'll extract a set of major lines of action that should be considered by the authorities when positioning the country as a destination of FDI and when defining their strategy plan for growth and sustainability of the Portuguese automotive sector.

This dissertation is organized in four main chapters. Firstly, the Literature Review provides a brief overview of the evolution of theories regarding the competitiveness of nations, namely the variables associated with it. Secondly, the

[1] In this work, we'll consider the production of vehicles and their parts and accessories, this including components, such as industrial motors, electrical devices, seats, tires and many others.

[2] According to *Porter's Diamond of National Advantage* (Porter, 1990).

Methodology chapter describes the research methodology of this study, the instruments employed to gather the required data and the procedures used to analyze it. Thirdly, the Data Analysis chapter presents the data collected and its comprehensive analysis. Still in this chapter we can find the recommendations to each aspect under analysis. Finally, the Conclusion chapter entails a brief summary of the most important conclusions and suggestions drawn from the data analysis.

II. Literature Review

1. The Performance of Firms and the Competitiveness of Nations

The linkage between the performance of firms and the competitiveness of nations has had limited coverage in existing literature. There have been many theories that tried to answer the question of why some firms have a persistently higher performance than its competitors and of why do countries achiever better standards of living, but no consensus has been reached as of yet (Silva, et al., 2012).

However, few authors have tried to understand if the variables associated with the competitiveness of nations influence the performance of firms in their countries of origin. It is, therefore, key to present a clear vision of the evolution of these theories and how they evolved taking into consideration the effects of globalization in their nations.

2. International Competitiveness of Countries

2.1. Classical Theory

The classical theory explains the success of some nations' particular industries as a result of the so-called factors of production such as land, labour, and natural resources. In addition, according to the conventional economic thinking, governmental protection, subsidies, import taxations and targeting can also be positive factors in the performance of a nation (Porter, 1990).

The first attempt to explain why countries engage freely in international trade had its origin in 1876 with Adam Smith's theory of absolute advantage. According to this theory, a country can enhance its prosperity if it specializes in producing and

exporting goods and services in which it has an absolute cost advantage over other countries. On the contrary, it will import those goods and services in which it has an absolute cost disadvantage. This way, each nation benefits from specializing in the production of products and services that it does at a lower cost, achieving a better allocation of resources and an increase in global production. The theory of absolute advantage became a paradox, however, in the sense that a country that had an absolute advantage in all products or services it produced would not import because it could produce more efficiently, being therefore excluded from the gains of international trade. It was this paradox that gave rise to David Ricardo's theory of comparative advantage. According to this theory, a country will have a comparative cost advantage in the production of those goods and services that can be produced at a lower opportunity cost (Ricardo, 1817). In other words, a country must specialize in those products that it can produce relatively more efficiently than other countries.

This implies that a country with absolute cost advantages in all its products will specialize and export those products where the absolute advantage is the largest, and will still import products where it has the smallest absolute advantages.

Later, the Heckscher-Ohlin theory tried to explain the sources of comparative advantage differences between countries. According to this theory, countries differ with respect to their factor intensities, namely the labour and capital that are used in the production of goods and services. On the one hand, a country specializes and exports goods whose production employs a greater quantity of its relatively abundant factor, as it is cheaper. On the other hand, a country imports goods whose production requires more of a scarce factor, which is consequently more expensive (Ohlin, 1933).

2.2. Industry and Resource-Based Perspectives

Already in the 20th century, many authors continued to analyse the sources of firm performance, studying it under two perspectives: the industry perspective and the resource-based perspective.

A first approach considered that the structure of an industry conditions the outcome of firms in terms of performance and that if a firm is able to achieve higher profits than its competitors for a certain period of time, then it has a sustainable competitive advantage. This approach became known as Mason's *Structure, Conduct and Performance* (SCP) paradigm (Mason, 1939).

A resource-based approach (Cardeal, 2014) explained that firms that have higher operational efficiencies are able to improve their performance and achieve higher profits, as concluded by Penrose, in 1959, and Wernerfelt, in 1984, (Silva, et al., 2012).

The contrast of these two points of view promoted the development of an empirical line of research, which aimed to decompose the sources of variations in the performance of companies in components associated with the industry, the firm, the time and the corporation effects (McGahan & Porter, 1997).

More recently, this line of research has included the effect of the location of firms in terms of country of origin, although the introduction of the country variable in studies of industrial performance had its roots in Smith, in 1776.

Thus the National Diamond of Competitiveness model was developed (Porter, 1990) with the aim of explaining what factors influence the competitiveness of nations in specific industries. Although there is controversy about its definition, the competitiveness of nations is stated to be determined by a set of social, cultural and economic variables that influence the ability of a country to create and maintain an environment propitious to the creation of value of its companies (Porter, 1990).

2.3. Porter's Theory of National Competitive Advantage

Porter's work opposes the traditional theory where it considers the importance of labour costs, interest rates, exchanges rates and economies of scale as determinant of national competitive advantages. According to him, "*national prosperity is created, not inherited*" (Porter, 1990, p. 73).

Porter also diverts from traditional economic thinking with his dynamic view regarding the competitive development of a country, emphasizing the importance of competition or 'rivalry'. In addition, he disagrees with the perspective that governmental protection, subsidies, import taxations and targeting can be positive factors in national performance. Porter advocates the exact opposite, stating that "*managed trade guarantees a market for inefficient companies.*" (Porter, 1990, p. 89). In spite of this, and as a consequence of globalization, companies are pressing for more government support for particular industries. Furthermore, there is a growing trend from governments to develop and implement various policies intended to promote national competitiveness (Porter, 1990).

The Competitive Advantage of Nations, from Porter, shifted the focus of attention from the performance of the firm to the performance of the nation. He states that a nation's competitiveness depends on the capacity of its industry to innovate and upgrade. Companies gain advantage against the best competitors worldwide, because of pressure and challenge. They benefit from having strong domestic rivals, aggressive home-based suppliers and a demanding local customer base.

"*In a world of increasingly global competition, nations have become more, not less, important.*" (Porter, 1990, p. 73). The differences in national values, culture, economic structures, institutions and histories contribute to the competitive success of nations and their firms. "*Ultimately, nations succeed, in particular, industries because their home environment is the most forward-looking, dynamic, and challenging*" (Porter, 1990, p. 73).

2.3.1. Porter's Diamond of National Competitiveness

Porter (1990) developed a four-year study of patterns of competitive success in ten leading trading countries.

According to him, the environment of some nations was more stimulating for the progress of certain industries. Thus, he identified four attributes present in the national environment that explain that certain sectors of the economy of a country present better conditions for prosperity and influence a firm's ability to establish and sustain competitive advantages within international markets, which in turn leads to the improvement of the quality of life and the increase of the wealth of nations.

The four sets of variables of the diamond constitute a system, since all the elements interact and have the power to influence the improvement in all the other determinants (Porter, 1990). The four characteristics that determine the strengths and weaknesses of countries are the following:

Factor Conditions

The existence of resources is of utmost importance, and Porter highlights the analysis of the characteristics of the production of factors, the processes by which they are created, and their relationship to firms' competitiveness. He recognizes a hierarchy among the factors, distinguishing between 'basic factors' (e.g. natural resources,

climate, location, demographics) and 'advanced factors' (e.g. communications infrastructure, sophisticated skills, research facilities). The 'advanced factors' are the most significant for competitive advantage, since they extend and reinforce the initial advantages provided by the 'basic factors' – these provide the minimum conditions under which a sustainable competitive advantage might be created. As a consequence, the 'advanced factors' tend to be specialized, which is beneficial for the success of industries (Porter, 1990).

Demand Conditions

The home demand of a nation, and in particular a demanding local market, provides an impulse for upgrading its competitive advantages.

Since the firms tend to be more sensitive to the needs of their closest customers, the characteristics of home demand are particularly important in shaping the differentiation attributes of domestically-made products and in creating pressures for innovation and quality. Porter emphasises the role of sophisticated and demanding domestic customers, since they are a source of pressure for companies to innovate continuously and to upgrade to more sophisticated competitive advantages than their foreign rivals.

Related and supporting industries

The presence in the nation of related and supporting industries that are internationally competitive is beneficial for firms in achieving competitive advantages. A relevant example is an improved information flow, based on close working relationships and the technical interchange, that tends to accelerate the rate of innovation and upgrading.

Firm strategy, structure and rivalry

Porter emphasizes that a business environment investing in innovation is of most importance for a nation. According to his idea of dynamic improvement, Porter defends that the domestic rivalry *"creates pressure on companies to innovate and improve*" (Porter, 1990, p. 85). The local competitors push each other to minimize their costs, to improve their quality and service and to innovate in terms of products and processes. In

addition, domestic rivalry pressures companies to constantly upgrade their sources of competitive advantage, ensuring its sustainability.

2.4. Recent Theories

The research on the drivers of companies' performance has continued throughout the last century. Some authors have defended that companies' top management strategy should be to seek the improvement of organizational performance (Venkatraman & Ramanujam, 1986), with the goal of obtaining a competitive advantage, expressed through a superior performance in comparison to the competitors (Porter, 1985), (Barney, 1996). However, the concept of organizational performance is complex and when the interests of stakeholders are considered, we enter the field of organizational effectiveness (Venkatraman & Ramanujam, 1986), which, although potentially useful, is difficult to operationalize since the performance criteria of each stakeholder is different and may even be contradictory (Barney, 1996).

For this reason, most research on strategy relies on models that are result oriented, focusing on financial measures (Venkatraman & Ramanujam, 1986) that represent the search for wealth maximization for its shareholders. To fill some of these gaps, some financial market measures were developed, which compare the actual and the expected performance of the companies (Barney, 1996).

Among the most widespread market measures is Tobin's Q, defined as the ratio between the market value of a company and the value of the replacement of its assets (Silva, et al., 2012).

2.5. Today's Measures of Competitiveness

Efforts are currently underway to produce the most sophisticated models for measuring the nations' international competitiveness, and some have already been fully deployed. Relevant examples are some internally recognized organizations' competitiveness rankings, which have gained momentum and widespread utilization.

In order to perform an adequate and reliable competitiveness analysis, it is important that the concept of competitiveness is well conceived. The models that have historically been used to measure the competitiveness of countries are based in the competitiveness definition developed by Porter: *"Competitiveness is the aggregate*

expression of global characteristics - micro, meso and macro - that are specific for each national economy. Competitive advantages are a combination of corporate and sector-specific and general national characteristics."[3]

With the help of these competitiveness analyses, it is possible to determine standards of comparison between countries (Stevanović, 2011), making it feasible to evaluate national results in terms of competitiveness and providing the companies with accurate information about the countries' competitiveness in relation to others. Furthermore, it helps governments shape and develop their policies in order to attract foreign direct investment from international players.

There are two approaches that are followed when analyzing different international competitiveness indexes: the microeconomic and the macroeconomic. The first is based on Porter's (1990) theory of competitive advantages and focuses on the microeconomic factors of competitiveness, such as the quality of the microeconomic business environment, the sophistication of company business and strategy and the degree of cluster development. The latter is used in macroeconomic competitiveness indexes and analyzes the country's ability to achieve economic growth more rapidly than other countries, ensuring increases in wealth and quality of life.

Among the most sophisticated models for measuring countries' international competitiveness are those developed by the World Economic Forum (WEF), the Institute for Management Development and the World Bank, which have the ability to summarize a large amount of quantitative and qualitative data. According to many experts who deal with the influence and analysis of the competitiveness of economies and companies, such as Porter, Sala-I-Martin and others, the WEF stands out as the leading institution dealing with the topic of competitiveness, both on the macro and the micro levels, in the most comprehensive way (Stevanović, 2011). National competitiveness is defined by the World Economic Forum (2010) as *"a set of factors, policies and institutions that determine the level of a country's economic prosperity and productivity, with productivity increase being linked to better use of available factors and resources."*

[3] (Porter, 2008)

World Economic Forum reports are based on company surveys and the same format is used across the countries included in the survey. Based on the survey and additional secondary data, countries are ranked by their international competitiveness scores. The WEF bases its competitiveness analysis on the Global Competitiveness Index (GCI) that includes both micro and macroeconomic bases of national competitiveness. The GCI assumes that competitiveness is a complex phenomenon, influenced by many factors, such as infrastructure, macro stability, health, education, company sophistication and innovation, market efficiency, among others.

Organizations that produce rankings of competitiveness obtain information from a variety of sources such as the United Nations, the International Monetary Fund, the World Trade Organization and from universities, among others that consolidate the quantitative information and conduct qualitative research, assessing the business environment with experts in their countries. After collecting the data, the index construction is performed hierarchically and in several steps (Silva, et al., 2012).

3. Sustainability of a Competitive Advantage

According to Porter, the ultimate way to sustain a company's competitive advantage is to upgrade it, moving to more sophisticated industries. Sustained productivity growth requires that an economy continually upgrades itself. A nation's companies must relentlessly improve productivity in existing industries by raising product quality, adding desirable features, improving product technology or boosting production efficiency (Porter, 1990). They should develop the required capabilities to compete in more and more sophisticated industry segments where productivity is generally higher.

A different literary trend considers that a sustainable competitive advantage involves owning a unique feature that cannot be acquired or copied by competitors. In particular, one attribute that has the potential for conferring a competitive advantage is the product country image, also known as the country of origin effect, which was

defined by Roth and Romeo[4] as *"the overall perception consumers form of products from a particular country, based on their prior perceptions of the country's production and marketing strengths and weaknesses."*

Nowadays, as a consequence of the growing variability of products available, firms use the country of origin as a factor that adds value to their products and differentiates them by a specific positioning. And the country of origin effects may actually be positive whenever the country of origin of the product is, for instance, associated with the best technical standards for quality or innovation. This idea has become more present after some authors recognized that the country of origin of a product or service affects the consumers' perception of it. Even Johansson[5] wrote that country of origin data is part of the *"mental shortcut to decision making"*, thereby providing a summary of the attributes of the product. Consumers use this country of origin data as stereotypical information in making evaluations about a product (Baker & Ballington, 2002).

4. International Strategy

When analyzing the international strategy of companies, the key role of the nation is the 'home base' which it provides for the firm. The nation is viewed as a set of contextual variables that influences the competitiveness of firms. Since firms typically develop within a domestic context prior to expanding internationally, the 'home base' plays the important of shaping the firm's identity, determining the character of its top management, and its strategy as an organization. In addition it has a continuing influence in determining the availability and quality of the resources available to the firm (Grant, 1991).

A nation's industry can be considered to be internationally successful if it possesses a competitive advantage relative to the best worldwide competitors. Following Porter's theory, a measure of competitive advantage might be found in the *"presence of substantial and sustained exports to a wide array of other nations and/or*

[4] (Roth & Romeo, 1992, p. 480)
[5] (Johansson, 1989)

significant outbound foreign investment based on skills and assets created in the home country." (Porter, 1990, p. 74). Furthermore, a nation is considered to be the home base for a company if it is *"either a locally owned, indigenous enterprise or managed autonomously although owned by a foreign company or investors"* (Porter, 1990, p. 74).

The strategy of the top management of companies should focus on achieving a competitive advantage through acts of innovation. And here innovation is understood in a broad sense, including both new technologies and new processes, this involving an investment in skills and knowledge, as well as in physical assets and brand reputation. And once a company achieves a competitive advantage through innovation it can only sustain it through relentless improvement, in order to avoid the response of its competitors.

4.1. Different Challenges at Different Stages

In what concerns the national competitiveness strategy, it is important to consider the stage of economic development in which the nation finds itself, in order for it to define its strategic guidelines.

At the most basic level of economic development, a country's competitive advantage is determined by resources, such as low labour costs and access to natural resources. At this stage of development, the strategy of the nation should focus on attracting capital investment and investing the proceeds of economic growth into the wider determinants of the competitive development of a nation, particularly health, education and infrastructure.

At the next level, the "*investment-driven stage*", countries develop their competitive advantage by improving their efficiencies and developing increasingly sophisticated products. The national export strategy should concentrate on further improving the business environment through revisions in regulatory arrangements. And it should assist prospective exporting firms to extend their capabilities within the international value chain. While promotion of FDI should continue to be a strategic priority, there should be an increasingly focus on encouraging in-country business alliances.

At the final stage in the competitiveness process, the "*innovation-driven stage*", the countries' competitive advantage results from their ability to innovate and produce products and services at the forefront of global technology. Their strategy should

concentrate on technological diffusion and on establishing an increasingly efficient national environment for innovation (Kirchbach, 2003, pp. 6-7).

5. Research Question

The performance of firms depends on the characteristics of the industries to which they belong, but also on the location of their home countries, which have different institutional, cultural, political and economic environments. According to this view, good competitive conditions in those countries are also *ex ante* conditions for the performance of companies. The theories presented above indicate that companies should seek to expose themselves to a demanding environment, which leads to innovation through continuous improvement processes, allowing cost reduction or product differentiation in order to enhance the value offered to their buyers.

Porter's Diamond Model was a great contribution to confirm the relation between corporate performance and the nations' competitive advantages. And from his dynamic perspective of this subject, it is now clear that the processes of innovation should play a key role in enterprises, in order to keep away their competition and to achieve a sustainable competitive advantage.

In this sense, in this dissertation we'll study the key drivers that lead German companies to invest in Portugal and the impact of the Portuguese cultural, political and economic environments in their activities. The competitiveness factors of each nation become even more important in the automobile industry, when considered that the Portuguese units of German companies compete internally, mostly with the European units of their parent companies, to receive the production of a certain product. In the end this analysis we'll enable us to identify the determinants of FDI in Portugal.

III. Methodology

1. Case Study

The German investment in the Portuguese automobile industry began with the installation of vehicle producer factories in the country. Firstly, there was the construction of the Opel (General Motors group) factory, in Azambuja, in 1963. This

investment continued in the eighties with the arrival of Renault, in Cacia, in 1981, and Volkswagen, in Palmela, in 1991. These automobile producers built their plants from the root in our country. Volkswagen built an entire industrial park in Palmela, which became known as the Autoeuropa project. In the meantime, several multinational supplying companies of components established themselves in the same area. This geographic proximity allowed a consolidation of relations between the OEM's[6] and the supplying companies, a continuous share of knowledge and information and a better implementation of the J*ust-in-Time* policy[7].

As for the Opel factory, it closed in 2006, when its production was delocalised to Zaragoza, due to a loss of competitiveness concerned with the company's logistic costs. Renault does no longer produce vehicles in Portugal, since this activity was transferred to another unit in Eastern Europe, in 1997; however it continues to produce engines and gearboxes in Cacia.

In the nineties, many other German companies, producers of components for the automobile industry, established themselves in Portugal, more precisely in the Interior and North of the country. These companies were multinationals, but with a familiar structure. Today they're evolving to a professionalized management, due to their growth and internationalization. The majority of these investments were driven by the presence of Volkswagen in Portugal; however most of them are now autonomous from this OEM and export most of their output (Figure 1). Other reasons that explained the entrance of these companies in Portugal were the competitive cost of labour, the stability and its strategic geographical location, as a bridge to other continents.

Some examples of German companies operating in Portugal in this sector are: Bosch Car Multimedia Portugal, S.A.; Brose - Sistemas de Fechaduras para Automóveis, Unipessoal, Lda.; Continental Mabor - Indústria de Pneus, S.A.; Huf Portuguesa - Fábrica de Componentes para o Automóvel, Lda.; Isringhausen - Assentos, Lda.; Karmann Ghia de Portugal - Indústria de Confecção de Capas, Lda.; Mahle - Componentes de Motores, S.A.; Schmidt Light Metal - Fundição Injectada, Lda.; Webasto Portugal - Sistemas para Automóveis, Lda.; among others. These companies have a global presence, are market leaders in many of their products and supply top

[6] Original Equipment Manufacturer.
[7] Designation of the production system developed by Toyota.

OEM's. Many of the Portuguese units are currently the most competitive in their groups, in Europe and also surprisingly in China.

The Portuguese trade balance of motor vehicles, tractors, cycles and other land vehicles, parts, accessories and various components is favourable since 2011, after a sharp decline, resulting from the European economic crisis of 2008. The companies in the European automobile industry have recovered, although they haven't reached the results previous to the crisis (Figure 2), (Figure 3). These companies are beyond the spectrum of the Portuguese automotive industry (Figure 4), which is composed by a very high percentage of small medium companies (SME's) (Figure 5), and a trend of continuous growth is foreseen, considering that they're not concentrating in the Portuguese market, but export most of their output to international clients that are expanding.

In 2013, the main destination markets for exports of vehicles, parts and accessories were Germany, Spain and France (Figure 6). Followed by the UK, China, Italy, Belgium, Angola, Netherlands, Romania, Austria, Czech Republic and Turkey. The European automobile market is now consolidated but a stabilized growth is expected and the installed capacity in Europe should be sufficient.

We can conclude that the foreign investment is critical to the development and expansion of the Portuguese automotive industry. In concrete, the German investment is the bulk of the automotive industry (Figure 7), as it is the largest and most structuring investment in Portugal and Germany is the largest export destination.

The automobile industry has a significant weight in the Portuguese GDP (Figure 8). In addition, there are many related industries that work mostly for the automotive industry. This is a reality that the Portuguese authorities should recognize and consequently they should support and protect this industry.

The International Organization of Motor Vehicle Manufacturers (OICA) even illustrates the weight of this industry with the following statistical indicator: "*If vehicle manufacturing was a country it would be the sixth largest economy in the world.*"

2. Research Methodology

2.1. Overview

This research was conducted in order to assess the attractiveness of the Portuguese automobile industry for the FDI of German firms. To understand this, both the perspectives of German firms already operating in Portugal and of the Portuguese agencies' points of view were considered.

The purposes of this chapter are to describe the research methodology of this study, the procedure used in designing the instruments and collecting the data and, finally, to provide an explanation of the procedures used to analyze the data.

2.2. Data Collection

The descriptive method of research was used for this study, as it consisted on gathering information about the present existing condition, with the aim of verifying the ideas previously formulated in the Literature Review.

In this study, the descriptive research method was employed to identify the significance of the existing competitive advantages of Portugal in what regards the automobile industry and to understand the challenges that foreign firms, specifically German firms, already present in Portugal are facing. This research method was chosen considering the aim of obtaining first hand data from the interviewees that was then confronted both with the qualitative and quantitative data collected from the industry.

Using the selected method it enabled the identification of the defining patterns within the interviewees' answers. For this research, two types of data were collected: primary and secondary. The primary data derived from the answers the interviewees performed during the interview process and from documents provided by the respective firms. The secondary data, on the other hand, was obtained from published documents and literature that were relevant to answer the research question under study. By means of employing the combined approach, both the advantages of quantitative and qualitative approaches were obtained and their individual limitations were overcome.

2.2.1. Participants

The main research method used was the conduction of interviews to managers of German companies operating in the Portuguese automobile industry. Specifically, a total of five interviewees from four companies, producers of vehicles and automobile components[8], and from AFIA[9], mostly within the northern and interior region of Portugal, were selected to make up the sample.

The interviewees were informed that the interview would be recorded and in this sense, a confidentiality agreement was celebrated with each company.

The interviewees were not randomly chosen, the companies themselves provided the contacts of people they believed to be the most appropriate to help achieve the indicated research goal.

Almost all of the interviews were conducted in Portuguese and, for the purpose of this thesis, they were translated into English. The information gathered from these interviews was subjective. Interview transcripts and written notes were analysed systematically. This made it possible to gain a profound understanding of each interviewee's perspective, and of patterns arising within and across interviews.

2.2.2. Instruments

Interview

To better research the current situation of the attractiveness of the Portuguese automobile industry for German foreign direct investment purposes, the personal interviews were conducted to current managers from German companies operating in Portugal in this industry. This was the chosen method to gather primary source data from companies, since it enabled us to receive information from people currently engaged in this industry, yielding a clear connection with our research question and actually addressing the problem.

The interview questionnaire was used as the main data-gathering instrument for this study (1. Interview Guide). The questionnaire, composed by 32 questions, was developed based on the Porter's Diamond Model and was divided into four main sections considering the four factors of the Diamond: factor conditions, demand

[8] The companies asked for the confidentiality of their identities.
[9] Portuguese Association of Automotive Suppliers.

conditions, related and supporting industries and firm strategy, structure and rivalry; taking approximately 45 minutes each.

The four sections of the interview aimed to explore the perception of each interviewee on the Portuguese automobile industry, particularly on its attractiveness to German firms' investment. Thus the questionnaire guide contains questions that identify the major attributes, on the one hand, and the major shortcomings and challenges, on the other, that are found by companies already operating in Portugal.

Secondary Data

Secondary data was analyzed initially and further during the data analysis process. In what regards the sources used for the present analysis, they were data provided by the companies themselves and gathered online from relevant authorities; and articles relevant to the matter under study made available by the university information systems. Secondary research findings were mostly presented in the literature review, which consists of the evaluation of existing theories about the role of national competitive advantages, so that finally its impact on the attractiveness of a nation for foreign investment is understood.

Potential Limitations

In order to prevent anticipated problems in the process of the data collection, both qualitative and quantitative information was used. Along with primary data, secondary resources were also used in the form of published articles and literature to support the interview results. Examples of secondary data used are: the Global Competitiveness Report (GCR) of 2013-2014, by the WEF; the Migrant Integration Policy Index III (MIPEX III) of 2011, by the British Council and the Migrant Policy Group; official documents from the Portuguese governmental authorities; and textbooks on international strategy.

Thus the analysis wasn't limited to the information provided by the interviewees that might have been biased by their experience and reality, and to time constraints. In addition, the data gathered from the interviews was analysed *a posteriori* for interpretation matters.

2.3. Reliability and Validity

Reliability and validity are crucial aspects of the research methodology, in this specific case of the questionnaire design. According to (Suskie, 1996), a perfectly reliable questionnaire elicits consistent responses. Although it is difficult to develop, it is possible to design a questionnaire that approaches a consistent level of response. Robson indicates that a high reliability of response is obtainable by providing all interviewees with the exact same set of questions, which becomes key since people with diverse backgrounds and viewpoints were interviewed (Robson, 1993). Validity is inherently more difficult to establish, since it refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure. However, if a questionnaire is perfectly valid, the inferences drawn from the questionnaire should be entirely accurate.

IV. Data Analysis

After gathering all the information provided by the interviews, the total responses for each question were transcribed and compared. Then, significant conclusions were drawn.

1. How is Portugal being promoted overseas

Portugal is promoted as a business opportunity, mainly for three reasons. Firstly, due to its favourable geostrategic location[10]. Portugal has a privileged geographical location since it can be a strategic business platform to America, Africa and Europe. Portugal is a member of the European Union, being opened to a market of approximately 500 million European habitants. Portuguese is the fifth most spoken language in the world, having great privilege and economic relations with Brazil, Angola and Mozambique with whom it has a historical and cultural relationship.

Secondly, Portugal has a quality network of infrastructures and resources[10]. The communication infrastructures and the penetration of mobile communications[11] are

[10] *Estratégia de Fomento Industrial para o Crescimento e o Emprego 2014-2020* (Industrial development strategy for growth and employment 2014-2020), approved by the Ministers' Council Resolution n.º 91/201, of the 23rd of December of 2013.

[11] The country has now 95% coverage of broadband infrastructures.

among the highest in Europe and at a low cost. The net increase in the broadband penetration growth for Portugal is above the OECD average (Figure 9) and Portugal is a United Nations case study in terms of e-Government and public availability of online services[12]. The density of motorways is among the highest in the OECD. There is a high potential of resources, namely geological. And further, there is a great level of safety and good weather conditions.

Thirdly, there are excellent conditions in terms of human resources and expertise. Portugal has a high-skilled and flexible labour force. Also, the Portuguese are known for their high commitment to work. The universities have a high scientific competence and there is huge export of skilled human resources for top foreign companies. And employees have excellent language skills. Finally and most important, Portugal is still cost competitive in terms of labour force. It has one of the lowest monthly minimum wages in Europe (€ 485,00) and the average growth rate for labour costs in the last 4 years was 4% in Portugal (Figure 10) against 11% in eastern European countries.

Finally, Portugal is also considered to be very opened to foreign cultures and is ranked 5th in the Migrant Integration Policy Index of 2011 (Council & Group, 2011).

2. Physical Resources

In terms of the factor land, there have been no major difficulties. The companies have been able to find and acquire the adequate space to locate their units. Most of the German companies that invested in Portugal have acquired businesses that already existed here and consequently inherited their facilities. Many have now expanded or even moved to other facilities and no barriers were found. In these cases, land has been easy to find and at an accessible price.

As no major obstacles were found, also no benefits were given to these companies; they had no assistance from the Portuguese authorities in the search process and implementation of their new facilities and there were no subsidies in this sense.

Most of the companies in the automobile industry are located in the Interior and North of Portugal (Figure 12), which might seem a handicap but can be explained by

[12] "Automotive Sector", by AICEP Portugal Global, 2013.

some of the following advantages. In these areas of the country, the companies have easy access to skilled and dedicated labour force, which is crucial in this industry that is based on the manufacturing. In addition, this being an industry where the workforce has a significant weight in the cost structure of the companies, they invest in areas where the unemployment rate is high and consequently the cost of the labour force is much lower[13]. Since it is an area of strong emigration, the German companies are even able to find workforce that speaks German and is familiar with this culture as there are many second generation emigrants that were born in Germany and returned to their parent's country of origin.

Secondly, many companies located themselves in the Interior of the country due to the Interiority incentive that was given by the Government until 2011, through a reduction in the corporate tax (IRC)[14]. This also led to a positive competition between the municipalities that fought to attract new investment to their regions, by granting fiscal reductions, regional subsidies, among others. As many of these Portuguese units compete with other units of their companies, this factor helped them present competitive cost advantages against other countries.

Finally, another explanation to this location is related to the cluster of the automotive industry, due to a concentration of companies of the automobile industry in this area of the country and to their proximity to the Spanish region of Galicia, where we can find the car producer PSA-Peugeut Citröen, for instance. Consequently many related and supporting industries are also located around this industrial network, which enables a cost reduction and an easier implementation of the *Just-in-Time* logic. This idea meets the theory defended by Porter (Porter, 1998), according to which the clusters have the potential to improve industrial competitiveness in three different ways: by increasing the productivity of companies linked to the cluster, by contributing to innovation and by stimulating the creation of new businesses.

[13] The company Karmann Ghia "didn't want to set up a factory next to Autoeuropa [although it invested in Portugal to supply upholstery to VW Autoeuropa] in order to have a higher production flexibility and to be able to have other clients, besides the cost of labour in Vendas Novas was lower.", Walter Kuhnert, Production Manager of Karmann Ghia, in *Expresso*, 25.05.2013.

[14] Article 43.º of the Portuguese Tax Incentives Statute, repealed by the article 146.º, n.º 1 of the Law n.º 64-B/2011, of the 30th of December.

In what concerns the movement of goods in the country, it does not have a physical limitation, but a geographical one[15]. The main modes of transport used by these companies are the terrestrial one for the exportations of their final products, mainly to Europe, and the maritime one for the importation of some raw materials and products, for instance from Europe and Asia.

Portugal has great land and accessibility conditions, having an excellent offer of port facilities, highways[16] and airports that is even better than in many other countries. The major problem is the distance to the parent companies and to the main OEM's in Europe, the main clients of these companies operating in Portugal. This increasing their cost of logistics that is one of the main costs in the value chain and constituting a significantly high regular cost that leads to a loss of competitiveness.

This is worsened by the volume peaks of the automotive industry which increase their costs on exceptional transportation to Central Europe.

The Portuguese port facilities are still expensive and sometimes not very fast, since they're under the pressure of union powers in this area, as many other countries, such as Brazil. Also, there is a limited offer of connections worldwide, this requiring the transhipment of containers, mostly in Holland. In order to overcome this situation the Portuguese authorities intend to reduce the costs of the port sector in 25% to 30%, through the 5+1 Cost Reduction Plan for Ports, making the Portuguese ports more competitive, through a new model of governance and synergies between them[17].

Further, although the current transportation to and from Central Europe still has an acceptable logistics cost, the trend is that the cost of road transportation will increase, on the one hand via the increasing fuel costs, as the price of limited natural resources is rising real or fictionally and on the other hand, because of environmental matters, as countries have began to create progressively higher barriers and impose additional costs for the use of their communication routes. For instance Germany is already charging

[15] "We are planning how we can develop this factory in the long term. Portugal has a large geographic and suppliers' cost structure decompensation. But we're thinking about what we can do for Palmela.", Hubert Waltl Engineer, member of the Board of Directors of the Volkswagen brand with responsibility for Production and Logistics, in *Autoeuropa Journal* 147, February 2011.

[16] Ranked 4th in the category of "quality of roads" (WEF, 2013-2014).

[17] *Plano Estratégico dos Transportes – Mobilidade Sustentável (PET) – Horizonte 2011-2015* (Transport Strategic Plan), approved by the Ministers' Council Resolution n.º 45/2011, of the 10th of November.

more for heavy goods vehicles (HGV's) to use their road infrastructure (in accordance with the *Eurovignette Directive*[18]), which authorizes the imposition of tolls that take into account the cost of air and noise pollution and road congestion. Costs that will be reflected in the price charged to the final consumer and that will affect the intermediaries involved in the chain. This being a concern for the future.

Therefore, one possible solution could be the investment in the Portuguese railroad. The railroad is still not competitive in two aspects: cost and time. This transportation mode hasn't still been optimized and its improvement would require changes at many levels, but it is something that would be of great interest to the companies in the automotive industry and to many other industries. Some action has been taken in this sense, but they're still of residual relevance, namely the *Cacia Multimodal Terminal* that benefits companies, such as the French car producer Renault Cacia, and the *Trans-European Rail Corridor* from Autoeuropa.

Until now, only Autoeuropa has invested in the material and vehicle transportation by rail, to the detriment of the road transportation (Figure 11). The problem is that, when leaving the Iberian Peninsula, the load must be transferred from one train of Iberian gauge to another of European gauge, which represents a barrier that will be difficult to exceed, as it would involve political matters and a macroeconomic study of this project. This process takes six additional hours and increases the total cost of transport by 15%, which may lead to a loss of competitiveness up to 20%[19]. Thus, Autoeuropa and many companies in the sector support that Portugal need a direct connection to Central and Northern Europe of European gauge without transhipments and giving priority to the freight, because from it depends the competitiveness of the companies in this industry, since Portugal is still located approximately 2000 km from Central Europe to where they export most of their output (Figure 6).

Also there should be an *intermodal system* that would allow the transitioning from rail to trucks and the creation of a logistics centre where the companies would deposit their goods. In this sense, the goal would be to have a faster and more efficient solution that would perceive the following logic: the companies would use the rail

[18] Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999 on the charging of heavy goods vehicles for the use of certain infrastructures.

[19] http://www.economico.sapo.pt/noticias/autoeuropa-defende-linha-ferroviaria-europeia-em-portugal_127689.html

transportation until one or two destinations in Central or Northern Europe; here they would deposit the goods at a logistics centre or warehouse, with an affordable management, where the clients could pick them up. Further there should be a conciliation between different companies and also their suppliers in order to achieve an optimal usage of the wagons: on the way back they would transport raw materials and products instead of returning empty.

This idea would shorten the distances between the Peripheral and Central Europe and would enable the Portuguese companies to compete with their European competitors on equal terms.

The Portuguese authorities have been working on this matter. Some agreements have been signed with Spain and France, with the intention of ensuring the continuation of the railway line beyond Madrid and the Pyrenees, ensuring an interoperable rail freight link between Portugal and Central Europe[20]. In addition, the industrial development strategy for growth and employment 2014-2020 aims for the rationalization of the national rail network, with priority to the network dedicated to freight and for the reduction of the rates of the railway infrastructure by 15%[21]. A mobilisation of funds is expected for infrastructures that enhance the export capabilities of companies in Portugal and facilitate a fast and competitive process of internationalization, according to the Community Framework 2014-2020[8].

3. Technological Infrastructures

When asked about the availability and quality of technological infrastructures, all interviewees started by mentioning the limitation concerned with the energy provision in Portugal, namely electricity. The weight of the cost of energy in this sector has increased significantly in the last years (Figure 13), mainly due to the issue of indirect taxes, and this diminishes the competitiveness of the foreign companies

[20] *Plano Estratégico dos Transportes – Mobilidade Sustentável (PET) – Horizonte 2011-2015* (Transport Strategic Plan), approved by the Ministers' Council Resolution n.º 45/2011, of the 10th of November.

[21] *Estratégia de Fomento Industrial para o Crescimento e o Emprego 2014- -2020* (Industrial development strategy for growth and employment 2014-2020), approved by the Ministers' Council Resolution n.º 91/201, of the 23rd of December 2013.

operating in Portugal when associated with other factors with a negative effect, such as distance, as mentioned before.

The win or loss of competitiveness of the countries derives from the sum of the positive and negative factors that exists and the cost of energy is definitely an adverse factor present in the daily life of this industry, whether it is due to its constantly increasing cost or due to the inefficiencies in the provision of this service, represented by peaks and cuts of electricity, that constitute a *cost of context* to these companies.

However, when compared to other countries, besides France that has a strong component of nuclear power and consequently a lower cost of energy, the current price of energy in Portugal is not far from the ones of other European countries (Figure 14). Nevertheless, some regulatory and supervisory action should be taken in this are by the authorities, as it is a matter transversal to many industrial sectors. Some attention should be paid specially in the automotive sector, since it has a significant weight in the country's growth and a high level of exports. In addition, as a factor of competitiveness loss, it represents a burden in the accounts when an investment research is done by potential investors.

The major challenge that seems to exist to the German investor is the instability in the cost of energy. To a cautious investor the stability of the economic elements might be more important than the existence of competitive costs. It is acceptable that the cost of energy has an upward trend, however it's crucial that it is controlled and not used as an instrument of deficit adjustment deficit. In order to eradicate this variation that creates a risk factor to investments, it would be of major importance that the authorities together with the energy suppliers would establish a reliable multiannual plan for energy.

In what concerns the machinery available, all the structure of product design and customer relations are based in the companies' country of origin, whereas the units located in Portugal are merely productive structures that perform the engineering instructions from their parent companies. Therefore there is also little autonomy in what regards the acquisition of machinery. Nowadays this tendency is slowly changing and there is already some autonomy in the acquisition of some sort of machinery from Portuguese companies justified by the proximity and availability of mechanical support

when needed. However, Portugal does not have most of the necessary technologies available, nor technology suppliers with a global reach, what becomes necessary when these multinational companies have a worldwide machinery concept, transversal to all their units.

In the end, all of the interviewees claimed to be very satisfied with the technological infrastructures present and offered in the country[22]. And often they even stated that the availability and quality of the infrastructures in Portugal are better in many aspects when compared to other European countries (Figure 15). The question that is raised most of the times is whether the authorities are adequately promoting this potential overseas when presenting Portugal as an investment destination.

4. Opportunities for Technological Development and Innovation

Every interviewee believes that Portugal has all the potential needed to succeed in the area of technological development and innovation and the best example to prove this is the new mass of Portuguese professionals, namely engineers that are hired to many of the parent companies' R&D centres.

However Portugal has not had many opportunities to stand out in the area of innovation mainly for two reasons: firstly, as the industry is still very much based on the investment in the production mass, the opportunities for innovation are limited; secondly, the centres of technological decision are not located here but mostly in the countries of the parent companies or in countries where there is a history of expertise and R&D.

There are a few technological centres in Portugal in this industry, but they have become directed towards the electric mobility and aeronautics[23], although they were originally conceived as R&D centres for the automotive industry.

Particularly in the automotive sector, which is an extremely demanding sector in terms of new technologies, it is not easy to implement a centre in Portugal such as in other industries, namely telecommunications, photovoltaic energy and wine industries,

[22] Portugal ranked 11th in category of "quality of overall infrastructure" (WEF, 2013-2014).
[23] For instance, CEIIA – The centre for innovation and creative engineering.

where Portugal has experience and is known for its know-how. An example of this is the centre of technological development from Bosch, in Aveiro, in the area of termotechnology.

Mainly for the German public that demands a high quality product and constant innovation, it is highly unlikely that the parent companies under study would no longer have the R&D under their purview. However, Portugal has to offer a strong complement to this innovation and that is already being performed by some German firms operating in Portugal, namely the testing of the product in the prototype stage and fundamentally the testing of processes, which also constitutes R&D.

Currently, there is a narrowing trend being experienced in the automotive sector. The OEM's are congregated mostly in Western Europe and they constitute an exclusive core. Their strategy is to buy goods from the least possible number of suppliers, namely to the Tier 1 suppliers, that are direct suppliers to the OEM's, which in turn work with Tier 2 suppliers. This supply chain reduces the purchasing structure and makes it more difficult for companies to enter the exclusive core of the OEM's, unless a completely new paradigm is invented and even then it is a very time consuming process.

Thus the companies located in Portugal, mainly the ones that produce components for the automobile industry should concentrate on Tier 1 suppliers, where there is a wide range of opportunities to be explored and with more accessible technologies. That opportunity exists in Portugal and there are already many Portuguese and foreign capital suppliers working in this direction. In this sense, the foreign investment is crucial to bring new technology to Portugal and support this technological development[24].

From a cultural perspective, it is felt that there should be a mentality change, in the sense that the professionals should focus more on the maintenance of the developments achieved, which takes less money but a high attention to details and a daily effort, and worry less about big inventions and recognition, that take much money and less time.

Portugal has the knowhow and the production lines required to innovate in the improvement and creation of processes. Many companies have already been increasing their R&D on their processes, since it is a very important phase in the process chain.

[24] Portugal ranked 30th in the category "FDI and technology transfer" (WEF, 2013-2014).

The R&D of the processes is crucial to the units, since it develops automatisms leading to a less labour intensive production. This enables them to deliver a higher return for their businesses and gain competitiveness inside their companies.

It is important to create interconnected processes with a spirit of continuous improvement, which requires a daily effort of the people responsible for the plants. When working in a plant in the automotive sector there is a daily struggle to contain the variability that exists (e.g. unconformities, mechanical breakdowns, power cuts) and to maintain the productivity. Therefore there is a great need for good technicians with the correct training that are able to implement an accurate process management that avoids waste.

A practical example of an area worth of innovation concerns the management technology, since there is a lack of industrial engineers and little training in Portugal in this area, for instance it is difficult to find an electronic times engineer that is crucial to help the unit gain productivity, although they're offered high wages. Therefore these areas of innovation can only be achieved with a good technical training[25] and a change of mentality in what concerns the stereotype and disdain of the work in the automobile industry. A solution could be the implementation of a training system, similar to the German *Dual System*, which would be closer to specific market needs.

An example of the success of management technology is the one of the Japanese car producer, Toyota, which gained a worldwide projection through its production system based on the *Just-in-Time* principle. This pillar ensures smooth, continuous and optimized workflows, with carefully planned and measured work cycle times and movements of the products according to the demand, reducing costs of waste of time, material, and capacity by linking all production activities to the real market demand[26] [27].

Finally, there could be partnerships between the companies and the universities in the area of R&D, what would also enable the approximation of both and an adequacy

[25] "In addition to the recently undertaken reforms, the country should not neglect strengthening its innovation potential through efficient investments in science, technology, and other intangible assets, such as advanced management techniques. These factors will be crucial in allowing the Portuguese economy to move toward high-value-added activities." in *Global Competitiveness Report 2013-2014*.

[26] http://www.toyota-forklifts.co.uk/En/company/Toyota-Production-System/Just-in-time/Pages/default.aspx?tabname=Kanban

[27] In the eighties, the Nummi case study became famous. Nummi was GM's worst assembly line, despite the large investments the company did in R&D. After being managed under Toyota's Production System it became the most productive plant in the world (Adler, 1992).

of the curricular plans of the universities to the market needs in terms of human resources. An example of this is the Association Fraunhofer Portugal Research, a private non-profit association founded by the German Fraunhofer-Society that contributes with technological innovation in collaboration with scientific institutions in Portugal.

5. Human and Knowledge Resources

5.1. Availability and Quality of Human Resources

All of the companies interviewed claimed to be satisfied with the quality of the human resources available in Portugal and they are able to meet their needs in terms of knowhow and workforce. As mentioned before these German companies have German native workers that completed their education in Germany and many Portuguese employees start learning German when they enter these companies, this being an advantage to the German companies investing in Portugal.

In what concerns the education offered in Portugal we can distinguish two levels: higher education that includes university and polytechnic education and the technical professional education. Firstly, the superior education offered in Portugal is of great quality and there's a high number of young engineers of different areas trained every year (Figure 16). Thus, there is a well prepared skilled workforce for higher management levels[28].

However, there is still large gap between the universities and the businesses and there are no courses oriented to the automotive sector despite its weight in the manufacturing sector. And the technical professional education is not sufficiently developed. Some companies have started to offer training in their facilities in cooperation with some local Institutes. This results in a win-win situation as the students acquire a practical training close to the industry reality as the company increases its labour force and discover new talent.

[28] Portugal is considered to have high levels of university education where it ranked 26th. It ranked 16th in the category "availability of scientists and engineers" (WEF, 2013-2014).

The educational gap that exists in Portugal doesn't go unnoticed by the companies. There is a lack of qualified people in specialized areas of the automobile industry that is transversal to many industries. Especially at the level of the middle management it is difficult to find employees with a solid and technical training. For instance it is a challenge to find a time and methods technician that is crucial in industrial engineering or a good laboratory technician in the field for the testing of materials.

There are already some private initiatives, such as ATEC – Training Academy, promoted by Volkswagen Autoeuropa, Siemens, Bosch and the Portuguese-German Chamber of Commerce and Industry (AHK), with an employability rate of almost 100% (Figure 17); Cooperation Protocols between the companies and AHK; among other initiatives promoted by the companies themselves.

Therefore a suitable solution seems to be the implementation of an educational system similar to the so called *Dual System* in German, that is composed both by an on the job training in companies and by theoretical training in vocational schools. This demands a greater coordination and cooperation between educational institutions and companies.

Until recently there were few vocational schools in the country and many have closed in the meantime due to a lack of support from the authorities. It is important that there is a practical training close to the companies that is guided by the market needs[29]. These schools have their success measured by their high level of employability, achieving a more efficient use of the resources available. It is a tool for collecting talent and it has a social function, what appears to be very important in the current economic situation that the country is in (Figure 25). This being a perfect public-private-partnership and a triple-win situation: for the companies, the trainees and the state.

In the end there would be a strengthening of the experimental and practical-professional component, a greater alignment of the acquired knowledge with the needs of the companies and an enrichment and diversification of the technical training in line with the needs of the market.

[29] The *Global Competitiveness Report 2013-2014* considers that the quality of Portugal's higher education is not always in line with the productive needs of the country, being therefore ranked in 58th.

In practice there should be a movement in two directions: firstly, there should be a redesigning of the courses curricula, introducing a strong practical component and the contact with the world of work, also so that students are more informed when making their choices and facilitating their entrance in the companies' environments; secondly there should be a greater openness of companies to accept those students, which is sometimes hampered by internal politics and culture of the companies, as it is considered as head count, deviating the companies' ratios although the salaries are extremely low.

The Portuguese Government has already been working in the implementation of a practical system of education, this seeming to be the right direction as Europe is committed to the movement of re-industrialization and it is time that we give this industry the due importance it has on the economy, as it creates many direct and indirect jobs in the automobile industry. An example of this process is the Memorandum of agreement between the Ministry of Economy and Employment of the Portuguese Republic and the Federal Ministry of Labour and Social Affairs of the German Federal Republic, dated of the 2nd of July 2013 where we can find the following statement:

"Considering ... the need to find more efficient ways to implement an active employment policy that leads to the reduction of imbalances between supply and demand in the labour market and the strengthening of labour markets; that both countries recognize that vocational training and employment are essential factors for creating a better future for the new generations thus contributing to the economic and social growth; ..."

5.2. Cost of Labour

Regarding the cost of personnel, it continues to be one of Portugal's competitive advantages (Figure 18), especially in the current economic situation and consequent downturn of the masses concerning the cost of labour, where employees accept to work for much lower salaries.

From this point of view, it becomes very attractive to invest in Portugal, nevertheless it may not be wise to only base the investment decision on this aspect,

since it will tend to disappear as it is not reasonable to ask people to continue to work under these unfavourable conditions[30].

The units of German companies operating in Portugal are often more competitive than other units located in Central, Eastern Europe and, even more surprising, China[31]. When compared to the Eastern European countries, these continue to have more attractive labour costs, however the increase rate of the salaries in Portugal continues to be lower, enabling Portugal to maintain its competitiveness in this area. When compared to Germany, the cost of direct labour is three times lower and the cost of indirect labour is two times lower in Portugal, representing an added value to the German investment.

6. Role of the Portuguese Authorities

6.1. Barriers to Investment

There are no announced barriers to the investment in the Portuguese automobile industry. However there are barriers that are not announced but are real. What are they?

Firstly, the permanent changes in taxation. The question is not the increase in taxes, but its unpredictability and complexity (Figure 19). It demands a major effort from the companies in terms of accounting, forcing them to hire consulting services in this area and there is little reasonableness in the audits that are performed. Especially to the German investor, it is hardly understandable how taxation can be a concept of variable geometry, thus reducing the incentive to invest[32].

Secondly, there is the arbitrary application of the law, as to similar facts there are different decisions based on the same rule. Consequently there is an unpredictability of the jurisprudence. In addition, it is felt that the magistrates have a poor preparation especially in technical areas that have to do with the corporate life, such as fiscal, environmental and administrative law. Further, there is a slowness of the law enforcement that is not compatible with the reality. Companies deal with this difficulty

[30] "Between 2008 and 2013, hourly labour costs in the whole economy expressed in euro have risen by 10.2% in the EU28 and by 10.4% in the euro area. Within the euro area, ... decreases were observed in Portugal (-5.1%)." in "Labour costs in the EU28", *Eurostat newsrelease*, 27th March 2014.

[31] E.g. German company Brose - Sistemas de Fechaduras para Automóveis, Unipessoal, Lda..

[32] Portugal ranked 139th in the category "effect of taxation on incentives to invest" (WEF, 2013-2014).

every day[33], be it when simply firing an employee or asking for a license. As a consequence, there is a diminishing level of trust in the judicial system and there is an appeal to alternative means of justice, such as arbitration. Finally, there is also a constant change of the legislation, which constitutes a big burden for companies as they demand a constant update on this matter. For potential investors, this fact is also taken into account in the risk assessment of a future investment.

Thirdly, companies and associations present in this industry have to deal with a high complexity of regulation[34]. This regulation is often supervised by different entities, the assessment criteria are of great subjectivity and imposes often a high level of bureaucracy. This level of discrepancy is enough to be perceptible by the German investment, representing once again a factor of variability that cannot be controlled and therefore discourages the foreign investment[35].

These constant changes and consequent unpredictability are hindering the foreign investment as they constitute a major risk factor and block the positive synergies that exist in Portugal. For instance, the fiscal attractiveness as the motivating factor to an investment might disappear after a couple of years. Another example might be the instability of the labour law that also interferes constantly with the decision making model.

The German investor likes investing in a place where it feels that all matters are safe. He is extremely cautious and may reject an investment in Portugal with a yield 25% higher over a country like Austria, where there are stable criteria, he knows what to count with and the existing variables are controllable internally[36]. Portugal is not in a situation of political instability, but the uncertainty of the microeconomic environment (Figure 15) takes away the credibility in our country and that is where we create difficulty for investment, as we have no stability in some key economic factors (e.g.

[33] Portugal ranked 122nd in the category "efficiency of legal framework in settling disputes" (WEF, 2013-2014).

[34] Portugal ranked 132nd in the category "burden of government regulation" (WEF, 2013-2014).

[35] Portugal ranked 39th in the category "business impact of rules on FDI" (WEF, 2013-2014).

[36] This mentality difference might discourage the German investment in Portugal and represents an example of the cultural distance between the two countries. Thus, Portugal should consider this aspect when planning its international strategies to attract foreign investment. This is an illustration of the CAGE Distance Framework (Ghemawat, 2001).

minimum wage, corporate tax)[37]. Therefore, the Portuguese Government should define a medium-long term strategy, so that there is a clearly defined plan regarding the economic, labour and other fundamental factors and the credibility is reinstated. In concrete, regarding the measures to attract new FDI, the Government should approve a package of short-term measures to attract investment. A counter-force is related to a matter of political maturity, as there are always constraining forces from the opposition and the politicians are often more concerned with electoral matters.

In the last years there have been no major changes to promote foreign investment in this industry. Some changes have been made, such as the growing flexibility in firing employees[38], in the context of the labour law, but these actions have not attracted new investment, as the fact that it is cheaper to fire someone in Portugal is not *per se* a motivator to potential investment as expertise and a competitive cost of personnel.[39] This suggests that the executive power has not always a full understanding of the impact that their policies may have at a given time. This reflected not only in the legislation but also in the inadequacy of the incentives that are given to potential investors.[40]

6.2. Incentives to Investment

The investment incentives in Portugal can be of four types: contractual financial benefits, fiscal contractual benefits, fiscal non-contractual benefits and social security benefits.

Starting with the contractual financial benefits, the investment in Portugal has at its disposal a set of support instruments in the context of the National Strategic

[37] "Portugal continues to fall in the rankings, coming in at 51st place, two places down since last year. An unstable macroeconomic environment (124th), similar to other Southern European economies; a certain loss of trust in politicians (77th) and in government efficiency (116th); ... have contributed to this drop." in *Global Competitiveness Report 2013-2014*.

[38] Although investors consider that there is a restrictive labour regulation, this being one of the most problematic factors for doing business in Portugal (Figure 19).

[39] On the contrary, it may have the negative impact of divesting, since it is cheaper to close a factory in Portugal than in Spain, even if the Portuguese one is more competitive, and transfer the Portuguese resources to the Spanish factory, as the loss of money is lesser.

[40] For example, the tax credit for investment (crédito fiscal extraordinário ao investimento) (Figure 20), approved by the Law n.º 49/2013, of the 16th of July, directed to investments until January of 2014. Now, in such a short term, only the companies that were already planning to invest in Portugal benefited from it, since new investors didn't have a reasonable time period to plan their investment.

Reference Framework (the so called QREN) for the next structural fund programming period, 2014-2020. The Community Policy for the next programming period 2014-2020 aims to continue to support and promote economic and social cohesion in Portugal, showing a strong alignment with Europe's 2020 Strategy, whose strategic priorities are growth, sustainable growth and inclusive growth. The partnership agreement that Portugal proposed to the European Commission, denominated Portugal 2020, defines the interventions, the investments and the funding priorities needed to promote a smart, sustainable and inclusive growth. In this sense, the predicted public politics instruments are the following: *"direct incentives for business investment, particularly in R&D, SME's qualification and internationalization strategies; indirect incentives for business investment, for capacity-building; support to the production and dissemination of scientific and technological knowledge, promoting the international links of the national system of R&D, as well as the transfer of knowledge and technology between business, R&D centres and higher education; support for business training to empower human resources of enterprises to the processes of innovation and internationalization; investments in transport infrastructures, focused on reducing the time and cost of transportation for businesses, particularly in the context of international connectivity; and administrative support to the modernization and training in Public Administration, aiming the reduction of public context costs."*[41]

One concern regarding the incentives to innovation given by QREN is the fact that the innovation developed in Portugal is related to the processes, thus not being as visible as the invention of a new concept and consequently hindering the success of these projects when applying to the mentioned benefits. Despite the positive trend concerning the volume of R&D activities developed by the entities of the national system of R&D in the last years (Figure 21), it's the impact is still limited in the competitiveness of the Portuguese business sector, which, despite the significant progress made, presents, against most of its European partners, a still insufficient investment in this type of activities (Figure 22) as well as low rates of absorption of highly qualified human resources, particularly researchers and doctorate students [37].

[41] *Portugal 2020, Acordo de Parceria 2014-2020* (Portugal 2020, Partnership Agreement 2014-2020, January 2014).

In terms of fiscal contractual benefits, there are tax exemptions and credits given in the context of the corporate tax (IRC), property tax (IMI) and property transfer tax (IMT).

As for the fiscal non-contractual benefits and social security benefits, there is the regime of fiscal benefits provided to municipalities with low incomes and reductions or exemptions regarding the contributions to the Portuguese Social Security.

Regarding the automobile industry in concrete there have been no direct measures to attract new FDI. On the contrary to the UK, for instance, that has an industrial strategy plan for growth and sustainability in the automotive sector[42]. In Portugal, from 2008 to 2009, when the crisis erupted, some specific plans were made to the automotive sector, at the European level, where the Ministry of Economy, the Ministry of Labour, AFIA and ACAP were involved[43]. But from then on the industry has recovered on its own. Therefore an effort should be made to make it noticeable for German investors all the measures exposed before that will be implemented in the near future.

The latest foreign investment in Portugal took place on the 30th of April 2014, when Volkswagen Autoeuropa signed a five-year contract with the Portuguese Government, which meant an investment of 677 million Euros. This investment will allow the creation of 500 direct jobs and approximately 1500 indirect jobs. This project aims to strengthen the competitiveness of Volkswagen Autoeuropa through the introduction of a new production technology. The plant is expected to produce a new car model, doubling its production and export capacity. On March the 31st, the German company signed an application for incentives with AICEP, the Agency for Investment and Foreign Trade of Portugal, however the counterparts of this investment given by the Portuguese State to capture this German investment are still unknown.

Portugal should have a more objective marketing strategy as a country, what could perfectly be done by the successful numbers and indicators of both the country in all its sectors and of the German companies operating in the country. Particularly the German investor is interested in facts and figures when analysing a new potential

[42] "Driving success – a strategy for growth and sustainability in the UK automotive sector", *Automotive Council UK*, July 2013.

[43] Named "Anti-crisis plan of the automotive sector".

investment destination. In the article written by Nicolau Santos, we can understand that Portugal is not being promoted overseas for the correct reasons, namely by its expertise, labour force cost, among others. The journalist often states that *"among the foreign investors, the German investment is the best friend of Portugal."*[44] Why we ask? Because *"In the last two decades they [the Germans] were the ones who made structuring investments in the Portuguese economy, effectively creating added value, contributing decisively to increase our exports and qualitatively improve their profile, creating thousands of qualified jobs and by training many others..."*[45].

Therefore, Portugal must make an effort to promote its image, especially in Germany, because apparently there is widespread ignorance in Germany that in Portugal there are competitive, modern, very efficient German companies, many of them being the most competitive and profitable within their groups, not in terms of volume but in terms of indicators of competitiveness and effectiveness.

A possible action could consist on the reception and charming operations with German authority figures and top level managers at the facilities of successful German companies operating in the Portuguese automobile industry, such as Volkswagen Autoeuropa, Bosch, Mahle, Brose or Continental. And this action could be transversal to other industries. Also, when travelling to Germany to discuss matters regarding this sector, the Portuguese authorities should not only be followed by the main associations of the sector, but also by top level management professionals both of Portuguese and German companies who could share their success experiences.

In addition, the German companies operating in Portugal should also do an internal marketing of the country within its group, in order to arouse the interest in the country and in its potential. As it is fundamental that Portugal proves its quality as an investment destination, it is necessary that there is a two dimensional flow of communication, between the central and local authorities and the companies, so that there would be a feedback regarding the difficulties and needs of the companies and a consequent support from the authorities. In this situation the companies would also be encouraged to gain productivity and promote an internal marketing. Their experience would be the best mean of attracting potential new investment.

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[44] "O Amigo Alemão" (the German friend), in *Expresso Economia*, 10th May 2008.
[45] "Qimonda: não é justo" (Qimonda: not fair), in *Expresso Economia*, 8th April 2009.

7. Role of the Governmental Agencies and Associations

When talking about governmental agencies related to investment, we refer particularly to AICEP, the Portuguese trade and investment agency, which promotes the foreign investment in Portugal and the international expansion of Portuguese companies.

AICEP's main goal is to promote a competitive business environment that stimulates the international expansion of the Portuguese economy, being therefore a competitiveness partner of the foreign companies operating in our country.

In the last years, AICEP has acquired a group of more technical and specialized personnel with expertise in concrete sectors. Thus it is now able to provide a more knowledgeable and complete support to foreign investors.

In terms of selection criteria for investments, it has also improved in the sense that AICEP is now more opened to the concept of investment stability. Before, when analysing the attractiveness of an investment, AICEP would look at the percentage of added value that a company would have. Companies, who were able to invest millions of Euros to enter the Portuguese market, often only temporarily to take advantage of the exiting incentives or even originated by a momentary boost of productivity due to the acquisition of a new machine, would receive the incentives from AICEP in detriment of foreign companies already operating in Portugal with stability that were actually stimulating the Portuguese industry, increasing the exports rate and paying their taxes. Today, the agency is more opened to support companies that invest less but regularly and with favourable results, therefore increasing the flexibility of the evaluation criteria of projects and their respective revaluations.

This is crucial, since the most important investment for Portugal is the structuring one that creates jobs, increases the distribution of wealth and that boosts the country's exports. Therefore, the agency should rely more on a valuable strategic analysis rather than stumbling in political matters and questions of decree.

In what concerns the associations related to the automobile industry in Portugal there are two main associations: ACAP, the Portuguese Automobile Association and

AFIA, the Portuguese Association of Automotive Suppliers. In addition to them there are other associations that are indirectly associated to the automobile industry. What happens currently is that there is a panoply of associations in the cluster of the automobile industry. Consequently there is no concentration of the global industry's interests in one association as it happens in Germany, nor of the data provided by each one of them as they have different criteria on what they perceive as the industry. The German Association of the Automotive Industry (VDA) entails the companies that are involved in production for the automotive industry in the Federal Republic of Germany. The members of this Association are divided in three manufacturer groups: the automobile manufacturers, the automotive suppliers, and the trailers, special bodies, buses; each of them being represented by a division and its respective managing director.

As a consequence, the majority of the German investors planning to enter the Portuguese market reach for the help of the German Portuguese Chamber of Commerce (AHK), even if they're not as specialized as the associations mentioned before and support these investors mostly in the legal and consultancy areas. However their support is fundamental for the decision making of the investors, as they already have the experience and perspective of the Portuguese market and the knowledge of the German interests, minimizing the possible risks and loss of resources.

Therefore, the Portuguese agencies and associations should be attentive and take some initiatives in order to meet the needs of the potential German investors in Portugal, especially in the automotive sector that is the most appellative to German investors (Figure 7).

V. Conclusion

The automobile sector in Portugal is one of the most dynamic and innovative in the national economy. It represents a universe of 350 companies; 6,3% of the total employment in Portugal and employs a total of 52.000 employees; reaching a turnover of 8.6 million Euros (5,7% of GDP). In addition, the production of motor vehicles and their components is a major export sector in Portugal, representing in 2013, 12,1% of the total exported products (Figure 8).

At this point the winds of the world also begin to blow in Europe's favour with a migration of the companies from China to the Occident, due to some local conflicts and to the increase of the minimum wage, which is slowly taking the attractiveness of this nation. Another cause is its distant geographic location that requires the use of maritime transport that is jeopardizing in the long course transportation of perishable or valuable goods. Also, it is difficult and costly to send skilled human resources to China, where the quality of life might not be the best. Finally, China will have to slow down the level of growth of its infrastructures and must have an economy that supports the growth rate it will continue to have. In this sense, some European companies that relocated to China for cost reasons are now starting to return to Europe.

The automobile sector traditionally pioneer in new forms of productive organization, has strongly influenced other sectors, streamlining the entire business environment and adapting radically its structure. Although the FDI increased in the last 5 years, there has also been a significant divestiture, which results in a balance tending to zero. Exploring new markets and new organizational and technological formulas requires an attitude of constant innovation, making it a central issue to the development of the automobile sector in Portugal. Therefore it is of most importance to attract new investment, for instance of Tier 1 suppliers, namely of high technologic intensity.

Attracting more FDI to the automobile sector will allow an increase of the number of automobile components and production companies operating in Portugal and the development of cooperation networks between them.

This dissertation presents enough proof of the importance of this industry for the Portuguese economy and of the weight of FDI in this sector (Figure 23). Also, it is clear that Portugal gathers all the necessary conditions to be a successful investment destination and this is a fact that has to be adequately promoted in order to become imprinted in the foreign investors' mind and to improve the FDI levels in Portugal[46] (Figure 24). Therefore some measures and reforms should be taken.

[46] "In 2013, FDI in Portugal, in gross terms, reached a total of 30.1 billion Euros (-36.8% compared to 2012), ..." in "Portugal - Country Profile", by Global AICEP Portugal, March 2014.

In what concerns Portugal's geographic location and accessibility, we must distinguish two realities. As for Spain, Portugal is in an advantageous position, due to its geographical proximity, in particular to large OEM's installed in Spain, what can boost the national industry of components. As for the Central European markets, Portugal has all the potential, but because of its geographical distance, action becomes imperative at a logistic level.

Regarding the technological infrastructures, there should be an increase in scientific and technological production of quality and international recognition, so that the Portuguese centres of development and companies in this sector become present in international networks of R&D. The investment in infrastructures will strengthen the competitiveness of Portuguese companies against their international competitors.

Greater production of scientific and technological development will also allow highlight Portugal as a FDI destination in the area of R&D by the parent companies. It is critical that Portugal becomes an international reference at this level and that it possesses the necessary conditions for the development of such projects. Thus, investment in innovation will enhance the ability of differentiation of companies and increase their competitiveness in the global market.

As for the knowledge resources, there is an urge for an educational system with a practical-professional component. This will allow a better alignment of the offer in technical training with the industry's needs. It is urgent to have employees with technical skills working in the companies.

Finally, coming to the role of the Portuguese authorities, is critical to promote confidence-building measures and implementing sectorial stimulus for a balanced and sustainable growth. To achieve this, there should be a reduction of indirect barriers through a more transparent and correct functioning of the institutions. The definition and implementation of a long-term program for a consolidated growth of the country, mainly in the coming period known as "post-Troika", is required. Finally there should be a strengthening of the economic diplomacy strategy, which should proactively promote a successful image of the country overseas, based on indicators and results that illustrate the immense potential of this small great European country that is Portugal.

VI. Appendix

1. Interview Guide

Factor Conditions

Physical Resources

1. How would you evaluate the land conditions available (e.g. proximity to cities, access to infrastructures/power sources, incentives provided by regional authorities, ...)
2. How would you evaluate the facility of access to raw material conditions (e.g. accessibility, facility, ...)

Technological Infrastructures

3. How would you evaluate the availability and quality of the technological infrastructures available?
4. Do you have easy access to communication systems?
5. What are the modes of transportation that you use?
6. How do you see Portugal's capabilities in terms of innovation and technology?

Capital Resources

7. Is capital easily available (e.g. agreements with foreign countries, ...)?
8. What is the cost of finance of these industries?
9. How would you evaluate the transparency of the relationships with the financial institutions?

Human and Knowledge Resources

10. How do you evaluate the quality and quantity of skilled labour available? What are your needs in terms of specialized skills?
11. Are specialized resources available? If not, how do you have access to them?
12. What is the cost of your personnel? What is the parity in terms of costs of personnel compared to Germany?
13. Do you find specialized education easily in Portugal, considering that there is no dual system implemented, such as in Germany?
14. What are the specific areas of HR do you lack in Portugal? And, consequently, which areas of specialized education should be developed?

15. Do the human resources available speak the expected English you need in the automobile industry?

16. Do you need to bring people from Germany?

Demand Conditions

17. What are the markets you sell to (in %)?

18. What are your sales and distribution channels (in %)?

19. How is competition forcing you to innovate and create more advanced products?

20. In a scale of 1 to 5 (where 1 is "very low" and 5 is "very high"), please rate the following characteristics of your demand: a) Sophistication, b) Size, c) Growth

Related and Supporting Activities

21. Who are your main suppliers? How easy is it for you to access their inputs? Are they present in Portugal?

22. In the case of relationships with foreign partners (suppliers or outsourcers), how do different cultures influence the way you do business together?

Strategy, Structure and Rivalry

Structure and Rivalry

23. How do you characterize your competition (number and relative size of competitors, degree of specialization, nationality, degree of differentiation between products)?

24. Are clients being able to demand increasingly higher quality for continuously decreasing costs? Are they very price sensitive?

25. Are you able to access other clients outside the automotive industry? Is there a degree of product specialization high enough to discourage industry diversification?

Strategy

26. Why did you choose to invest and implement part of your business in Portugal? After this time do you feel it was and still is a good investment?

27. How do you feel about the current situation of the Portuguese automobile industry (e.g. some factories producing cars/parts have been closing down, ...)? Are you maintaining or changing your strategy according to that information?

28. What opportunities do you see for the company in the near future? Where do you see the company in 5 years?

29. What do you believe should be the role of the government in encouraging competition and innovation in this market (e.g. tax, labour laws, incentives, ...)? Do you feel the government supports your activities here?

30. How does the culture affect the operations in Portugal (e.g. language, bureaucracy, administrative distance, feeling towards corruption, cost structure – salaries, real estate – evolution of the market, ...)

31. Do you feel the Portuguese authorities are promoting adequately/correctly the Portuguese automobile industry overseas?

32. What other actions do you think they should take? Suggestions?

2. Summary of the main Conclusions and Recommendations

Physical resources		
Challenges	**Consequences**	**Recommendations**
Geographical limitation: distance to headquarters and main OEM's in Europe.		
a) Maritime Transportation: High harbour dues, limited offer of worldwide destinations, slowness of transportation. **b) Railroad Transportation:** High costs, slowness of transportation, existence of the Iberian gauge. **c) Terrestrial Transportation:** Increasing costs of road transportation, due to increase of fuel costs and environmental levies.	High transportation costs. Increased logistics costs. Loss of company competitiveness. The Portuguese units do not compete with Central and Eastern competitors in equal terms.	**a) Maritime Transportation:** - Increase of efficiency in the harbours' management to decrease its dues. **b) Railroad Transportation:** - Investment in the Portuguese railroad. - Expansion of the railway line to key destinations in Central Europe. - Reduction of the rates of the railway infrastructure. - Existence of an intermodal system to optimize the railway transportation.

Technological development		
Challenges	**Consequences**	**Recommendations**
Lack of technology (e.g. machinery) available to supply multinational companies.	Increase of R&D and technical training.	Concession of incentives for R&D and investment in technical training.
Instability of the energy costs. Increasing electricity price. Inefficiencies in the energy provision (e.g. frequent power cuts or peaks).	Loss of competitiveness of the companies. Increased context costs to the companies. Represents a burden in investment plans. Risk factor for investors.	Regulatory and supervisory action of the energy suppliers. Creation of a reliable multiannual plan for energy by the authorities together with the energy suppliers.

Opportunities for technological development and innovation		
Challenges	**Consequences**	**Recommendations**
Industry based on the investment in mass production. Location of the centres of technological decision in the origin countries of the companies or in countries with history in R&D. Lack of technical training.	Low level of expertise development. Waste of existing expertise in some areas of R&D (e.g. testing of the product).	Investment in R&D, particularly in the creation and improvement of processes. Development of automatisms, to achieve a less labour intensive production and consequently higher returns. Investment in technical training (e.g. Dual System). R&D Partnerships between companies and universities.

Human and Knowledge Resources		
Challenges	**Consequences**	**Recommendations**
Lack of technical education.	Lack of qualified people in specialized areas (e.g. middle management level).	Implementation of an education system, such as the German Dual System to meet the market need in terms of HR.
Gap between universities and companies: Inexistence of practical component; unanswered market needs.	Market needs in terms of skilled HR are not met. Increase of youth unemployment rates.	Support and recognition of the existing technical training institutes. Alignment of the universities' curriculum the industry reality (e.g. practical component).

		Incentive the companies' openness to the inclusion of students in their operations.

Role of the Portuguese authorities – Barriers to investment		
Challenges	**Consequences**	**Recommendations**
Fiscal unpredictability and complexity.	High fiscal consultancy expenses. Auditing complexity.	Definition of a medium-long term strategy by the Portuguese Government to regain the trust of investors. Implementation of concrete measures to attract new FDI (e.g. package of short-term measures to attract investment).
Arbitrary application of the law. Poor preparation of the magistrates in commercial areas of the law. Slowness of the law enforcement. Constant change of the legislation.	Unpredictability of the jurisprudence. High judicial costs. Lack of trust in the judicial system. Burden of constant update. Considered as a risk factor for a potential investment.	
High complexity of regulation. Subjectivity of the assessment criteria.	High levels of bureaucracy. Uncertain microeconomic environment. Diminishing credibility in the country.	

Role of the Portuguese authorities – Incentives to investment		
Challenges	**Consequences**	**Recommendations**
Contractual financial benefits, fiscal contractual benefits, fiscal non-contractual benefits and social security benefits.	Difficult access to national and local incentives.	Creation of an industrial strategy plan for growth and sustainability in the automotive sector.
Conditions to apply for incentives might not be the most adequate ones.		Objective marketing strategy for the country.
No direct measures to attract new FDI in the automobile industry.		Two dimensional flow of communication, between the central and local authorities and the companies. Incentive for German companies to do an internal marketing of Portugal within their groups.

Role of Governmental agencies and Associations		
Challenges	**Consequences**	**Recommendations**
Most German investors ask for the help of the AHK and not AICEP, even if they're not as specialized.		Acquisition of specialized personnel by AICEP. Openness to the concept of investment stability in the evaluation of incentive programs. Definition of a strategic plan of action to attract FDI.
Panoply of associations in the automobile industry.	Provision of different data. Different criteria regarding the perception of the industry.	Concentration of the global industry's interests in one association.

3. Figures

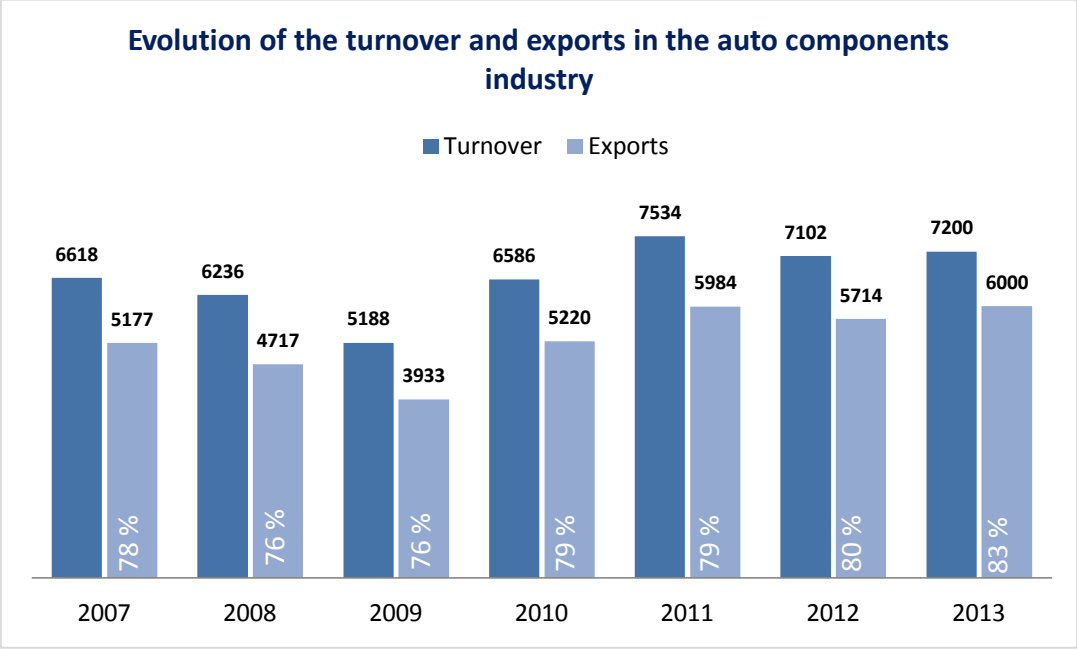


Figure 1 - Evolution of the turnover and exports in the auto components industry, 2013 (Source: AFIA)

EVOLUTION OF THE WORLDWIDE VEHICLE PRODUCTION						
	2007	2008	2009	2010	2011	2012
EUROPE	22.836	21.734	17.035	19.772	20.946	19.855
AMERICA	19.157	16.882	12.563	16.632	17.705	19.979
ASIA	29.969	30.355	31.068	39.984	39.513	42.381
REST OF THE WORLD	1.291	1.513	1.106	1.462	1.619	1.862
TOTAL	**73.253**	**70.484**	**61.772**	**77.850**	**79.783**	**84.077**

Figure 2 - Evolution of the worldwide vehicle production, 2013 (Source: OICA)

VEHICLE PRODUCTION IN EUROPE, BY COUNTRY			
	2011	2012	2012/2011
	x 1.000	x 1,000	%
GERMANY	6.147	5.649	-8,1
RUSSIA	1.990	2.232	12,1
SPAIN	2.354	1.979	-15,9
FRANCE	2.243	1.968	-12,3
UNITED KINGDOM	1.464	1.577	7,7
CZECH REPUBLIC	1.200	1.179	-1,7
TURKEY	1.189	1.072	-9,8
SLOVAKIA	640	927	44,8
ITALY	790	672	-15,0
POLAND	838	648	-22,7
BELGIUM	596	539	-9,7
ROMANIA	335	338	0,8
HUNGARY	224	228	2,0
UZBEKISTAN	180	164	-8,6
PORTUGAL	192	164	-14,9
OTHER	564	520	-7,7
TOTAL	**20.946**	**19.856**	**-5,2**

Figure 3 - Vehicle production in Europe, by country, 2013 (Source: OICA)

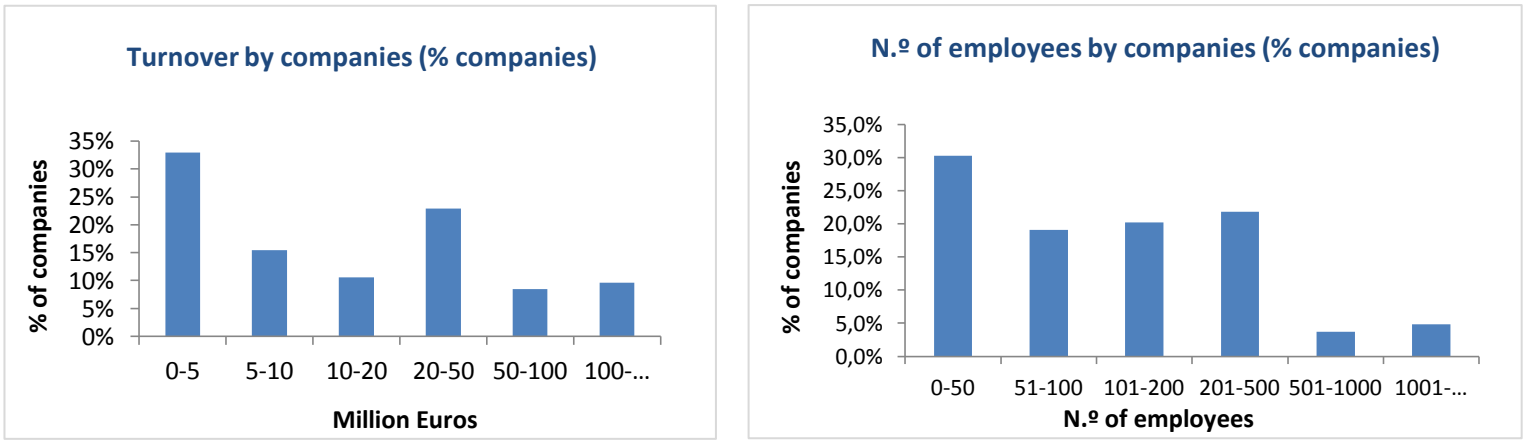


Figure 4 - Characterisation of the companies in the automotive industry, 2013 (Source: AFIA)

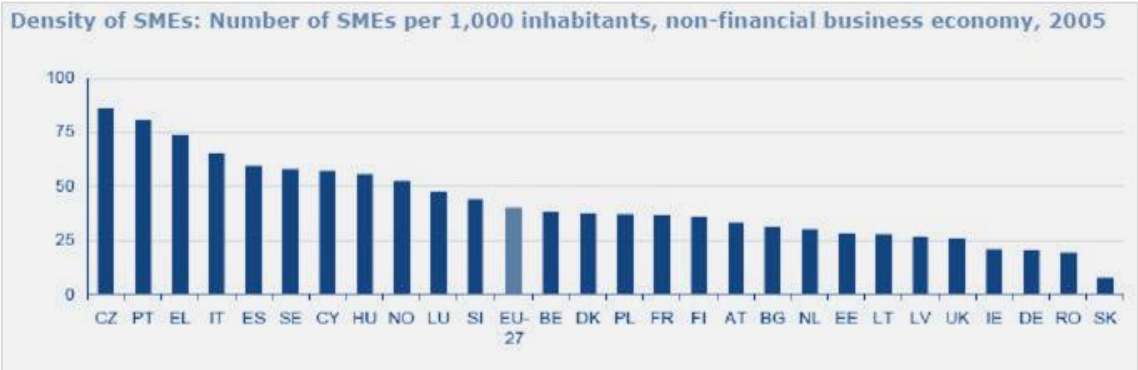


Figure 5 - Overview of SME's in the EU, 2005 (Source: Eurostat)

Figure 6 - Destination of the 2013 Exports (Source: AFIA)

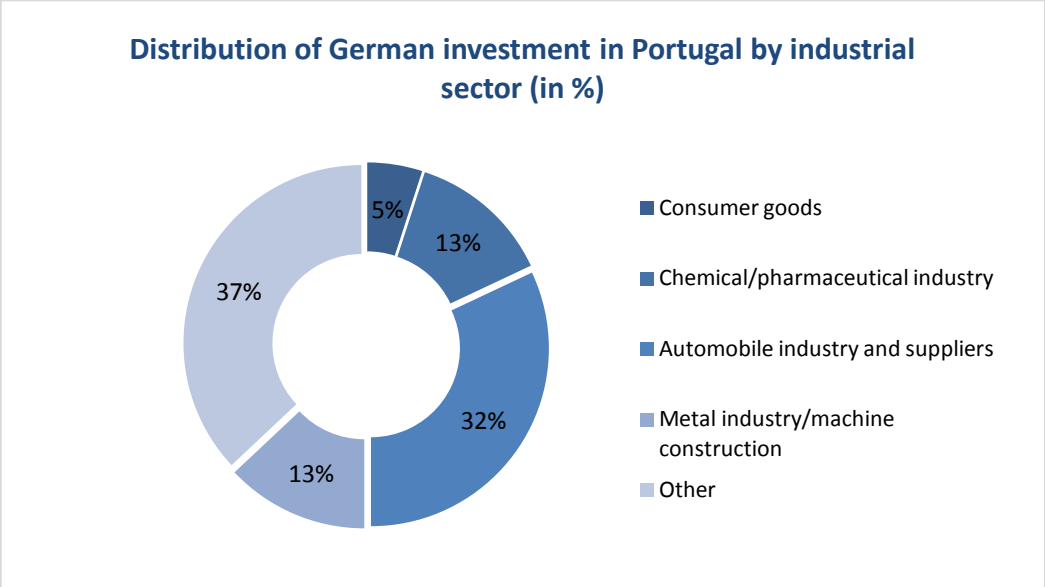


Figure 7 - Distribution of German investment in Portugal by industrial sector (in %), 2008 (Source: AHK)

THE SIZE AND VALUE OF PORTUGUESE AUTOMOTIVE INDUSTRY					
		MOULDS & TOOLS	AUTO COMPONENTS	MOTOR VEHICLES	AUTOMOTIVE INDUSTRY
TURNOVER	million €	410	7.200	2.250	8.620
EXPORTS	million €	370	6.000	1.750	8.120
EMPLOYEES	N.º	5.400	41.500	5.100	52.000
COMPANIES	N.º	±150	±200	5	350

		MOULDS & TOOLS	AUTO COMPONENTS	MOTOR VEHICLES	AUTOMOTIVE INDUSTRY
SHARE IN GDP	%	0,2	4,4	1,4	5,7
SHARE ON THE PORTUGUESE EXPORTS	%	0,5	9,4	2,7	12,1
SHARE ON THE EMPLOYMENT ON THE MANUFACTURING ENTERPRISES	%	0,7	5,6	0,7	6,3

Figure 8 - The size and value of the automotive industry in the Portuguese economy, 2013 (Source: AFIA)

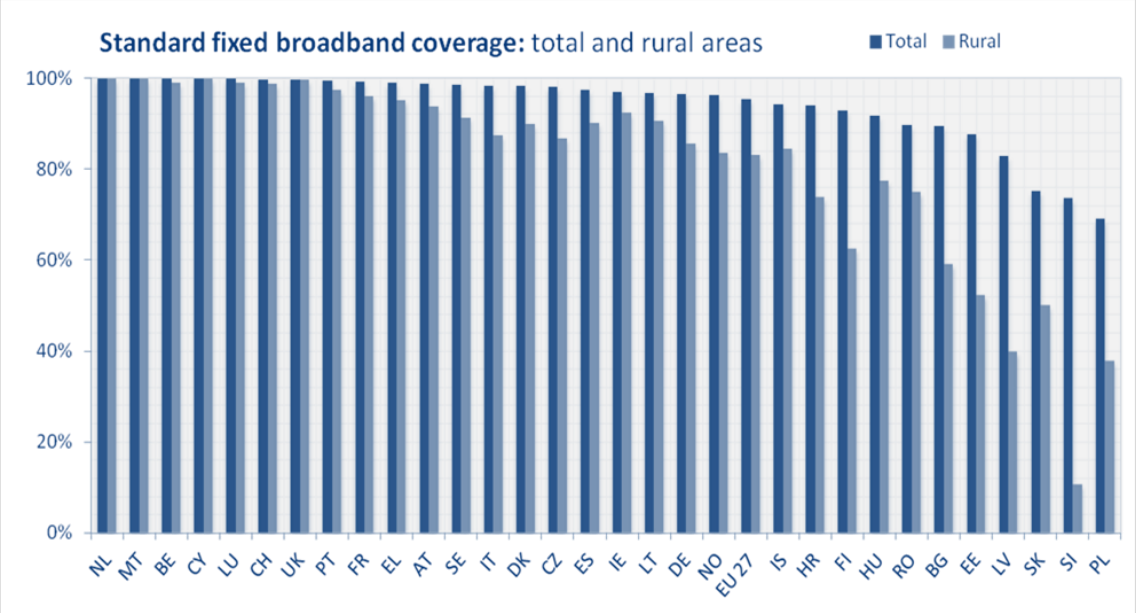


Figure 9 - Standard fixed broadband coverage by country in 2012 (Source: Point Topic)

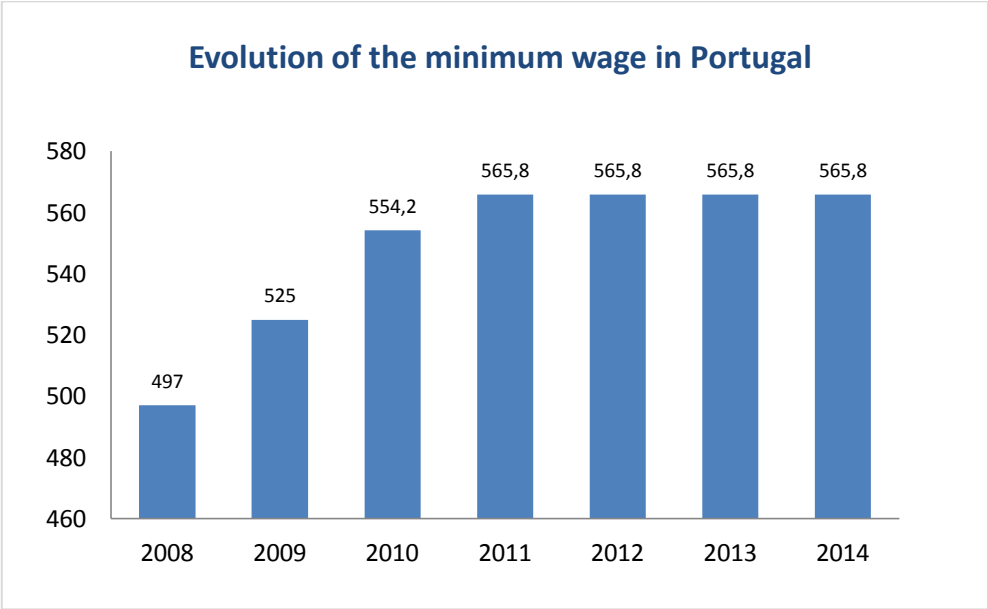
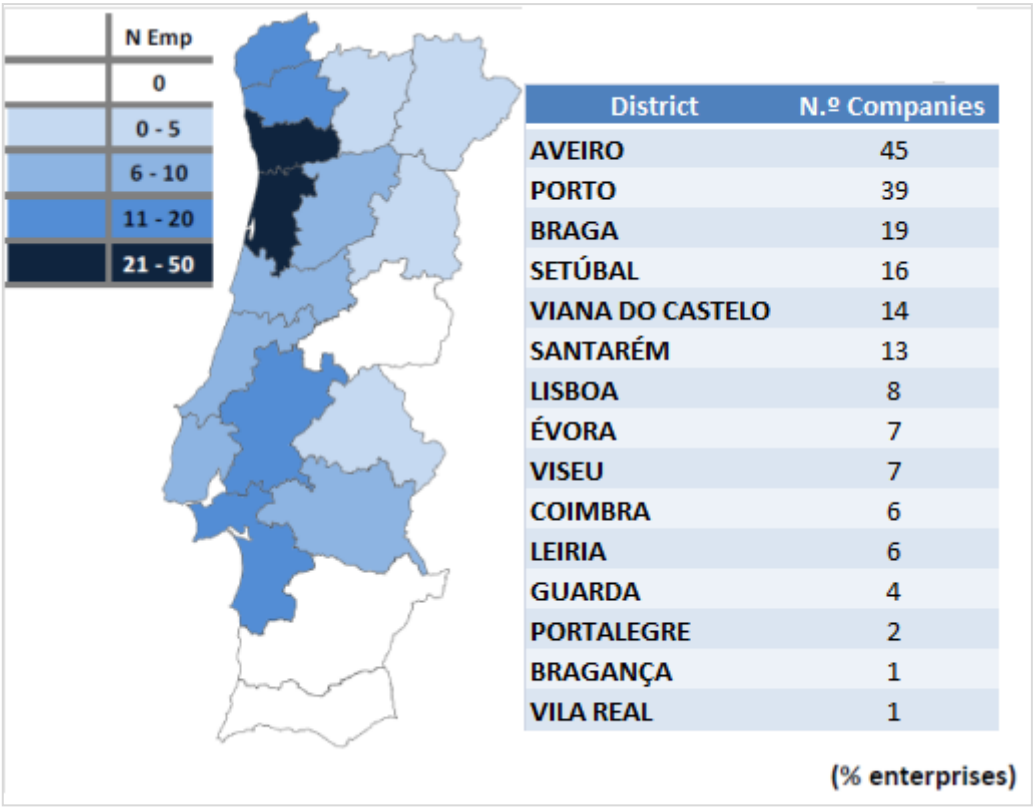


Figure 10 - Evolution of the minimum wage in Portugal[47] (Source: Pordata)

[47] The minimum wage in Portugal corresponds to 485€. 565,8€ corresponds to 14 months of salaries 485€*14/12 = 565,83€ per month (this computation has to be taken into account as not all European countries pay 14 months of salary).

VOLUME OF TRANSPORTATION			
	PER TRUCK	PER TRIP	PER WEEK/PER TRAIN
GERMANY	370 Kg	5.290 Kg	18.500 Kg
FRANCE	1.250 Kg	20.000 Kg	62.500 Kg
SPAIN	770 Kg	12.320 Kg	38.500 Kg
PORTUGAL	230 Kg	3.680 Kg	11.500 Kg

Figure 11 - Volume of transportation (Source: Volkswagen Autoeuropa)



District	N.º Companies
AVEIRO	45
PORTO	39
BRAGA	19
SETÚBAL	16
VIANA DO CASTELO	14
SANTARÉM	13
LISBOA	8
ÉVORA	7
VISEU	7
COIMBRA	6
LEIRIA	6
GUARDA	4
PORTALEGRE	2
BRAGANÇA	1
VILA REAL	1

(% enterprises)

Figure 12 - Localisation of companies of the automotive sector in Portugal, Dec. 2013 (Source: AFIA)

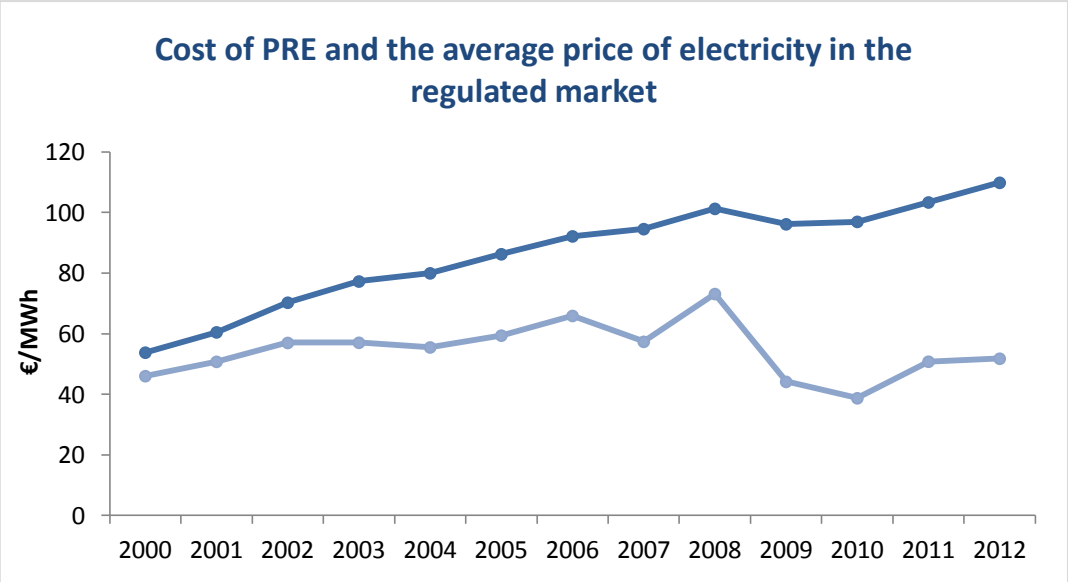


Figure 13 - Cost of PRE (renewable energies) and the average price of electricity in the regulated market (Source: ERSE)

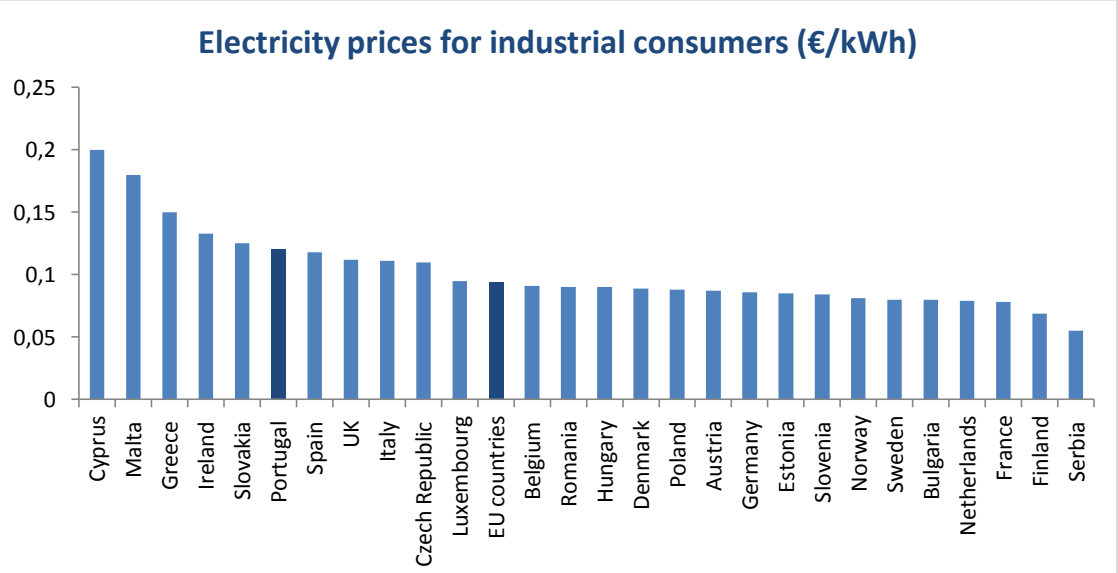


Figure 14 - Electricity prices for industrial consumers in 2013, EUR per Kw/h (Source: Eurostat)

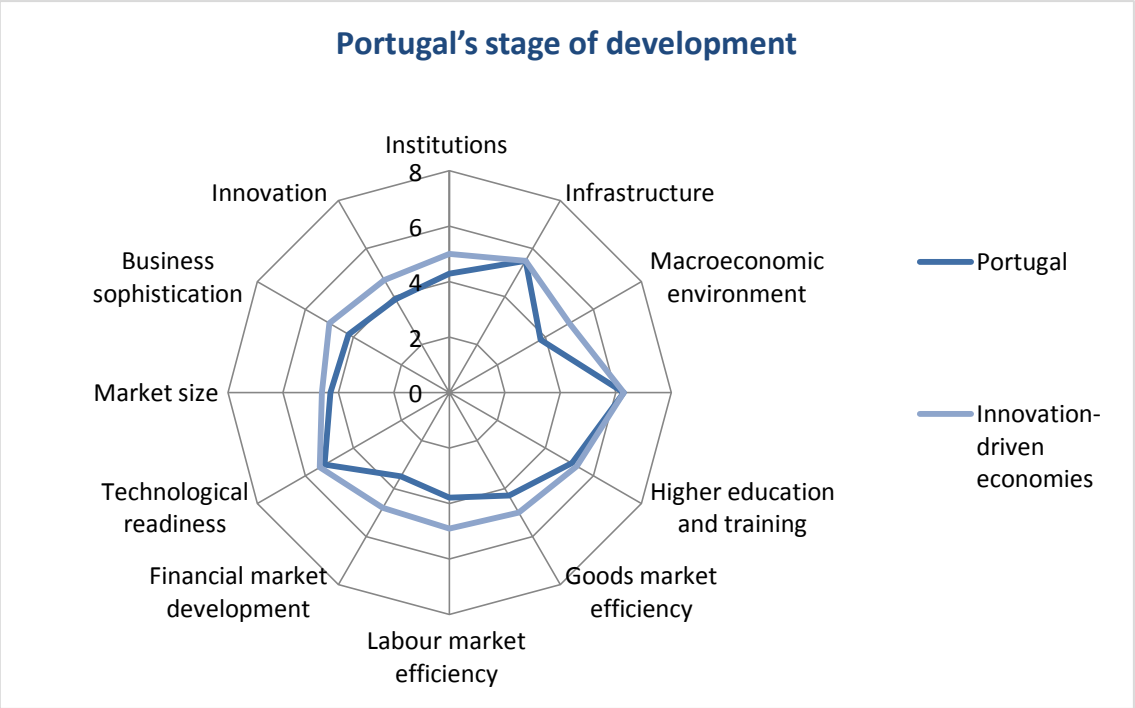


Figure 15 – Portugal's stage of development (Source: Global Competitiveness Report 2013-2014)

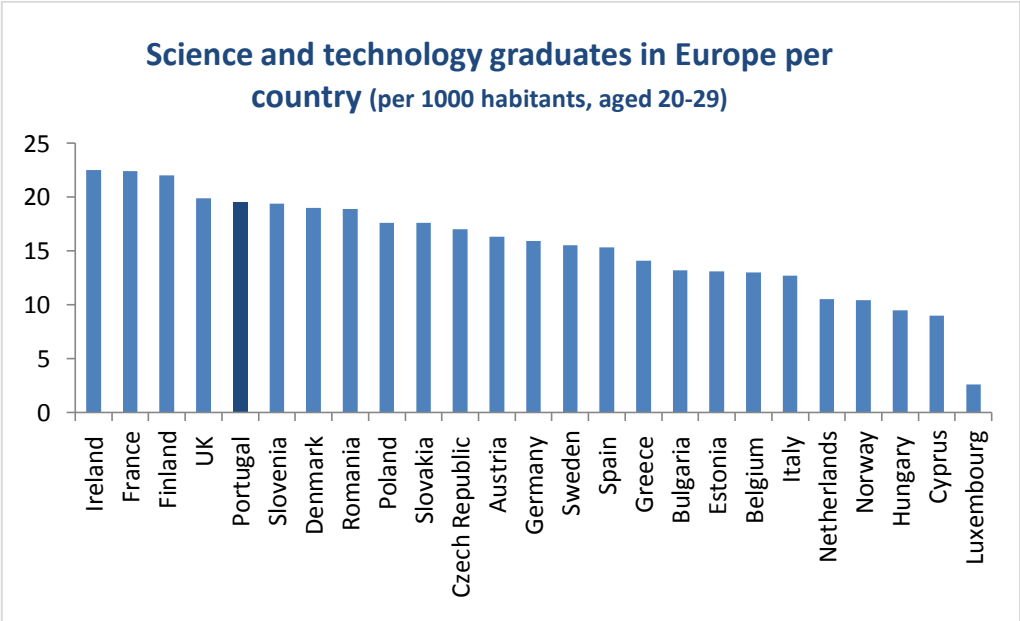


Figure 16 - Science and technology graduates in Europe per country, 2012 (Source: Eurostat)

Figure 17 - Costumers' Satisfaction Index (Source: ATEC)

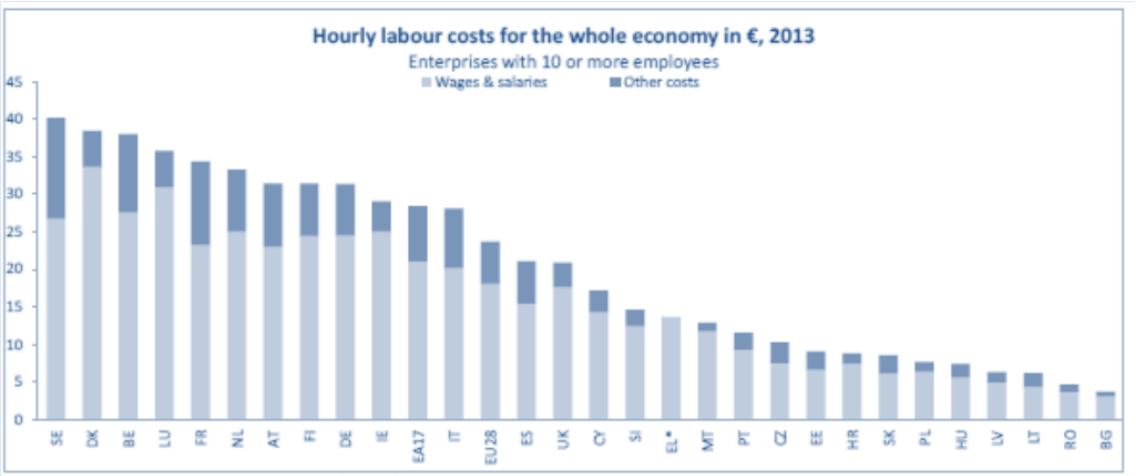


Figure 18 - Hourly labour costs for the whole economy in €, 2013 (Source: Eurostat)

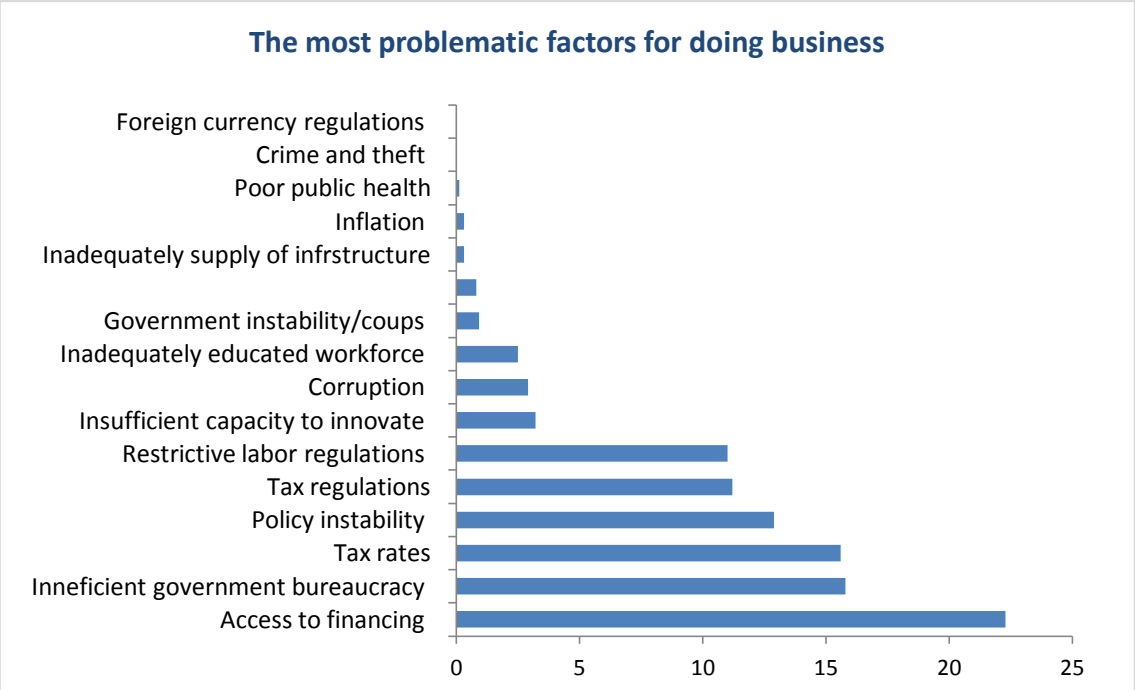
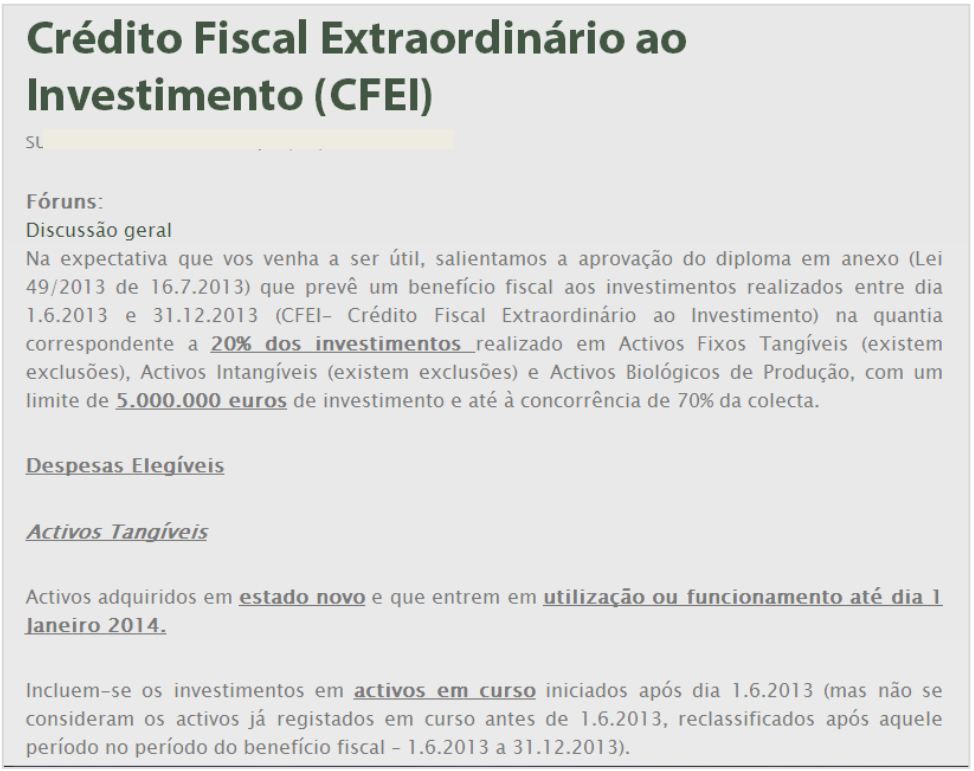


Figure 19 - The most problematic factor for doing business in Portugal (Source: Global Competitiveness Report 2013-2014)



Crédito Fiscal Extraordinário ao Investimento (CFEI)

Fóruns:
Discussão geral
Na expectativa que vos venha a ser útil, salientamos a aprovação do diploma em anexo (Lei 49/2013 de 16.7.2013) que prevê um benefício fiscal aos investimentos realizados entre dia 1.6.2013 e 31.12.2013 (CFEI– Crédito Fiscal Extraordinário ao Investimento) na quantia correspondente a **20% dos investimentos** realizado em Activos Fixos Tangíveis (existem exclusões), Activos Intangíveis (existem exclusões) e Activos Biológicos de Produção, com um limite de **5.000.000 euros** de investimento e até à concorrência de 70% da colecta.

Despesas Elegíveis

Activos Tangíveis

Activos adquiridos em **estado novo** e que entrem em **utilização ou funcionamento até dia 1 Janeiro 2014.**

Incluem-se os investimentos em **activos em curso** iniciados após dia 1.6.2013 (mas não se consideram os activos já registados em curso antes de 1.6.2013, reclassificados após aquele período no período do benefício fiscal – 1.6.2013 a 31.12.2013).

Figure 20 - Tax credit for investment (Crédito fiscal extraordinário ao investimento)

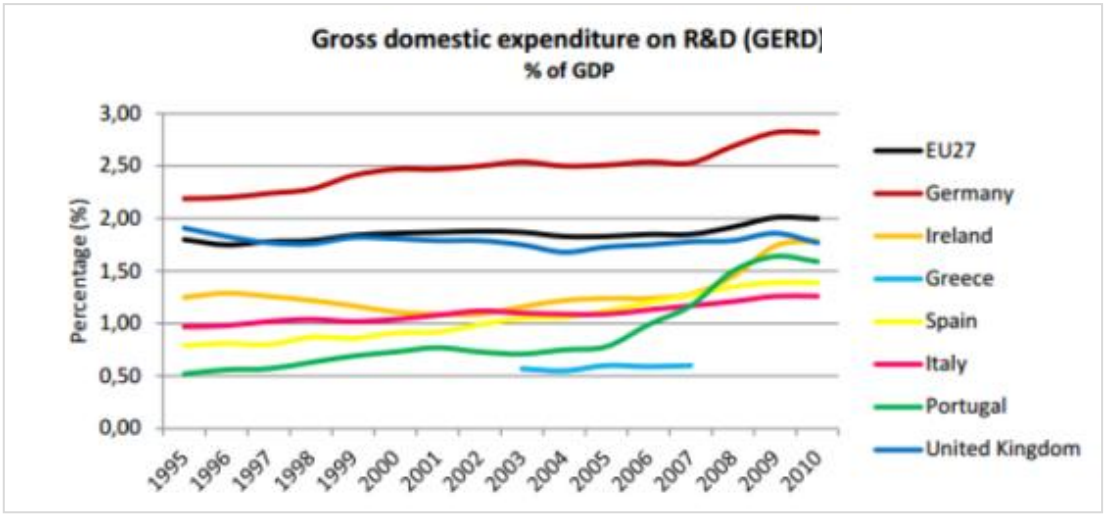


Figure 21 – Evolution of the gross domestic expenditure in R&D (Source: Pordata)

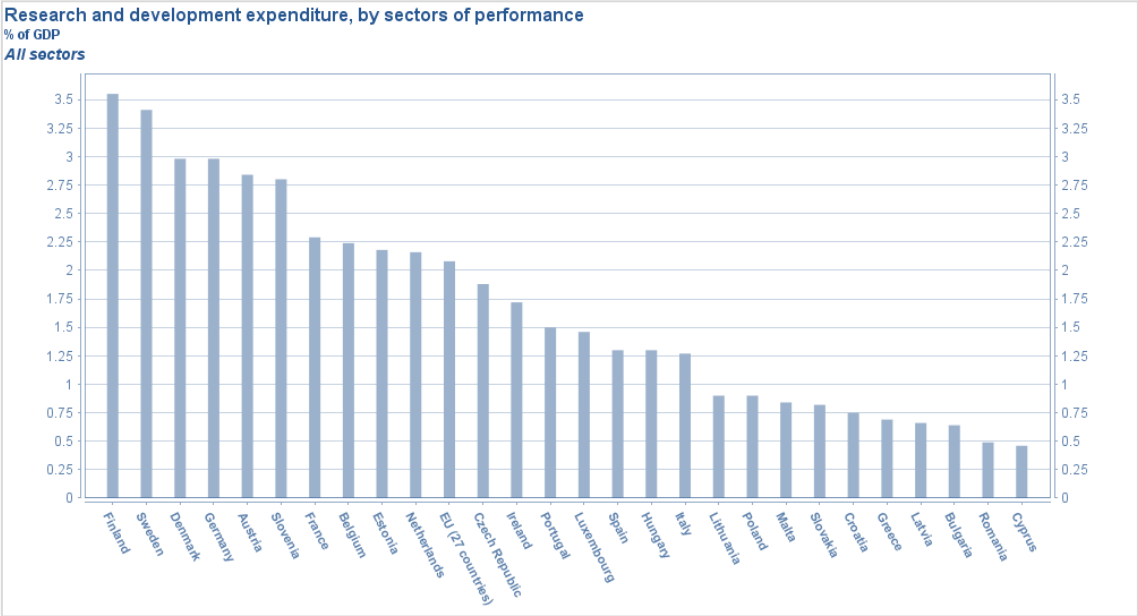


Figure 22 - Research and development expenditure in Europe, per country, 2012 (Source: Eurostat)

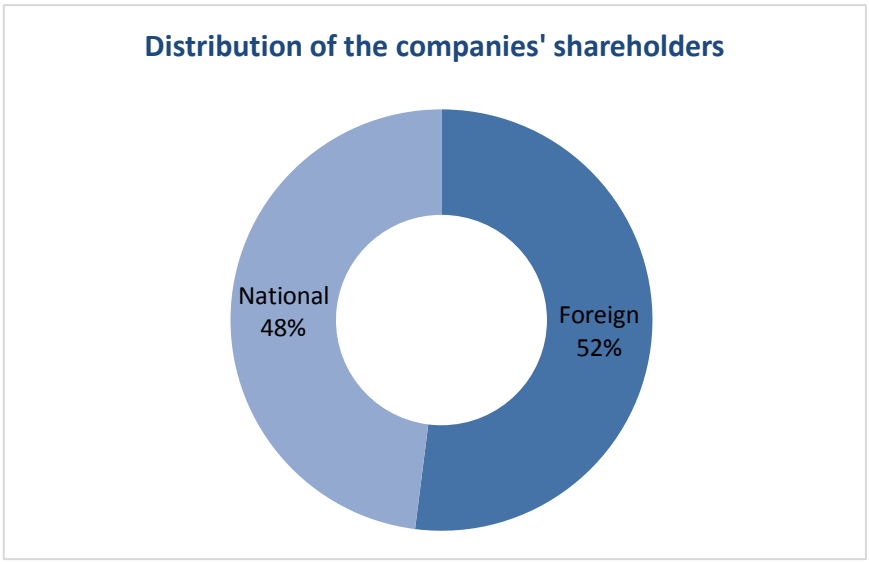


Figure 23 - Distribution of the companies' shareholders, 2013 (Source: AFIA)

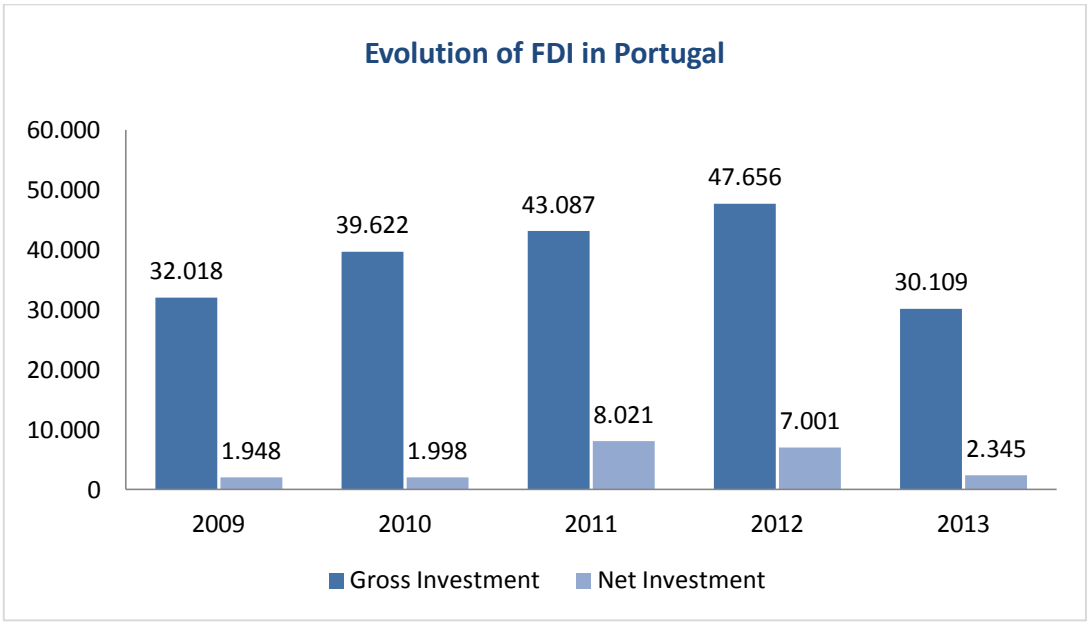


Figure 24 - Evolution of FDI in Portugal, 2014 (Source: Banco de Portugal)

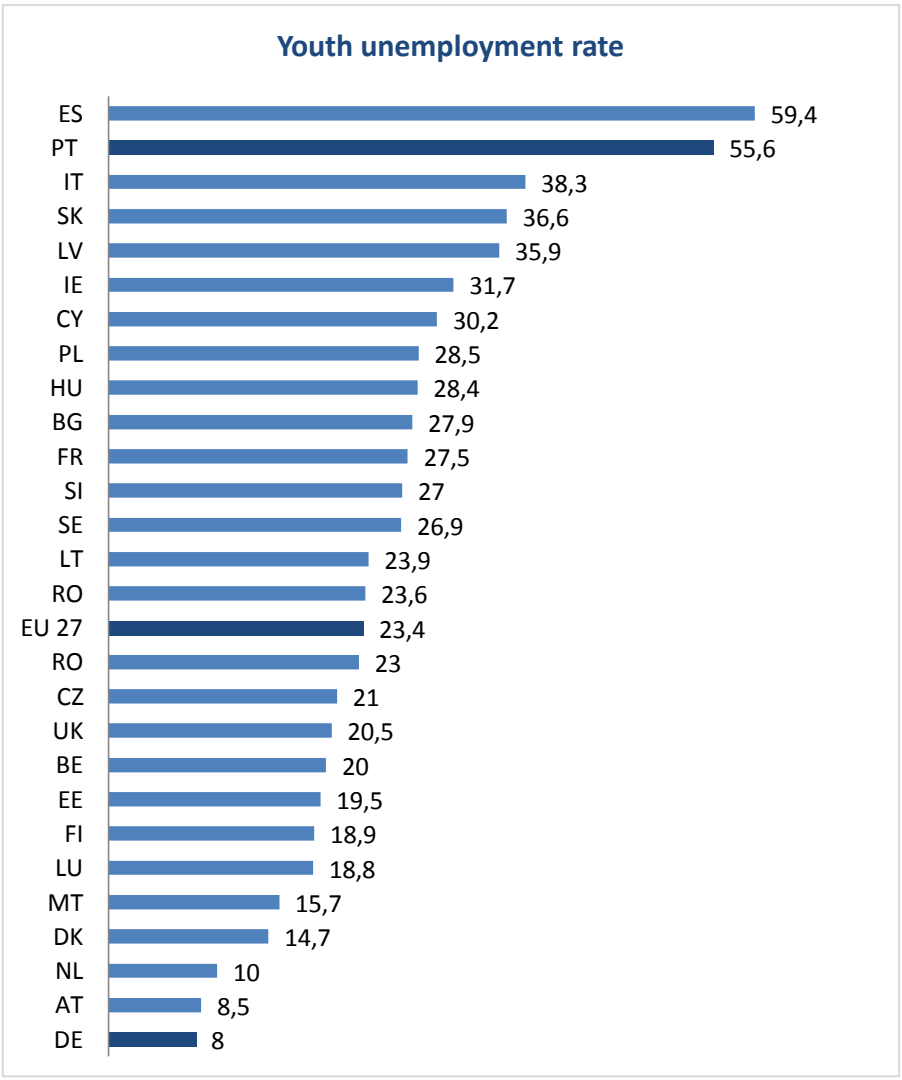


Figure 25 - Youth unemployment rate - December 2012 (Source: European Commission)

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