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NEW DIMENSIONS OF BRAZILIAN ECONOMY INTERNATIONALIZATION: PORTUGAL AS A STRATEGIC LOCATION FOR EMBRAER'S INVESTMENTS AND THEIR IMPACT ON THE REGIONAL ECONOMY

AS NOVAS DIMENSÕES DA INTERNACIONALIZAÇÃO DA ECONOMIA BRASILEIRA: PORTUGAL COMO UMA LOCALIZAÇÃO ESTRATÉGICA PARA OS INVESTIMENTOS DA EMBRAER S/A E SEU IMPACTO NA ECONOMIA REGIONAL

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ABSTRACT/RESUMO

The success of the Real Plan enabled an increasing number of Brazilian companies to invest abroad, particularly in the 2000s. EMBRAER, the world's third largest aircraft constructor, is one good example of this trend. This paper analyzes the motivations of EMBRAER/OGMA, and its investments in Portugal, the second in importance outside Brazil, including an interview with the local company board in 2011. First, we address the current stage of development in the aircraft industry. Second, we present FDI theories. Third, we describe the EMBRAER's global expansion. Fourth, we focus on its motivations for investing in Portugal. Finally we draw some remarks stressing the impact of these investments on the economy through, for example, the creation of clusters.

Keywords: Foreign Direct Investment; Brazil; Portugal; Regional Development

JEL Codes: F21; F23; F63; O19.

O Plano Real permitiu o aumento do número das empresas brasileiras que investem no exterior, especialmente a partir do ano 2000. A EMBRAER, uma das três maiores construtoras de aeronaves do mundo, é um exemplo disso. Este trabalho tem como objetivo analisar as motivações para investir da Embraer/OGMA em Portugal, a segunda localização em importância fora do Brasil, através de uma entrevista com a diretoria local da empresa em 2011. Primeiro, abordar-se-á a situação atual da indústria aeronáutica. Em segundo lugar, o enquadramento teórico sobre o IDE. Em terceiro lugar, descrever-se-á a expansão global da EMBRAER. Logo após, concentraremos a nossa atenção nas motivações da EMBRAER para investir em Portugal. A concluir, refletir-se-á sobre o impacto desses investimentos na economia através, por exemplo, da formação de *clusters*.

Palavras-chave: Investimento Direto Estrangeiro; Brasil; Portugal; Desenvolvimento Regional

Códigos JEL: F21; F23; F63; O19.

1. INTRODUCTION

The international business literature (Dunning & Lundan, 2008) demonstrates how the foreign direct investment (FDI) may generate relevant effects on the regional development of countries. In this context, the aviation industry, a sector characterized by high technology and therefore more likely to trigger local spillovers, stands out of its own accord. Based on an interview with the OGMA board of directors in 2011 and on secondary sources, this article aims to portray and analyze the main motivations of EMBRAER (Empresa Brasileira de Aeronáutica), and its subsidiary OGMA (Indústria Aeronáutica de Portugal) driving its investments in the Portuguese market. The rise of multinational corporations from emerging markets does indeed represent one of the most salient features of the changes occurring in the international economy since the beginning of the 21st century (Sauvant, 2008). To the best knowledge of the authors this probably provides the first case study of the foreign direct investment motivations of an aircraft company in a country with similar profile.

To reach its objectives, the article is structured as follows. Section 2 presents the core trends in the aircraft industry since the 1980s. Section 3 sets out the FDI theories and empirical studies that frame the understanding of our case study. Section 4 is focused on the history and growth of EMBRAER, most particularly its expansion throughout worldwide and up to its acquisition of OGMA. This investment in Portugal and its subsequent enlargement to new Évora located factories is described and analyzed in Section 5, and highlighting the main motivations of the Brazilian company in seeking to establish an important geographic basis in Portugal. Finally, in Section 6 we draw some concluding remarks stemming from the research undertaken.

2. AIRCRAFT INDUSTRY TRENDS SINCE THE 1980S

The commercial airline industry has always been particularly vulnerable to changes in the nationally prevailing economic and political landscapes. The sector depends heavily on the shrinkage/expansion of demand for air transportation and thus on the economic performance of different countries and its effects on income distribution. Aircraft industry production is ultimately determined by market trends, and which are not always the same in different regions across global economy. From 1984 to 2004, the airline industry has experienced two long periods of sustained growth, albeit with certain crises (such as the first Gulf War at the beginning of the 1990s): the first from 1984 to 1989 and the second from 1994 to 2000. Some of the factors responsible for the growth in both periods were the revitalization of the world's economies, broad service liberalization and deregulation, an increase in international trade and investment, an improvement to airline service provision, and the fall in travel costs. In 2000, however, with the end of a bullish stock market, indicated what was to come: the information technology sector fell into crisis and most national economies began to slow their growth, with many teetering on recession and airlines companies beginning to feel the effects of recession. The terrorist attacks of September 11, 2001, accelerated this process, throwing the sector into the most serious period of depression in its entire history. In the midst of 2002, many of the companies previously considered solid had entered into bankruptcy.

The market for the airline industry is, in general, divided between the military and civilian categories. In the case of EMBRAER, its main market is commercial aircraft with 120 seat capacity, known as regional jets. It was in regional jet aircraft manufacturing that EMBRAER first developed its competences, and gained its market competitiveness. For jets above 120/130 passengers, in the last decades, the aircraft industry is made up of the duopoly of the American company Boeing and Europe's Airbus. There is also the market for smaller planes, the so-called corporate jets, manufactured by companies such as Gulfstream, Cessna and EMBRAER itself. In its turn, the regional aircraft market was dominated from the late 1990s to 2004, by Bombardier-EMBRAER duopoly. The two companies provided families of regional jets with recognized high technological quality and great efficiency during the 1990s. As a consequence, demand increased in the latter half of the decade, when most airlines perceived the opportunities offered by regional jets. This trend deepened following the Sept. 11 attacks, resulting in greater demand for regional jets as an effect of decreased demand for longer trading routes, with trends driving demand for commercial point-to-point services, best served by smaller planes, more economical as well as more efficient and better adapted.

The size of the aviation business chain is thus large. It encompasses not only the construction industry of aircrafts of all sizes and for all civilian, commercial and military purposes, but also the construction of all the respective components. There are thousands of systems, from the ultra-modern equipment for avionics, the fuselage of aerodynamics, landing gear to the decor and furnishings of the interiors. The industry supplies the airlines, corporate aviation and commercial air service as well as specialized cargo, mail, rescue, medical and other services. These aircraft, in turn, require maintenance, overhaul and repair, another important segment of the chain, particularly due to safety reasons. To meet all the necessary steps, there are specialized services including businesses in training personnel for the entire chain, from pilots to engineers. The aircraft on the ground need the support of airport services, air navigation services and flight security protection, hangar, maintenance, refueling and agencies providing services like on board air cargo (catering). To address all these links, there is an additional number of support services such as specialized consulting, finance, legal, insurance and specialized press services. It should be noted that we have not mentioned in detail the activities for the military aviation aerospace sector with its own specificities.

The trend towards deregulation is important because of the high degree of business internationalization of aviation companies. Aircraft manufacturers, parts and accessories, similarly to airlines, are divided by several countries, presenting the characteristics of an oligopolistic concentration of business in a few companies. Manufacturers need to maintain presence in their markets not only regarding the sale, but primarily the after-sales service, spare parts, aircraft maintenance, etcetera. The differences in sales are not only the quality of the equipment but in serving the customer with the right product for each operator and business model. There are also numerous partnerships and alliances between companies involved in this industry, which often take the form of mergers and acquisitions. Companies need to be attentive to the market and to show flexibility and quickly adapt to changes. The agreements to facilitate usage of national airspaces in view of cooperation and the elimination of legal barriers of diverse kinds are aimed at increasing the interconnectedness of firms in favor of the global aviation business, whose levels of complexity range from highly specialized education and training to the intense reliance on science and technology for the development of new products of vital importance to this industry. From the standpoint of the productive chain as well as from the perspective product consumption and the utilization of aeronautical services, this sector can be considered as one of the most global both by nature and by specificity.

Besides the drop in demand following the terrorist attacks of 2001, the airline industry had to deal with the stringent safety rules that were adopted after the incident. These difficulties added to other downward factors such as low results in an era of greater deregulation and the rising of costs of labor, the impact of e-ticket sales, the substantial and sustained increase in fuel prices (although fluctuating unpredictably, in the 2000s, there was a clear trend towards higher energy prices), climate contingencies and, furthermore, public health issues. In this sense, the market converged around the following environment:

(I) Airlines have turned into a business 'commodity', the result of demand for low cost transportation;

(II) Access to information for direct sale was final and unprecedented, consolidated in the ability of consumers to look for 'bargains' surfing the electronic network;

(III) Operating costs and manpower had to be cut to ensure the company was able to respond to the new market configuration;

(IV) The pricing system of the largest and most traditional airlines, which remained the same since the deregulation of United States companies in 1978, had to undergo revision.

In the following years, these trends continued, with the commercial aviation market struggling to recover from the crisis caused by September 11 attacks. In 2007, with low-cost airline firms gaining increasing market shares, in conjunction with the regional aviation effect, was the year when results turned positive. However, by late 2008 when the global economic crisis hit in earnest, global airlines were awash in losses. 2009 was the worst year since World War II; the International Air Transport Association or IATA (which represents 230 airlines or 93% of scheduled air traffic) estimated losses among global airlines of about \$16.8 billion for 2008, and another \$11 billion in losses for 2009. Mergers and acquisitions made big news in 2008 through 2010, such as for example the joining up of Iberia and British Airways. In 2010 recovery did take place, with airlines finishing slightly above the traffic volumes of early 2008, but still strongly pressured by costs, especially fuel related charges.

3. THEORY AND EMPIRICAL STUDIES ON THE DETERMINANTS OF FDI

In the present section, and prior to analysis of EMBRAER's growth and expansion until the investment in the Portuguese OGMA business and further developments of this research, we focus on FDI, particularly as concerns those theories and empirical results of relevance in order to fully understand the specificities of our case study. As referred to above this article in all likelihood represents the first case study of a FDI location applied to an aeronautical company, at least in the peculiar circumstances later developed. Therefore, we intend to relate the FDI literature with EMBRAER's motivations to invest in Portugal. Bearing this objective in mind, in the remainder of the section, we deal with the different aspects, both theoretical and empirical, of this literature, which were selected according to their relevance to our central subject.

- *Domestic market*: This is usually measured by gross domestic product (GDP), as well as by its rate of growth or the per capita income level. A large domestic market allows for the leveraging of economies of scale. Empirical papers show the importance of the host country size as determinant to FDI. Trevisan, Daniels and Arbeláez (2002) evaluate the impact of the three dimensions to market reform (macroeconomic, microeconomic and institutional) on FDI flows in seven Latin American countries, between 1988 and 1999. The results show that only gross domestic product, privatization programs and inflation were considered significant factors in the processes leading to investment decisions. Thus, the size of the market and the degree of macroeconomic stability strongly influenced company investments in the region. Clearly, Portugal domestic market is limited from several perspectives; however, as underlined later, its membership of the European Union, and its participation in the Eurozone, means that due to free circulation and a common currency, Portugal has easy access to a much wider market.
- *Regional Integration*: In general, economic integration stimulates commercial relations between participant countries, while tariff protection inhibits imports from third party countries not integrated into the block. These effects tend to increase the FDI flows into the integrated countries (Robson, 1998). Blomstrom and

Kokko (1997) argue that widening the market is much more significant to inducing FDI than tariffs, and to a large extent, FDI depends on economic, political and social changes entailed by these agreements and, consequently, by the locational advantages of participant countries and companies in the process.

- *Bilateral trade*: Trade flows and FDI can be complementary (Cechella et al., 2009). The increase of trade between countries becomes larger when there is FDI between the source country and host countries, thus exports and imports also tend to encourage FDI. The UNCTAD report (2005) testifies the positive correlation between bilateral trade and FDI. Ekholm and Markusen (2002) find evidence of this in the context of NAFTA when there was a strong increase of FDI between U.S.A. and Mexico. Also, the rise of reciprocal trade between Brazil and Portugal since the early 1990s to a certain extent demonstrates how trade may represent a determinant of FDI (Silva, 2002, 2012b).
- *Labor costs*: Companies may reduce their costs of production through transferring of factors to countries where labor is relatively cheaper, as shows the paper of Landsbury et al. (1996), which examines the relative labor costs between countries, and testing this trend in Eastern Europe with the analytical results consistent with former study. However, in the case of the determinants of FDI, the relevance of labor costs is not conclusive. In this context, we can not only consider the relevance of labor costs, but also worker productivity. Companies pay higher wages whenever the quality of manpower is important to their results (Venables, 1996). Hence, Portugal likely provides the lowest relative labor costs within the context of Eurozone.
- *Economic distance and transport costs*: Studies have pointed out that economic distance (Dentinho, 2002; Capello, 2010; Pontes, 2012), and related factors such as transport costs, may be positively related to FDI. Collins and Rodrik (1991) demonstrate how proximity to the European market is an important aspect in the decision to export or to invest; Markusen (1995), and Buckley and Casson (1998) suggested FDI increases in relation to trade whenever tariffs and the costs of transport are high.
- *Exchange rates and inflation*: Stability in the exchange and inflation rates could be a determinant to FDI because this underpins company confidence in current and future results, as much as in directing reinvestment in the source country. McCulloch (1989) argues that, in a framework where companies evaluate their future being equal to their present, exchange rate movements do not affect FDI. Itagaki (1981) and Cushman (1985) earlier argue that the previously prevailing exchange rate volatility reduces FDI inflows, on the grounds that investors are averse to exchange rate risks.
- *Cultural affinities*: According to the Uppsala school of thought, internationalization is envisaged as a process in which companies gradually increase their international involvement, successively entering new markets, taking into consideration the psychological distance concept which is defined through various cultural differences. These variables contain information influencing the relationship between companies and markets. Companies embark on internationalization in those markets they perceive they more easily understand and where they think there are lesser risks. Johanson and Wiedersheim-Paul (1975), Johanson and Vahlne (1997), Liu et al. (1997) provide some of the works testifying to the importance of cultural aspects for many companies investing abroad. In a similar vein, other authors have shown the special role of linguistic and cultural proximity in company internationalization processes (Silva, 2005).
- *Firm context*: According to Dunning (1979), the eclectic paradigm resulted from his dissatisfaction with the existing theory of international production: the Hymer-Kindleberger approach, the product-cycle theory, and the internalization theory. Henceforth, Dunning proposed an alternative line of development seeking to integrate the existing theories into a general and 'eclectic' model. He suggests that firms engages in FDI when three conditions are satisfied: when possessing net ownership advantages vis-à-vis firms from other countries; when it is beneficial to internalize those advantages rather than to leave the market to pass them onto foreign firms; and when there are some location advantages in using the firm's ownership advantage in a foreign location rather than at home. This last component of the eclectic paradigm must be highlighted here insofar as it clearly introduces the problem of location, often neglected, into the theories of FDI (Silva, 2012a).
- *Resource dependence*: One basic network model assumption is that a single firm is dependent on resources that are controlled by other firms. To enter a network from the outside requires the other network actors be motivated to engage in interaction. Business relations and industrial networks are difficult to observe phenomena by outside observers that may be potential entrants. The actors within the network are tied to each other whether through social, administrative, legal or economic factors (Hollensen, 1998).
- *Competitive advantage*: Porter (1990) states the traditional factor endowment argument of standard trade theory is too simplistic. He argues that the most important factors to comparative advantage are not inherited, as Heckscher-Ohlin theory assumes, but are created and that the broad categories of land, labor, and capital are too general. Porter considers that sustainable competitive advantage only exists when a nation state possesses the factors necessary to compete in a particular industry, which are simultaneously advanced and specialized. The model states that factor conditions cannot be relied upon solely to generate national competitive advantage as demand conditions, related and supporting industries and firm strategy, structure and rivalry must mutually reinforce each other.

- *Regional development*: the links between FDI and regional development are attracting more and more theoretical as well as empirical attention (Capello and Dentinho, 2012). This is all the more important insofar, according to a study by Becerra and Santalo (2003), the performance of multinational firms is primarily determined by local factors, and only a very small proportion (about ten percent) is attributable to the multinational as a whole. This endows even greater emphasis to the object of this work, and related themes such as the delocalization and relocalization of economic activities (Carballo-Cruz, 2012).

4. EMBRAER'S HISTORY: FROM ITS BEGINNINGS TO THE ADVENT OF INTERNATIONALIZATION

The link between Brazil and the aircraft industry traces its origins to Santos Dumont, a pioneer and considered by many the inventor of the airplane. The growth of the industry is however linked to the role of the military and state intervention under the aegis of 'national development'. National security and defense, undertaken by the military (especially following the two World Wars in the first half of last century), would justify state intervention for the implementation of a national aeronautical industry[1]. The role of aviation was adopted by the emerging thinking in a project designed to bring about national integration through the means of connection between inner poles of production and economic development and the political and administrative centers, located on the Brazilian coast.

The company was founded in 1969 with is headquarters in São José dos Campos (São Paulo state) as a natural result of this thinking. Its participation in international trade began in 1975, when EMBRAER significantly increased its foreign sales and in 1977 was able to sell planes to Europe and soon after to the United States. As already referred to above the company specialized mainly in mid-sized aircrafts. Structural and cyclical factors favored the rapid consolidation of the company in the 1970s and early 1980s. EMBRAER's origins are also bound up with the creation of the Aeronautics ITA (Aeronautics Technological Institute) and CTA (Aeronautics Technological Center).

FIGURE 1. EMBRAER LOCATION WORLDWIDE

Source: Embraer Annual Report, 2010

However, in the late 1980s, EMBRAER encountered serious problems of competitiveness, particularly when presenting its products whilst new companies were taking root in the international market. Moreover, the state financial crisis, a hostile political environment, the lack of government investment in science and technology, and the end of the Cold War contributed towards a worsening financial performance. Thus, in spite of strong criticism, the company was privatized in 1994, although the government retained a controlling 'Golden Share'. EMBRAER was privatized thanks to a state initiative[1] in a period when the development of a range of skills put the company center stage of aviation industry operations worldwide and becoming a major player in the sector globally. Furthermore, EMBRAER expanded the scope of Brazilian diplomacy and the country's institutional context in some international multilateral agencies, giving rise to a plethora of representation in other relevant international forums.

Currently, EMBRAER – Empresa Brasileira de Aeronáutica S.A. is one of the world's leading aircraft manufacturers, a position reached due to the constant and determined pursuit of full customer satisfaction. Throughout more than 40 years of its history, the company has been involved in

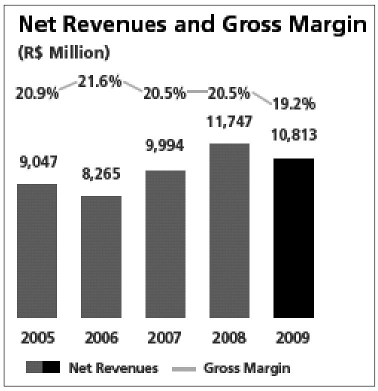
[1] Nero Moura, former Minister of Aviation, gives to Getúlio Vargas, Brazilian president (1930-1945 and 1951-1954), the credit for encouraging the aviation industry in Brazil. It is important to note that experiments prior to the creation of EMBRAER were operated under the light of private setor initiatives, alongside the projects of the government or military from the late nineteenth century, expanding the vision focused on teaching and research institutions. In 1927, the two main airlines in Brazil were Varig and Condor Syndicate.

all stages of a complex process: design development, manufacturing, sales and after-sales support for aircraft in the commercial aviation, executive aviation, and defense segments. It has produced more than 5,000 aircraft that operate in 88 countries on the five continents, and it is the market leader for commercial jets with up to 120 seats. EMBRAER manufactures some of the best executive jets in operation, and is now entering a new level in the defense segment.

In Brazil, engineering, development and manufacturing activities take place in five industrial units located in the cities of São José dos Campos, São Paulo, Botucatu, and Gavião Peixoto, as well as a logistics centre in Taubaté, all located in the state of São Paulo. In 2011, the company set about establishing three new industrial units abroad: one is located in the city of Melbourne, Florida, U.S.; and other two are in the city of Évora, in the Alentejo region, in the south of Portugal, which began production in 2012.[2]

In order to provide after-sales support, EMBRAER has its own service centers and replacement parts sales in São José dos Campos, São Paulo, Brazil; Fort Lauderdale, Florida; Mesa, Arizona; and Nashville, Tennessee, U.S.; Villepinte (near Roissy – Charles de Gaulle Airport), France; and Singapore, as well as a specialized authorized service network located in several countries. In addition, EMBRAER maintains distribution centers for replacement parts and a trained technical staff in China for customer services in the region. For the global support of the Company's activities, there are offices in São Paulo, São José dos Campos, Fort Lauderdale, Villepinte, Singapore, and Beijing. Figure 1 portrays the EMBRAER locations all over the world (but prior to the more recent expansion). EMBRAER also controls 65% stake in the aircraft maintenance and production company OGMA – Indústria Aeronáutica de Portugal S.A, with the remaining 35% belonging to the Portuguese state. It also holds HEAI – Harbin EMBRAER Aircraft industry, a factory in Harbin, China, in a joint venture with the Chinese state-owned company AVIC.

FIGURE 2. EVOLUTION OF NET REVENUE AND GROSS MARGIN, 2005-2009



Source: Embraer Annual Report, 2010

TABLE 1. EMBRAER DELIVERIES BY AIRCRAFT SEGMENT, 2008 AND 2009

Aircraft Deliveries per Segment

	2008	2009
Commercial Aviation	**162**	**122**
ERJ 145	6	7
EMBRAER 170	9	22
EMBRAER 175	55	11
EMBRAER 190	78 (1)	62
EMBRAER 195	14	20
Executive Aviation	**36**	**115**
Phenom 100	2	93
Phenom 300	-	1
Legacy 600	33	18
Lineage 1000	-	3
EMBRAER 175	1	-
Defense*	**6**	**7**
ERJ 135	2	1
ERJ 145	1	-
Phenom 100	-	4
Legacy 600	3	-
EMBRAER 190	-	2
TOTAL JETS	**204**	**244**

* Includes only deliveries of executive jets configured for transport of authorities and aircraft for Government airlines
Deliveries between parentheses are registered as operational leasing

Source: Embraer Annual Report, 2010

EMBRAER closed out 2009 with 16,853 employees – 15,952 in Brazil and 901 abroad – as well as 1,775 at its partially-owned subsidiaries OGMA and HEAI. For the third

[2] See interview with Luiz Fuchs, President of EMBRAER Europa in *Expresso* (September, 10, 2011).

consecutive year, the company set a new aircraft delivery record, with a total of 244 jets, which is higher than the previously defined goal of 242 units, and 19.6% more than 2008, when 204 jets were delivered. The firm order backlog was US$16.6 billion, on December 31, 2009. Figure 2 shows the evolution of Net Revenue and Gross Margin in 2005-2009, and with the Table 1 detailing the EMBRAER deliveries by aircraft segment, just for 2008 and 2009.

We would note that, in spite of the world economic crisis breaking in 2007, EMBRAER revenues have remained robust. Of the total of 244 jets delivered in 2009, 122 went to the commercial aviation market (115 from the EMBRAER 170/190 family and seven from the ERJ 145 family), and 115 were delivered to the executive aviation market, including 18 Legacy 600, three Lineage 1000, one Phenom 300, and 93 Phenom 100. Furthermore, seven transport aircraft were delivered to the defense market clients, as well as 10 modernized F-5s through the BAB Program and 20 Super Tucanos to Brazil, the Dominican Republic and Chile. All this effectively conveys the vast level of diversification in EMBRAER's production in order to meet global demand.

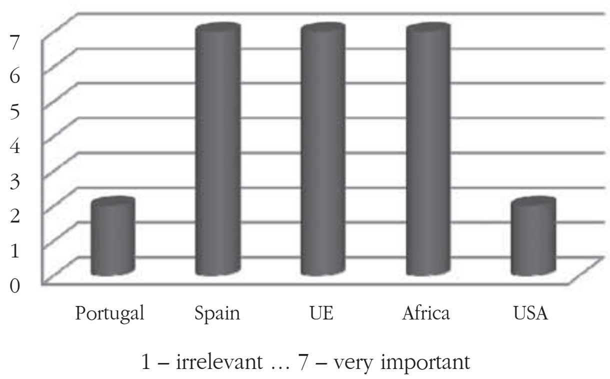
5. EMBRAER MOTIVATION FOR INVESTING IN PORTUGAL – OGMA

The internationalization of EMBRAER in Portugal is linked to a new stage in Brazilian investments in Portugal (Cechella, 2011), following on from the boost in reciprocal Luso-Brazilian trade and investment since the early 1990s (Silva, 2002). These developments were not possible without the successful implementation of the Brazilian Real Plan in 1994, which halted the inflationary outbreaks, and produced effects experienced throughout all productive sectors, and altering the relationships prevailing within the chains and sectors of production by generating new conditions for the composition of costs and disbursement prices. The Real Plan nurtured conditions favorable to the development of various sectors and firms and extending to their internationalization. The ability to import new machines and products, for example, was intensified. Moreover, the opening of the Brazilian economy in the 1990s and its aftermath revealed the need for domestic companies to become competitive, both internally and externally, to improve and increase their business and scale, which in turn prompted them to alliances with other companies, including foreign entities as well as establishing external installations (sales offices, technical assistance, commercial agencies, production units).

EMBRAER first invests in Portugal since March 2005 through OGMA (acronym of Oficinas Gerais de Material Aeronáutico, an enterprise founded in 1918), which was then privatized with EMBRAER acquiring 65% capital stake and, sharing control with the Portuguese State (35%). OGMA is located at Alverca, in Greater Lisbon. The main OGMA products and services are military aircraft maintenance (C-130, P-3 and F-16), engine maintenance and the manufacturing of aircraft structures. The company employs 500 employees directly and 1700 workers indirectly, with a 2009 turnover of 146,4 million of euros in 2009. Through interviewing the OGMA board of directors, we tried to identify the main motivations for the EMBRAER investments in Portugal, following a similar method to that used in Cechella (2011). Regarding the main determinants driving these investments, the research results are:

- *Importance of other markets from Portugal:* in terms of economic geography Portugal is a strategic place for the company in relation to EU markets, especially Spain. North Africa is also important. The main business is to export driven and, so the domestic market bears relatively little importance. The acquisition of OGMA meant a stronger presence in Europe for EMBRAER, where they have been located since the opening of its subsidiary in Le Bourget, France. The presence in Singapore facilitates the acquisition of high-technology products and services, besides the contacts and connections with companies from the various regions of the world not otherwise present in Brazil. The joint venture with China's Harbin ensured EMBRAER with a market share in that country and in neighboring regions and expands the presence and scope of the Brazilian regional jet brand. EMBRAER also seeks to balance its customer portfolio by reducing the weighting of any single region.

FIGURE 3. EMBRAER IN PORTUGAL: THE LOCATION IMPORTANCE



Source: OGMA interview, April 2011

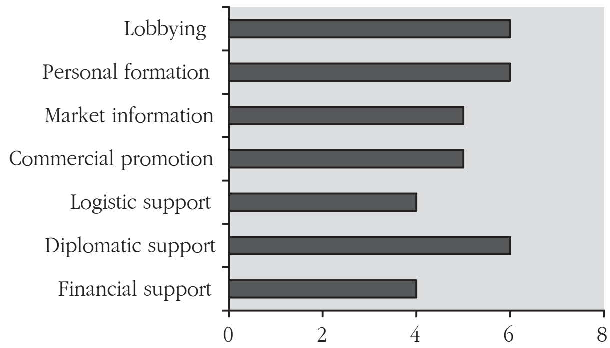
- *Regional impact:* in addition to the OGMA stake, at the time of the interview, EMBRAER was building two factories in Évora, Alentejo region, a primary intensive region, due to start production in 2012. The aviation company is investing 148 million euros over six years on the project, and expected to bring at least 570 direct jobs to the Évora region. In the metal structures unit, there is 100 million of investments with the composite materials factory accounting for the remaining, 48 million euros. Therefore, this may drive a positive major impact for the entire region.

According to former Portuguese ex-Prime Minister José Sócrates, who signed the EMBRAER's investment agreement: "The expansion of EMBRAER of Brazil represents a major boost to the economic development of both Évora and the region, demonstrating the skill of our workers and the ability of our country to participate in such a demanding and selective industry." The government's goal is to create an advanced technology industrial aircraft production cluster in the country. In 2011, Frederico Curado, the chairman of EMBRAER, also stressed the importance of such investments to the group: "The start of construction on the new units represents a milestone for the company in expanding its global presence. This is a strategic step towards improving the productivity and competitiveness of our company. We are honored and proud to strengthen our relationship with Portugal and, more broadly, with Europe, one of our biggest and most important markets." The materials produced at the new plants will then be sold to the company's airplane production units.

We would emphasize the strategic scope of this project involves setting up an aerospace *cluster* in the region. Clusters are geographic concentrations of interconnected companies, specialized, interdependent and interrelated associations of suppliers, service providers and providers of 'specialist public goods' to promote agglomeration economies or increasing returns of scale and productivity growth (Franco, 2007). The new composite materials plant is designed according to lean manufacturing concepts. In order to maintain and further develop the skills in place at its centers of excellence, the company has maintained contacts with local organizations, including potential suppliers, research centers and universities. Aviation industry companies have already expressed intentions to set up in the city aeronautical industrial park. Indeed, they would seem to be a blur of major projects. According to EMBRAER, the location of centers of excellence in Évora resulted from careful evaluation by the company. Several factors were considered, such as potential access to skilled labor, logistical infrastructures and the existence of a technology park aeronautics dedicated to, as set out in the municipal master plan.

- *The importance of economic diplomacy:* the Portuguese ex-Prime Minister José Sócrates expressed the long term perspective of EMBRAER's investments in Portugal: "To have in our country the best of Brazilian companies is very important, showing that the relationship between Portugal and Brazil is not just a nostalgic twist in our history, but also an affirmation of confidence for the future." In this sense, the company ranks its participation in economic diplomacy as very important, since it is a global company and government support is highly valuable to the development of the company internationally (both were already associated in OGMA, and thus had experience together). Figure 4, details some of the items the company would like to see improved in Portugal's foreign relations. The factors the company identifies as most important are: lobbying, strengthening diplomatic support for the sector involved, other government-related subjects, and staff training in order to facilitate the entry of human resources into the country, and in keeping with the responses of Brazilian multinationals in general (Cechella, 2011).

FIGURE 4. EMBRAER IN PORTUGAL: ECONOMIC DIPLOMACY RELEVANT ITEMS

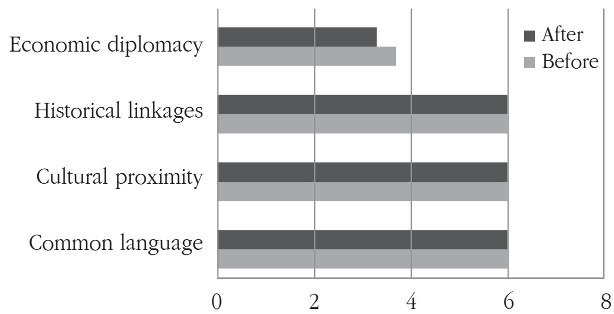


1 – irrelevant … 7 – very important

Source: OGMA interview, April 2011

- *Importance of cultural affinity*: in conjunction with other factors, cultural affinity played a relevant role in the decision to install and expand EMBRAER in Portugal. The shared language, as there between different countries speaking English, French, Spanish, Chinese, among others, which, by language, history and culture thereby encounter greater ease in doing business, due to easier communication, for example. Figure 5 shows the importance of such cultural factors. EMBRAER sees diplomacy as a complement to entrepreneurship, not ceasing to be very important but less so than the three main cultural factors.

FIGURE 5. EMBRAER IN PORTUGAL: THE IMPORTANCE OF CULTURAL AFFINITY



1 – irrelevant … 7 – very important

Source: OGMA interview, April 2011

- *Alliances:* Since the 1980s the international airline and aircraft business, an inherently global industry, has been a mixture of competition and collaboration, with virtually every major international airline regularly forming cooperative agreements with other airlines. Globalization and liberalization/deregulation have radically changed the air transport market and the rules it follows, generally upsetting the *status quo*. Airlines have had to develop innovative strategies to adapt to market change, growth and the demands of competition. They have met these challenges with the help of alliances, which have fundamentally altered the industry's structure, enabling airlines to cope with the instability inherent to the sector and reap as many benefits as possible. The airlines industry resorted to alliances because an alliance is a flexible organizational form offering rapid growth potential. It is the modern engine for growth, which for airlines takes the form of increased network coverage and entrance in to new markets. Due to the air transport industry's own peculiarities as well as the regulatory framework governing it, alliances represent the business arrangement enabling airlines industry participants from different countries to jointly serve the global market at a lesser cost.

- *Other relevant determinants:* Table 2 summarizes the other reasons that the company considers important in its choice of Portugal as a major location for foreign investment at this stage in its internationalization.

TABLE 2. EMBRAER – MAIN DETERMINANTS TO INVESTING IN PORTUGAL

Motivations to invest	Geographical distance, the country's image, infrastructure, European Union
Company benefits	Synergies with global integration, product and services improvements
Problems	Stagnating economy, lack of human resources, legal system
Competitiveness factors	Proximity to European markets, cultural affinity, product range, autonomy
Operations	Purchase, production, storage and post-sale
Why not Spain?	Cultural affinity, labor and transportation costs
Brazil impact	Other Brazilian investment companies and imports
Type of investment	Acquisition and *greenfield* site*(Évora)*
Internationalization	Great internationalization experience before Portugal
Incentives	Yes for new plants in Évora
Organizational culture	Similar, not much difference
Production	Produce locally, 94% to exports
Success factors	Leadership, shared values, market oriented
Rate of return	More than expected
Would you invest in Portugal again?	Yes

Source: OGMA interview, April 2011

The results of the OGMA executive board survey clearly demonstrate that EMBRAER investments in Portugal had a deep impact not only on the firm itself but also on the host country, across very diverse and important economic factors, at the macro, micro and local levels.

6. FINAL REMARKS

This paper analyzes a Brazilian direct investment project in a high tech sector and the main motivations of EMBRAER to investing in the Portuguese market through OGMA. Indeed, for a long time, Brazil was seen as only primary product oriented. This is probably the first *case study* worldwide of FDI motivations in a big aircraft company.

The liberalization of the European Union market in the 1990s radically changed the competitive environment and the nature of airline competition. Furthermore, the new millennium began with terrorist attacks, epidemics, trade globalization, economic crisis and the rise of oil prices, all of which combined to push the industry into a period of serious turbulence. Airline industry profitability has been an elusive goal for several decades and the recent events have only accentuated existing weaknesses. The main concern of industry observers is whether the airline business model, successful during the 1980s and 1990s, is now sustainable in a market crowded by low-cost carriers. The airlines that respond rapidly and determinedly to increased pressures to restructure, to consolidate and to segment the industry, as EMBRAER did, will likely achieve competitive advantages.

Through interviews with the OGMA Board of Directors, in Alverca, as well as secondary data, article conveys EMBRAER motivations for its investment in Portugal, particularly concerning its contribution to the development of regions where it has a presence, Greater Lisbon and more recently in the Alentejo, within the context of world aviation and company growth and expansion. Teetering on the edge bankruptcy in 1993/4, EMBRAER in 2011 was the third largest producer of regional jets in the world, and continued to expand on a sound basis. Specialized in the manufacture of robust and economical regional jets, EMBRAER benefited from their comparative advantage in relation to big planes in a period of high sector turbulence, and has also added the characteristics necessary for its own integration into the global marketplace. Moreover, there were a series of organizational changes as regards the company focus, whose initial engineering-driven culture was transformed into a market-driven strategy.

Therefore, we correspondingly to assess the role played by the main determinants of EMBRAER's investments, at the national, regional and corporate levels, in the light of the company's decision to invest in Portugal. Beyond the importance of cultural affinity and the presence of an investment opportunity, the privatization of OGMA in 2004, there are other relevant locational factors such as the strategic location to export with synergies to global integration, a national image appropriate to the company's values, infrastructures, skilled workers and government support, economic diplomacy, the establishment of alliances and European incentives. The OGMA investment provided potential spillovers to other related aviation industry businesses and the economy as a whole. One example is EMBRAER's investment in the city of Évora through OGMA, which sees the country move on from the maintenance to the manufacture of airplanes, and was much sought after by many countries as there is high technological content and an export driven product in what creates a competitive environment. According to the Portuguese ex-Prime Minister José Sócrates, such investment "means" strength of technological know-how and the deeper integration of Portugal into the global economy, based on a sector characterized by a high level of research and development. Indeed, this investment enables the creation of an aircraft cluster in Alentejo. So, this investment is important not only for their size and job creation, but also mainly because it place Portugal onto a new stage in the aeronautics industry, since the country will produce the industry's key parts. In spite of the economic stagnation of Portugal in the last decade, the company has had a better than expected return on initial investment and continues to invest in the country through the new factories constructed in Évora. Similar to Portuguese investments in the late 1990s in some parts of Brazil, Brazilian investments in Portugal are also now impacting on the regional development.

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DECENTRALIZATION OF PUBLIC POLICIES FOR THE PROMOTION OF SMES' INTERNATIONALIZATION. A THEORETICAL ACCOUNT*

A DESCENTRALIZAÇÃO DAS POLÍTICAS PÚBLICAS PARA A PROMOÇÃO DA INTERNACIONALIZAÇÃO DAS PME. UMA EXPLICAÇÃO TEÓRICA

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ABSTRACT/RESUMO

SMEs face several obstacles in their internationalization process that they cannot overcome alone, forcing them to remain domestic and, therefore, at a disadvantage in relation to competitors which adopt a more global business perspective. Government action can help SMEs to overcome their limitations, having come to play an increasingly more important role in export promotion, a field where it is normally an aggressive actor. This has led to the view that export promotion programs and agencies are today crucial instruments in supporting SMEs. For these reasons, the formulation of a national strategy of export promotion has been on the agenda of countries throughout the world. Policy decentralization is today a reality, as a reform of the public sector's model and as a development strategy. From the perspective of decentralization, it has been acknowledged that initiatives should be based on the territory and managed locally, and that the decentralization of power and responsibility to the local level is an important factor in local and regional development. Despite extensive research regarding decentralization, the role of local governments in promoting the internationalization of firms seems to have been rather neglected in the literature, whether in the area of regional science or that of international business. This paper intends to fill this gap, establishing a bridge in the review of the literature on promotion policies for the internationalization, decentralization and internationalization of firms.

As PME enfrentam vários obstáculos no seu processo de internacionalização que não podem superar sozinhas, forçando-as a permanecer domésticas e, portanto, em desvantagem em relação a concorrentes que adotam uma perspetiva de negócios mais global. A ação do governo pode ajudar as PME a superar as suas limitações e tem vindo a desempenhar um papel cada vez mais importante na promoção das exportações, uma área onde o Governo é normalmente um ator muito ativo. Isso contribuiu para a ideia de que os programas e agências de promoção de exportação são hoje instrumentos fundamentais no apoio às PME. Por estas razões, a formulação de uma estratégia nacional de promoção das exportações tem estado na agenda dos países em todo o mundo. A política de descentralização é hoje uma realidade enquanto reforma do modelo do setor público e estratégia de desenvolvimento. Do ponto de vista da descentralização, é reconhecido que as iniciativas se devem basear no território e ser geridas localmente, sendo a descentralização do poder e a responsabilidade para o nível local um fator importante no desenvolvimento local e regional. Apesar de extensa investigação sobre a descentralização, o papel dos governos locais na promoção da internacionalização das empresas tem sido bastante negligenciado na literatura, quer na área da ciência regional, quer na dos negócios internacionais. Este artigo procura preencher esta lacuna fornecendo uma sistematização da literatura que liga as políticas de promoção da

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internacionalização, da descentralização e da internacionalização das empresas.

Keywords: Decentralization; Local Policy; Exports; SMES

JEL Codes: F59, H76, O18, R58.

Palavras-chave: Descentralização; Políticas Locais; Exportações; PME

Códigos JEL: F59, H76, O18, R58.

1. INTRODUCTION

The internationalization of small-medium enterprises (SMEs) has been one of the most researched topics in the international business literature in the past three decades (Kamakura *et al*., 2012; Ketkar and Acs, 2013).

The internationalization process is a rather complex phenomenon, regarded by some (following the Uppsala model - Johanson and Vahlne, 1977) as an incremental process wherein firms initially move toward psychologically close markets and only later expand to others in a gradual, stepwise fashion, and by others as a very rapid route, occurring since firms' inception (Oviatt and McDougall, 1994) or resulting from critical events, such as changes in ownership and management, or a takeover by another company possessing international networks, leading to sudden internationalization (Bell *et al*., 2001).

Internationalization involves distinct patterns, that is, choices of international markets and of entry mode. Non-equity modes include export and contractual agreements (e.g., Licensing, Franchising, Turnkey projects), whereas equity modes include joint venture and wholly owned subsidiaries (Grande and Teixeira, 2012). Compared with larger multinational enterprises, SMEs tend to favor exporting as their primary entry mode because of the high degree of international business opportunities and strategic flexibility it offers (Kamakura et al., 2012).

Drawing on theories of social exchange and resource dependency, several recent contributions (e.g., Antoldi et al., 2013; Blind and Mangelsdorf, 2013; Eberhard and Craig, 2013) argue that internationalization happens as a consequence of the externalities arising from the firm's network of relationships with, among others (e.g., customers, suppliers, competitors), government and private support agencies, which expand the boundaries of the firm's relationships. Indeed, governments play an increasingly more active role in supporting SMEs to export through public policies that promote their internationalization, most notably export promotion (Gil et al., 2008; Lederman et al., 2010; Wright, 2011; Vijil and Wagner, 2012). Interpreting globalization as a process of internationalization of production and markets encompassing increasing international trade or increasing foreign direct investments, Capello and Dentinho (2012) underline the likely advent of a 'regionalized' globalization where local government might perform a critical role not only in promoting trade but also in attracting Foreign Direct Investment (FDI), which ultimately would enhance local SMEs internationalization through network effects.

Trade and FDI support by local government raises the issue of decentralization of public policies, which Faguet (2014: 2) calls "one of the most important reforms of the past generation". Many processes of decentralizations aim to achieve a more participatory and cooperative system of nested, accountable and transparent self-governments. However, from intentions to practical implementation goes a great distance. In fact, some authors (e.g., Ardanaz et al., 2014; Faguet, 2014), albeit recognizing the merits of decentralization, also underline the perils of it, arguing that the performance of the system, both at the local and the central level, is highly dependent on the structure of incentives that determine the behavior of political actors.

Bearing in mind the growing process of decentralization (Taylor, 2007; Wang, 2013; Faguet, 2014) and the appearance, in the last thirty years, of studies that focus on local economic development (DeFilippis, 1999; Cox, 2004; Barberia et al., 2010; Negoita and Block, 2012), it becomes important to assess to what extent the local space, through municipalities, can and/or should also seek affirmation as a fundamental scale of action for a policy that promotes local enterprises in the global market.

Notwithstanding the important and fairly wide-spread scientific production on the promotion of exports and public policies and programs in this area, namely as to their results (Wilkinson and Brouthers, 2006; Shamsuddoha et al., 2009; Vijil and Wagner, 2012), and the degree of satisfaction on the part of beneficiary firms (Gillespie and Riddle, 2004; Calderón et al., 2005; Cassey, 2010), to the best of our knowledge, there are no studies that deal with the local perspective or examine the decentralization of the promotion of firms' internationalization, more specifically of SMEs' export promotion.

In this context, this study aims to provide a theoretical account on three interrelated topics – SMEs' internationalization efforts, policy decentralization and role of local government structures to support/enhance SMEs internationalization – trying to rationalize the scope for and relevance of internationalization policies, in general, and export promotion policies in particular, at a territorial/local scale.

The present work is organized as follows: Section 2 examines the obstacles that SMEs face in their internationalization process. Afterwards, Section 3 describes the entities and policies that support this process. Section 4 details the decentralization of public policies and, finally, Section 5 concludes by discussing the relevance of municipalities in devising and implementing export promotion policies/measures targeting local SMEs.

2. THE INTERNATIONALIZATION PROCESS SMES: WHAT ARE THE OBSTACLES?

One of the biggest trends in the entrepreneurial sphere of the 21st century is the extraordinary growth of globalization (Pinho and Martins, 2010; Capelli and Dentinho, 2012). In fact, the market has never been so globalized and interdependent as it is today, opening the range and scale of opportunities to firms (Stoian et al., 2012; Kahiya, 2013). Favored by significant and continuous improvements in production, transport, information technologies, financial systems, regulating environments and business networks, regardless of their dimension, firms have increasingly broadened their operations to the international market, as a way to gain, support and improve their competitive advantages (Aulakh et al., 2000; Rodriguez et al., 2013) and diminish their costs (Özler et al., 2009; Peiris et al., 2012). Similarly, operating in cross-border markets may enable firms to benefit from international competition and to increase their involvement in foreign markets, thus becoming important actors in their own domestic market (Czinkota, 1996; Kamakura et al., 2012).

According to several studies, internationalization in general, and exporting in particular, enable firms to: increase their probability of survival and to diminish their rate of failure (Czinkota, 1996; Love and Ganotakis, 2013); attain gains of scale (Czinkota, 1996; Czinkota, 2002; Rocha *et al.*, 2008); provide access to new technologies and new products (Mallick and Yang, 2013), or even have the opportunity to anticipate strategic movements from future rivals (Rocha *et al.*, 2008); distribute business risks across different markets and projects (Czinkota, 1996; Czinkota, 2002); improve technology, quality, processes and services patterns in the organization (Terpstra and Sarathy, 2000; Czinkota, 1996; Smith *et al.*, 2006); explore wasted operational capacity and improve production efficiency through a more efficient allocation of resources (Smith *et al.*, 2006); learn from competition and gain greater awareness of different search structures and cultural dimensions (Czinkota, 1996); and attract and reward stakeholders and employees by means of creating a better revenue base.

Additionally, exporting is the most common and most attractive entry mode in international market for firms and for their products to gain visibility abroad (Kamakura *et al.*, 2012), as exporting implies a smaller commitment of financial and human resources and smaller risks in comparison to other entry modes in foreign markets, such as joint ventures or subsidiaries (Pinho and Martins, 2010; Stoian et al., 2012), while at the same time affording great flexibility of movements (Pinho and Martins, 2010; Kahiya, 2013).

However, many managers see only the risk involved in internationalization and not the opportunities that international markets can provide (Czinkota, 1996). Many firms do not dare to cross their national borders to sell products and services, which means they are at a disadvantage in relation to competitors that chose to follow a more global business perspective (Acs et al., 1997; Wilkinson and Brouthers, 2006; Kahiya, 2013). Effectively, the path to internationalization presents several obstacles that firms cannot overcome alone and that hinder truly achieving an internationalization strategy (Stoian et al., 2012), thus restricting their international expansion (Calderón et al., 2005). These obstacles, whether real and/or perceived, can appear so extreme to firms that they may even regard exporting with skepticism and refuse to get involved in activities abroad, inhibiting their entry in foreign markets (Czinkota, 1996; Stoian et al., 2012). In the case of recent exporters, they develop a negative attitude towards exports, restricting the development of international activities and causing their premature retreat from external operations (Stoian *et al.*, 2012; Mallick and Yang, 2013; Kahiya, 2013). These obstacles tend also to affect experienced exporters that see their performance deteriorated, threatening likewise their survival in foreign markets (Miesenböck, 1988; Rocha et al., 2008). It is, in fact, largely recognized that such barriers may exist at any stage of the internationalization process, even though their nature tends to differ at every step (Stoian et al., 2012; Kahiya, 2013).

It may be argued that the competitiveness of a firm depends on its desire to compete and its position regarding competitors. To succeed in international commerce, a firm has to 'enter the game', that is, to compete. As obviously only participants can expect to win, participating on their own does not guarantee victory – this depends on the competitors (Álvarez and Vergara, 2013).

For several reasons, SMEs are more vulnerable to the effects of export barriers than large enterprises (Acs et al., 1997; Kahiya, 2013). If the latter possess the resources to minimize the risks of internationalization by several means (diversifying operations, having departments of domestic and/or international commerce and creating economies of scale, among other factors), the first tend to have limited resources and less capacity to absorb risks, especially when operating in highly competitive markets. In this context, when facing export barriers, SMEs may have to avoid a market completely, wasting an opportunity to make their business grow. They may also have difficulty in changing production as a response to fixing costs barriers, suffer variable additional costs that decrease their competitiveness, and may be incapable of benefiting from their participation in global value networks (Fliess and Busquets, 2006).

As a way to efficiently motivate enterprises, particularly SMEs, to enter foreign markets, it is not only necessary to understand the factors that stimulate SMEs to export (Pinho,

2013) but also the barriers they have to overcome so as to succeed in entering and operating sustainably and efficiently in foreign markets (Stoian et al., 2012; Kahiya, 2013). Specifically, as Rocha et al. (2008) state, understanding export barriers may help to adopt government policies that stimulate domestic enterprises to export, by eliminating or minimizing the main impediments to international expansion.

Export barriers can be portrayed as attitudinal, structural, operational and other constraints (Pinho and Martins, 2010; Stoian et al., 2012) that hinder the firm's ability to initiate, develop or sustain international operations (Kahiya, 2013). Generally speaking, export obstacles can be classified as internal, associated with organizational resources/capabilities and the company's approach to exports, and external, derived from the domestic and foreign environments where the firm operates (Stoian et al., 2012; Hessels and Parker, 2013; Kahiya, 2013). Besides this classification, internal barriers can also be characterized as strategic or functional, informational and operational or related to marketing (Stoian et al., 2012), while external barriers can be described as procedural, governmental and environmental (Kahiya, 2013) (cf. Table 1).

The difficulty in overcoming these barriers, although important, is not sufficient reason to prevent a firm's involvement or progress in the internationalization process (Kahiya, 2013). Several other factors, normally associated to the idiosyncratic characteristics of the firm's manager – competence, degree of openness, experience in foreign markets, cultural orientation and propensity to take risks (Aulakh et al., 2000; Hessels and Parker, 2013); the firm's organization – maturity, dimension, international experience and sector (Aulakh et al., 2000; Kuivalainen et al., 2010); and the environment in which the firm operates – infrastructures, logistic system, economic, political and socio-cultural factors (Naudé and Matthee, 2011); are responsible for amplifying these obstacles and are, therefore, key factors in explaining export initiation and performance.

TABLE 1. EXPORT BARRIERS

Type of Barriers	Framework	Factors	Conditions
Internal	Informational	Problems in identifying, selecting and contacting international markets due to inefficiencies of information	Locating/analyzing foreign markets, finding data on foreign markets, identifying international business opportunities and contacting foreign clients
	Strategic or functional	Inefficiencies in several of the firm's functions, such as human resources, production and finance	Limitations in managerial time, inadequacies in export staff, unavailable production capacity, and shortages of working capital
	Operational or related to marketing	Firm's marketing mix	Product, price, distribution, logistics and promotion
External	Procedural	Operating aspects of transactions with foreign customers and interaction with other organizations (public and private)	Unfamiliarity with techniques/procedures, communication failures, and slow collection of payments
	Governmental	Actions or inaction by the home government in relation to its exporting companies	Limited interest in supporting and providing incentives to real and potential exporters and restrictive role of the regulatory framework on export management practices
	Environmental	Economic, political-legal, and socio-cultural environment of the foreign market(s) within which the company operates or is planning to operate	Poor/deteriorating economic conditions abroad, foreign currency exchange risks, political instability in foreign markets, strict foreign country rules and regulations, high tariff and nontariff barriers, unfamiliar foreign business practices, different socio-cultural traits and verbal/nonverbal language differences

Source: Authors' synthesis.

Focusing on informational and strategic (or functional) aspects at the internal level, the internationalization of SMEs and their success in the international market is influenced by and depends on elements connected to human capital, which determine the performance of the firms' international activities and influence potential export opportunities (Shamsuddoha et al., 2009; Poblete and Amorós, 2013). Among these, we find the managers' attitude to and perception of the risks and rewards of international markets, their experience, their commitment and their strategy (Wilkinson and Brouthers, 2006; Beleska-Spasova et al., 2012).

Internal resources of this kind, as well as knowledge and information about foreign markets, is generally lacking in most SMEs (Acs et al., 1997; Alvarez, 2004; Wilkinson and Brouthers, 2006; Santos and García, 2011), which increases the perceived risk of exporting and causes these enterprises to avoid the uncertainties of the international market (Acs et al., 1997; Wilkinson and Brouthers, 2006).

In effect, in terms of empirical proof, the literature shows that the most critical aspect in the enterprises' export performance is the managers' attitudes towards this activity and, therefore, the main reason why many enterprises do not export is because managers are not motivated or determined to do so (Wilkinson and Brouthers, 2006; Rocha et al., 2008; Sommer, 2010). Thus, a majority of SMEs has been left behind in terms of exporting, despite representing significant potential that should be boosted so as to achieve larger export sales.

Thus, understanding how managers perceive export barriers is particularly important, since their attitudes and preferences are at the core of internationalization activities (Santos-Álvarez and García-Merino, 2012). Based on the idea that the managers' perception of the macro-environment is more important than facts when it comes to determining internationalization strategies (Briggs, 2013), it can be argued that their perception of export barriers will influence their decisions, not only to enter foreign markets, but also which markets and the level of international involvement (Kahiya, 2013).

The general consensus among researchers is that understanding export obstacles and their impact on enterprises' performance is crucial, both at the micro and at the macroeconomic level (Chung, 2003; Julian and Ahmed, 2005; Poblete and Amorós, 2013). Besides helping to determine why some exporters are incapable of exploring their full potential and what makes many enterprises fail or suffer financial losses in their international activities (Chung, 2003; Julian and Ahmed, 2005), understanding export obstacles provides governments with strategic guidelines and knowledge to prepare their policies (Julian and Ahmed, 2005; Vida and Obadia, 2008), as well as help minimizing negative effects and improving exporting performance, both for individual enterprises and the countries themselves (Julian and Ahmed, 2005).

3. ENTITIES AND POLICIES THAT SUPPORT THE SME INTERNATIONALIZATION PROCESS: WHAT LEVEL OF ACTION?

As countries become increasingly more involved in the world economy, it is critical that states, in their economic development endeavors, explore their economies' structure of foreign commerce to obtain a better understanding of their industrial competitive advantages (Vijil and Wagner, 2012). With this knowledge, the states will be able to maximize the benefits of commerce, directing their limited resources at economic development more efficiently (Wright, 2011).

From a regional point of view, exporting to a foreign country or exporting to other regions inside the same country also represents a means of creating wealth (Stagg, 1990), that is, both activities bring additional incomes that would otherwise not be possible if that region only served the local market. Nonetheless, depending on the domestic market to generate wealth may lead to the profit of a region at the expense of others. Exporting to foreign markets can solve this potential problem, because by reaching new markets, regions (at the local or national scale) can enhance their economic potential instead of simply compete with each other in the existing markets (Stagg, 1990; Ha and Swales, 2012). This fact underlines that a healthy export sector is of extreme importance to nations, states and communities, thus nowadays developing a strong and diversified export base has become a major public policy concern (Cadot et al., 2013).

From a general perspective, it has been amply acknowledged that the Government plays a vital role in establishing, developing and maintaining export activities, as a stimulating factor (Sullivan and Bauerschmidt, 1988; O'Gorman and Evers, 2011) or as an impediment (Rabino, 1980; Sullivan and Bauerschmidt, 1989) to the internationalization process (Julian and Ahmed, 2012).

Notwithstanding the obstacles enterprises have to face in their internationalization process (cf. Section 2), external operations can be a necessary step for many firms in their struggle for survival, as globalization pressures increase (Rocha et al., 2008; Senik et al., 2011). Thus, and bearing in mind the export obstacles SMEs face, presented previously, public organizations create policies to promote exports with the aim of collaborating in the process of these firms' international expansion (Calderón et al., 2005; Cassey, 2010; Wright, 2011). In this way, governmental programs to promote exports help SMEs to develop their organizational abilities and competences to explore internationalization opportunities (Francis and Collins-Dodd, 2004; Shamsuddoha et al., 2009; Vijil and Wagner, 2012).

Facing global competition and the need to overcome obstacles associated to asymmetric information and other market failures (Gil et al., 2008; Lederman et al., 2010), public organizations formulate policies to promote exports with the aim of helping firms to develop their internationalization process (Calderón *et al*., 2005; Durmuşoğlu *et al*., 2012). This has led the number of national export promotion agencies to experience a huge growth in number (Lederman et al., 2010; Ilias et al., 2013) and dynamism even outside their country of origin with the creation of regional representation networks abroad so as to support enterprises which want to trade and invest in foreign markets (Gil et al., 2008). In this context, government services, normally the 'aggressive' player in the field of export promotion (Wilkinson and Brouthers, 2006), tend to be beneficial to SMEs in overcoming their limitations (Mah, 2010). This consideration has been translated into the general recognition of the importance of export promotion programs (Shamsuddoha et al., 2009; Wright, 2011) and into the notion that agencies dedicated to this activity are a crucial instrument to support SMEs (Gillespie and Riddle, 2004; Gil et al., 2008; Vijil and Wagner, 2012).

As such, measuring and improving national strategies of export promotion are relevant although scarcely explored issues in international business research (Czinkota, 2002; O'Gorman and Evers, 2011) and governments have taken a progressively more important role in export promotion (Ilias et al., 2013). In fact, although export promotion programs can differ in their structure or magnitude, all states have recognized the need to contribute to the success of their business sectors (Codet et al., 2013).

Even though the literature presents ambiguous results (e.g., Seringhaus, 1986; Wilkinson and Brouthers, 2006; Wright, 2011), the existing studies indicate that government-led export promotion organizations and agencies, although not being the 'perfect recipe', are not a complete waste of resources (Gillespie and Riddle, 2004; Ilias et al., 2013) and may even be advantageous (Wilkinson and Brouthers, 2006; Mah, 2010). In fact, a study by Shamsuddoha et al. (2009) indicates that government programs to support SMEs influence internationalization in a direct and indirect manner and play an important role in their internationalization process, by contributing to the already mentioned factors that determine a firm's international performance. This corroborates the findings of Wilkinson and Brouthers (2006) that the level of results depends on the activities included in these programs and in the ability and/or will of these firms to gather and organize the appropriate resources and take advantage of the services provided by public export promotion agencies. Furthermore, these services can complement the enterprises' internal resources and enable them to become effective in international markets (Wilkinson and Brouthers, 2006). The study by Lederman et al. (2010) also demonstrates that national export promotion agencies have, on average, a positive and statistically significant effect on national exports and seem to be particularly effective when most needed, as when there are trade barriers and asymmetric information. More recently, Kang (2011) demonstrated that the network of export promotion agencies offices abroad has been a critical factor in the success of Korea's exports.

There are, however, indications that national government agencies dealing with export promotion give little attention to the adequacy of their export promotion programs with regard to the exporters' various needs (Martincus et al., 2010; Ferreira and Teixeira, 2012). The states normally use a universal strategy rather than a more effectively targeted strategy, and thus a major deficiency of export promotion programs has been the lack of information on which services are needed and by whom (Chychkalo-Kondratska and Radchenko, 2013; Saraswati, 2013).

Thus, government and public organizations should be aware to the different needs of the various potential users and should develop or change their activities accordingly (Seringhaus and Botschen, 1991; Martincus et al., 2010; Abdul-Aziz et al., 2011). Based on this argumentation, export promotion policies should be differentiated according to the groups of enterprises that share common features, regardless of whether they belong to the same sector (Calderón et al., 2005).

The study by Lederman et al. (2010) suggests that ideally national export promotion agencies should be managed by the private sector and financed by the public sector. They further advocate that positive effect on exports is also higher if there is a single, strong national export promotion agency, rather than the proliferation of small agencies within countries (Lederman et al., 2010), since the efficiency of public organizations dedicated to this activity seems to diminish with the lack of coordination between them (Calderón et al., 2005). In an earlier study Elvey (1990) compared eight countries (Canada, France, Italy, Japan, Singapore, South Korea, the United Kingdom, and West Germany) and found that the form of export assistance (public versus private) and coordination (centralized versus decentralized) varied greatly among them being unrelated to their performance; their common feature was that most assistance and promotion efforts were directed at SMEs.

Although there are studies on the impact of national and state trade missions (in the American case) on national and state exports (Cassey, 2010), respectively, and although it has been measured whether Spanish regional representations abroad contributed more strongly to an increase in exports than Spanish Embassies or Consulates (Gil *et al.*, 2008), there is no research, to the best of the authors' knowledge, on the possibility of it being more effective and efficient to carry out export promotion activities on a decentralized basis, that is, at the municipal or local authority level.

It is therefore at this stage on demand a theoretical discussion on the extent to which the support to the internationalization of SMEs could be envisaged by decentralized public policies. In other words, to discuss the role and relevance of local governments in supporting SMEs' export endeavors. Thus, before laying some argumentation on this particular subject, it is useful to analyze some of the relevant literature on the decentralization of public policies and its relation with local economic development.

4. DECENTRALIZATION OF PUBLIC POLICIES AND LOCAL ECONOMIC DEVELOPMENT

Global events show that decentralization is nowadays a reality, as a reconstruction of the public sector model and as a development strategy (Wang, 2013; Faguet, 2014).

Political decentralization can be vertical (authority is transferred from the central government to the local government) or horizontal (authority is shared between the executive, judicial and legislative systems) (Taylor, 2007). This process can be understood as "an increase in both the number and equality of centers of political power and policy making" (Taylor, 2007: 233) and is reflected in the idea that "[t]he state, although not impotent, is now dependent upon a vast array of state and non-state policy actors. The state is regarded as the first among equals; it is one of many centers" (Marinetto, 2003: 599).

Decentralization can be understood as transference of functions, where politics, finances and administration are under the direct and exclusive control of sub-national governments (Faguet, 2014). However, this transference always has its difficulties, which are, according to Azfar et al. (2001: 13), "not only (…) local constraints such as budgetary resources and provincial charters, but also (…) central disciplines embodied in national constitutions and oversight jurisdiction". This means that the local government units may lack the administrative power to adjust their services and budgets to respond to preferences, direct and sanction employees to improve their performance or respond to criticism and change (Azfar et al., 2001).

According to Litvack and Seddon (1999: V), "[s]imply put, with decentralization, as with many complicated policy issues, the 'devil is in the details'". The matter depends on several factors, among which policies and institutions, as well as their interaction within a given country (Litvack and Seddon, 1999). Networks have, according to Savini (2013), great potential for generating strategic capacity and ensuring the interaction between agiler national government policies and governable local public policies. The challenges involve the mobilization of the relevant stakeholders into such a system to allow for effective public policy development and deployment (Kimbu and Ngoasong, 2013).

In this context, the debate on decentralization has evolved from theoretical arguments to empirical demonstration and from the general to specifics (Azfar et al., 2001), having emerged, in the last thirty years, a current of studies that investigates the development and impact of local economic development initiatives, giving major importance to the role of institutions (and specifically local governments) and participatory networks in local economic development (DeFilippis, 1999; Barberia and Biderman, 2010; Negoita and Block, 2012). In fact, in the last few years, economists and politicians have paid increasingly more attention to models of local development and to policies of local intervention (Camarero Izquierdo et al., 2008) and "[l]ocal economic development has become one of the major public policies emphasized in many countries during the past several decades" (Liou, 2009: 29).

As part of this trend, the perspective of endogenous development is based on the assumption that every region possesses an intrinsic set of resources (economic, human, environmental, institutional and cultural) which constitute the potential for a region's development (Qian et al., 2013). Hence, investing in them, in a sufficient and adequately coordinated manner, can make the region more attractive to the actors of economic growth (Camarero Izquierdo et al., 2008). According to this perspective, the entities responsible for territorial development should first detect the endogenous resources of their region, invest in their development, and finally communicate their existence to the potentially interested actors (internal and external) (Camarero Izquierdo et al., 2008).

One of the objectives of a territorial policy is to increase a region's level of economic development and it is possible to identify two dimensions in this process of economic growth and structural change (Baumgartner et al., 2013): economic, where the local entrepreneur, using his/her ability to organize local resources, reaches a sufficient level of productivity to be competitive on markets; and socio-cultural, where values and local institutions serve as a basis for a process of development. A strategy of local development should consider a further third dimension, the political-administrative, where territorial policies enable the creation of a local economic climate, encourage the development of the local potential and protect the entire process of external control (Camarero Izquierdo et al., 2008).

Local development should be framed in a broader political framework that includes supra-local considerations and objectives, as well as links with supra-national actors (Nicholson et al., 2013). Such development requires coordination of policies at several organizational levels, cooperation between regions and minimal patterns which prevent destructive competition (Negoita and Block, 2012).

According to DeFilippis (1999, 976), "[l]ocalities are (…) continuously being constructed and reconstructed, both by their relationships with the rest of the world, and by the struggles that take place within them". In fact, the local is constituted and produced by local government actions (and its policies) and by the actions of structures and actors at wider scales, that is, localities are defined by their positioning in the relations they establish with the external world and by the relations that exist within them. Still within this line of studies, Barberia and Biderman (2010, 4) confirm that "[t]he LED [local economic development] policies that emerged in recent decades are rooted in the recognition that initiatives must be territorially based and locally managed." These authors sustain that the number of actors involved in local development initiatives has grown significantly, including entities as different as the different levels of government (local, regional and national), the private sector, non-profitable organizations and even community development organizations.

This recognition is in conformity with tendencies that, in the words of Cox (2004: 179), show that "an important element of a local and regional development policy appropriate to the times and circumstances would be one that decentralizes powers and responsibilities to very local levels."

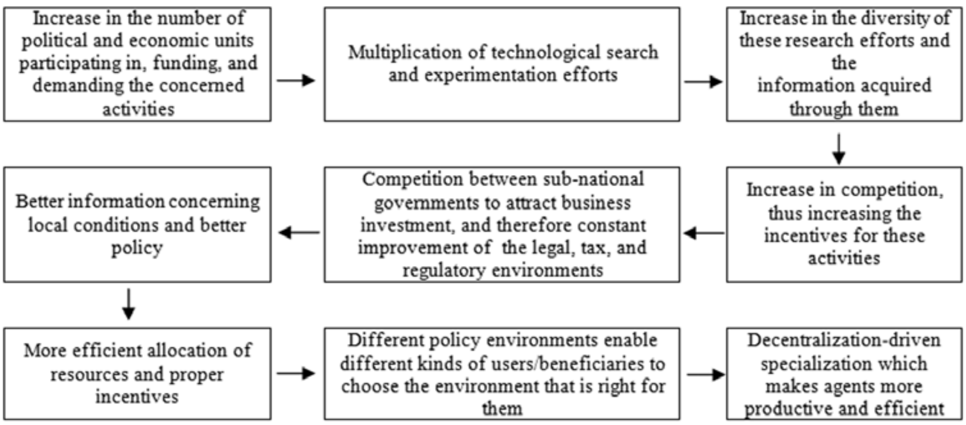
5. CONCLUDING REMARKS: DECENTRALIZATION OF PUBLIC POLICIES AND THE ROLE OF LOCAL GOVERNMENTS IN THE PROMOTION OF THE INTERNATIONALIZATION OF FIRMS

Based on the idea that decentralization is a valid development strategy (cf. Section 4), exploring whether export promotion would benefit from being managed and implemented from a decentralized point of view, for example, by local governments/municipalities, is a matter that is perfectly framed in the current economic and political context. Although there is no literature analyzing this perspective, the present paper attempts to infer the results obtained in other already decentralized areas to possible impacts in this specific field.

Taylor's (2007) contribution is of extreme interest, since he tested the advantages that political decentralization brings to technological innovation. By systematizing the opinions of several authors, Taylor (2007) mentions that there is no consensus on the potential contribution of decentralization to technological innovation. Some researchers (e.g., Rosenberg and Birdzell, 1985; Taylor, 2007) argue that, because decentralization is necessary for competition and promotes variety, it can, in the long run, be one of the main factors for technological change to occur. Other authors (e.g., Drezner, 2001; Taylor, 2005) sustain that decentralization is necessary, but not enough, to boost innovation and, despite observing the usefulness of governmental decentralization, they also highlight "conditional variables such as factor endowments, level of development, size, and just plain luck, in order to explain outlier cases" (Taylor, 2005: 236). Additionally, it is also stated that decentralization is neither necessary nor sufficient to innovation, since a big fragmentation can lead to a complete absence of cooperation, violent competition and conflicts, which, in the long term, hinders innovation (Taylor, 2007). Indeed, relentless competition between local governments to attract businesses and higher-income residents can be achieved to the detriment of other more beneficial activities for citizens (Lobao and Kraybill, 2009; Ardanaz et al., 2014; Faguet, 2014). Ultimately, a thoughtful position posits that some measure of decentralization is required (Negoita and Block, 2012).

Despite the results obtained by Taylor (2007) indicating that it is not possible to identify a direct positive relationship between political decentralization and technological innovation, the author establishes a possible sequence derived from a process of decentralization that may also be extrapolated to export promotion (cf. Figure 1).

FIGURE 1. POSSIBLE SEQUENCE DERIVING FROM A PROCESS OF DECENTRALIZATION



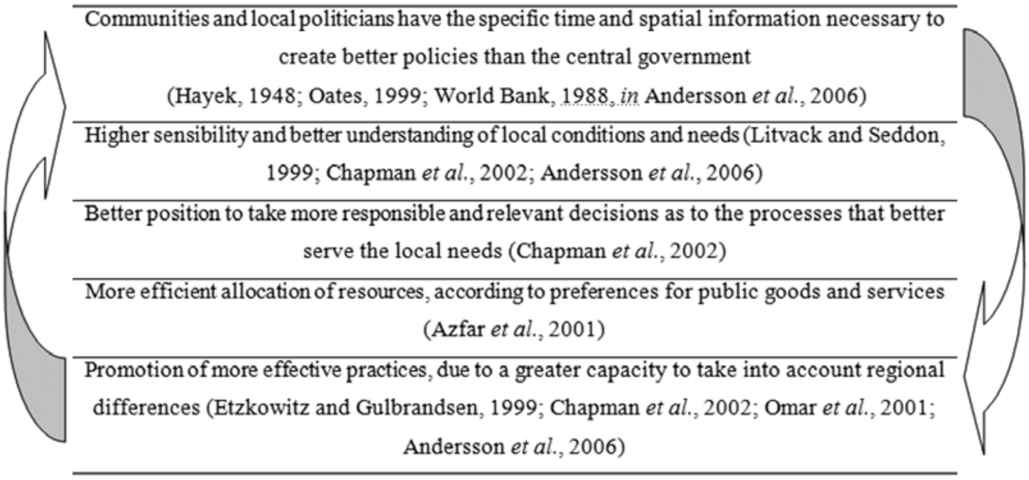
Source: Authors' compilation, based on Taylor (2007).

Returning to the idea of Barberia and Biderman (2010) on the execution and management of initiatives at the territorial and local level, several authors recognize that the main benefits of decentralization are more agility, competitiveness and flexibility to adapt to changes (Taylor, 2007; Lobao and Kraybill, 2009); creation of a geographical focus at the local level, coordinating national, state, district and local programs more effectively (Litvack and Seddon, 1999); and formulation of more creative, innovative and appropriate programs that enable local experimentation (Litvack and Seddon, 1999). It can therefore be assumed that decentralizing export promotion to a local scale, specifically, local municipalities, could result in a continuing process whose ultimate impact would be the higher efficiency and higher effectiveness of these policies and, consequently, a higher degree of benefit for the targeted local enterprises (cf. Figure 2).

A closer scrutiny shows that the benefits attributed to decentralization reside mostly in greater accountability of governments to local needs (Oates, 1999; Lobao and Kraybill, 2009; Faguet, 2014), adapting policies to the preferences of smaller and more homogeneous groups (Wallis and Oates, 1988; Lobao and Kraybill, 2009; Balaguer-Coll et al., 2010), or in the best ability of governments to accommodate differences in tastes for public goods and services (Balaguer-Coll et al., 2010), factors that justify decentralization from the economic efficiency point of view.

Another positive effect of decentralization in terms of efficiency is that, in a centralized system, politicians make decisions with the aim of reflecting the country's interests (Balaguer-Coll et al., 2010). Nonetheless, this practice would be inefficient if interests were different among regions, since some regions would not benefit from national policies. If the preferences change from one region to another, it would be more efficient to geographically alter the provision of public services. In these circumstances, the provision of public services by the public sector could be more efficient in a structure of decentralized government (He et al., 2013). That is the case of export promotion policies, since local municipalities may have as competitive advantages branches of economic activities that vary between regions.

FIGURE 2. DECENTRALIZATION AND HIGHER EFFICIENCY AND EFFECTIVENESS OF POLICIES



Source: Authors' synthesis.

That said, the efficiency considerations on which the discourses of decentralization are based (Balaguer-Coll et al., 2010; He et al., 2013) also constitute the main argument defended in the present study, as the main factor in favor of the decentralization of export promotion policies to local municipalities.

Conversely, from the viewpoint of the possible losses caused by decentralization, the arguments presented are directly linked to the local scale itself, such as: lack of administrative or technical capacity, or even the transference of authority to individuals who have limited experience in management and, in some cases, little interest in taking on those responsibilities (Chapman et al., 2002; Andersson et al., 2006; Faguet, 2014); it can lead to less efficient and effective services (Agrawal and Ribot, 1999; Litvack and Seddon, 1999; Azfar et al., 2001; Andersson et al., 2006); transference of responsibilities to the local level without the adequate financial resources can make the equitable distribution and provision of services more difficult (Agrawal and Ribot, 1999; Litvack and Seddon, 1999; Cox, 2004; Andersson et al., 2006; Balaguer-Coll et al., 2010); and agents can back away from new strategies that they do not fully understand, perpetuating the conservatism of the communities and the strangulation of improvement efforts (Chapman et al., 2002; Ardanaz et al., 2014).

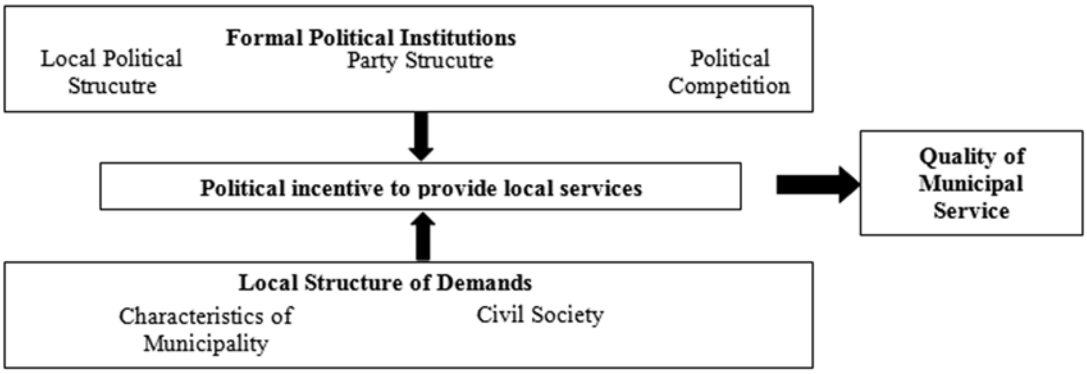
These arguments are in line with Litvack and Seddon (1999) and Faguet (2014) with regard to the importance of the institutions' details and characteristics, implying that there should be a basic knowledge of the strengths and weaknesses of organizations in the performance of various types of functions, since the success of decentralization depends on these characteristics and also on an appropriate preparation of the agents of decentralized administration (Litvack and Seddon, 1999; Savini, 2013). Furthermore, Rodden (2003), Kimbu and Ngoasong (2013) and He et al. (2013) present an emergent generation of studies on decentralization that focus not only on the scale of provision and the type of service, but also on the fundamental nature of policies and institutions. This emergent literature shows that it is the complex mixture of institutions that generates receptive local agents.

What will define the final result of decentralization is, besides specific factors, the interaction between the type of decentralization and the conditions under which it takes place. To simplify, the conditions that influence the success of a decentralization process can be grouped in two areas (Pacheco, 2004; Wang, 2013): the attributes of the local government (at what point are local authorities motivated to support the process and the availability of financial and technical resources) and the structural variables such as the kind and magnitude of the concerned resources, the relationships of local power and the local economy.

Following this idea, several authors agree that decentralization works differently depending on the kind of powers which are decentralized (Litvack et al., 1998; Andersson et al., 2006; Faguet, 2014). Others, still, sustain that decentralization can work, but only in the context of specific institutions which include mechanisms of accountability, supervision and transference of resources (Agrawal and Ribot, 1999; Andersson et al., 2006; Ardanaz et al., 2014).

It is increasingly recognized that for decentralization to reach the potential benefits of an efficient and equitable provision of public goods, it is necessary for citizens to be able to send appropriate information to the local actors, so that local politicians can respond appropriately or, when this does not happen, be held accountable. It is claimed that for these conditions to exist, several institutional and social characteristics have to be gathered. More specifically, the incentives for a local politician to respond to the demand of the constituents are understood as being conditioned by institutional incentives within the framework of national policy, by constraints of the local political system, and by the formal representation and articulation of the citizens' preferences in the political structure (Manos et al., 2014). In the model by Kauneckis and Andersson (2009), formal political institutions and the local society's structure generate several incentives and constraints to the action of municipalities. Thus, the structure of local political action is conceptualized as being composed by two levels: the impact of local political institutions at the national level and the influence of the local governments/municipalities' specific institutional and socioeconomic features (cf. Figure 3).

FIGURA 3. INTERACTION OF NATIONAL POLITICAL INSTITUTIONS AND LOCAL INCENTIVE STRUCTURE



Source: Adapted from Kauneckis and Andersson (2009).

In this context, analyzing under which circumstances decentralization is more effective places emphasis not on the merits of decentralization (as opposed to centralization), but on the manner and conditions in which it is undertaken (Ardanaz et al., 2014). Theoretical previsions suggest that decentralization depends on institutional regulations and their interaction with social practices, influencing the achievement of decentralized governance (Faguet, 2014). These factors, according to Azfar et al. (2001), include the distribution of power among levels of government (central government supervision towards local government operations), the disciplines operating from within and outside government (management of the involved elements) and the principal-agent information flows (ability for all agents to participate in the decision-making process). In other words, the relationship between decentralization and its results can be better understood if it is analyzed in terms of actors, powers and accountability, which makes it relevant to analyze the relationships between the central government and local governments and between these and local populations (Agrawal and Ribot, 1999).

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O "DECRESCIMENTO ECONÔMICO" ATRAVÉS DA RELOCALIZAÇÃO DA PRODUÇÃO COMO ESTRATÉGIA PARA UM DESENVOLVIMENTO REGIONAL

THE "ECONOMIC DEGROWTH" THROUGH THE RELOCATION OF PRODUCTION AS A STRATEGY FOR REGIONAL DEVELOPMENT

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RESUMO/ABSTRACT

O desenvolvimento econômico tem sido o "santo graal" da sociedade. Contudo, quando se revela difícil determinar a sua sustentabilidade, o questionamento desse desenvolvimento é inevitável. Logo, o interesse pela realização desse estudo deve-se ao processo de discussão sobre o desenvolvimento, cabendo neste momento refletir sobre uma nova consciência em prol da natureza e do próprio homem, com especial atenção ao conceito de decrescimento. Através de fontes bibliográficas foi possível analisá-lo como a mudança de paradigma econômico e revolução cultural necessária para a construção de uma nova sociedade, exigindo mudanças desde culturais até sociais para se rever o atual modelo de progresso. Assim, introduzir o decrescimento econômico através do parâmetro da relocalização da produção parece ser uma alternativa para essa mudança de paradigma no âmbito de um desenvolvimento regional duradouro.

Palavras-chave: Desenvolvimento Econômico; Relocalização da Produção; Serge Latouche.

Códigos JEL: R11, F63, Q01, Q32, Q50.

Economic development has been the "holy grail" of society. However, when it is difficult to determine its sustainability, to question this development is inevitable. Thus, the interest in conducting this study is due to the process of discussing the development, fitting the moment to reflect on this new awareness for nature and man himself, with special attention to the concept of degrowth. Through literature sources, we could analyze it as a paradigm shift in the context of an economic and cultural revolution needed to build a new society. This demands the change of both cultural and social aspects in order to review the current model of progress. Thus, introducing the economic degrowth through parameter relocation of production shows up as a potential alternative to this paradigm shift within a durable regional development.

Keywords: Economic Development; Relocation of Production; Serge Latouche.

JEL Codes: R11, F63, Q01, Q32, Q50.

1. INTRODUÇÃO

A discussão sobre desenvolvimento econômico ampliou-se de maneira cíclica ao longo da história. Contudo, um dos desafios atuais é melhorar a compreensão das complexas interações entre humanidade e biosfera. E uma das noções importantes da discussão sobre o desenvolvimento emergiu da abordagem do ecodesenvolvimento, depois renomeada desenvolvimento sustentável e vem sendo aprimorada, mas está longe de ter suplantado as velhas visões sobre o desenvolvimento, uma vez que, ao buscar um desenvolvimento sustentável, se fala hoje em um desenvolvimento, sobretudo, capitalista sustentável. Na verdade, ao indagar sobre a questão básica de tal sustentabilidade, por vezes esse conceito corre o risco de ser tornar vazio, dando apenas legitimidade para a expansão insustentável do capitalismo (Stahel, 2001). Por isso a superação dos modelos de desenvolvimento exige uma revisão da mudança econômica de longo prazo, uma vez que aborda um desenvolvimento em um contexto de possibilidades limitadas. E, se o desenvolvimento é um fenômeno único na história, uma alternativa sólida para ele tem de ser procurada (Cavalcanti, 2001).

É nesse contexto em que as ideias de Serge Latouche se inserem como uma verdadeira crítica à sociedade do crescimento pelo crescimento. De um sistema baseado na desmedida que nos conduz ao impasse, nas palavras de Latouche (2009: XIV) "um crescimento infinito é incompatível com um mundo finito e que tanto nossas produções como nossos consumos não podem ultrapassar as capacidades de regeneração da biosfera".

Portanto, o conceito de decrescimento econômico tem como base a mudança de paradigma econômico a partir da lógica do crescimento, que por sua vez deve ser substituído por um decrescimento sereno, convivial e sustentável. Para tanto o autor sugere tal mudança através da articulação sistemática de oito parâmetros que mutualmente se reforçam num "círculo virtuoso" de oito "erres" capazes de desencadear esse processo (Latouche, 2009).

Logo, em um contexto de desenvolvimento regional sustentável, torna-se necessário observar o parâmetro da relocalização. Para Latouche (2009) esse "erre" ocupa um lugar central nesse projeto de sociedade, pois a relocalização busca renovar a velha conceção dos ecologistas de "pensar globalmente, agir localmente", propondo assim, no decrescimento, uma inovação política e uma autonomia econômica sobretudo local.

Em outras palavras, a relocalização da produção implicará uma busca da autossuficiência, sobretudo alimentar, depois econômica e financeira. Mantendo e desenvolvendo atividades básicas em cada região (Latouche, 2009), incentivando assim o comércio e o desenvolvimento regional, mostrando que é possível uma organização local e uma melhoria da qualidade de vida na sociedade "que haverão de conjugar-se em formas solidárias na construção de outro mundo" (Leff, 2001: p. 129).

2. PARTE EXPERIMENTAL

O interesse pela realização desse estudo deve-se ao processo de mudança nos conceitos de desenvolvimento ao longo da história, cabendo neste momento uma reflexão sobre o surgimento de uma nova consciência em prol da natureza e do próprio homem. Nesse sentido, o trabalho objetiva apresentar o parâmetro da relocalização da produção, à luz do conceito de decrescimento econômico, como estratégia para um desenvolvimento regional sustentável.

Para embasar teoricamente o trabalho, efetuou-se a princípio um levantamento das fontes bibliográficas que contribuíram para aumentar a literatura a respeito do conceito histórico de desenvolvimento, bem como do conceito de decrescimento econômico com especial atenção ao parâmetro da relocalização da produção, seguida de uma leitura atenta, crítica, analítica e interpretativa que buscou respaldo em contribuições teóricas representativas de uma expressiva contribuição científica. Recorreu-se, ainda, à fontes adicionais – não menos importantes –, como publicações da área na Internet, além de documentários e entrevistas relacionadas com o assunto.

A referida pesquisa é classificada como sendo de natureza qualitativa, pois busca compreender as diversas conceituações de desenvolvimento ao longo da história procurando apresentar o conceito de decrescimento econômico sustentável como utopia capaz de mudar o paradigma econômico de uma região através da relocalização da produção. A pesquisa é de tipo descritivo, pois visa apenas descrever a realidade a respeito do tema já citado.

Enfim, a pesquisa tem uma finalidade básica, pois não visa aplicabilidade imediata, objetivando apenas um estudo aprofundado do tema proposto.

3. RESULTADOS E DISCUSSÃO

O desenvolvimento econômico tem-se configurado como a mola propulsora da sociedade. Nesse sentido pode-se observar que existem diferentes correntes de pensamento econômico, uma que considera crescimento como sinônimo de desenvolvimento e outra que entende que o crescimento é condição indispensável, mas não suficiente, para o desenvolvimento (Souza, 2008).

Sachs é um dos pensadores que considera que o desenvolvimento é distinto do crescimento econômico, pois "os objetivos do desenvolvimento vão bem além da mera multiplicação da riqueza" (Sachs, 2004: 13). Para tanto, afirma que:

> "No contexto histórico em que surgiu, a idéia de desenvolvimento implica a expiação e a reparação de desigualdades passadas, criando uma conexão capaz de preencher o abismo civilizatório entre as antigas nações metropolitanas e a sua antiga periferia colonial, entre as minorias ricas modernizadas e a maioria ainda atrasada e exausta dos trabalhadores pobres" (Sachs, 2004: 13).

Segundo Celso Furtado, num de seus derradeiros pronunciamentos, "só haverá verdadeiro desenvolvimento – que não se deve confundir com crescimento econômico […] – ali onde existir um projeto social subjacente" (*apud* Sachs, 2010: 9). Existem ainda correntes que consideram o desenvolvimento uma simples ilusão, no sentido estrito da acumulação de riqueza.

Baseado nessa ilusão, Furtado (1974, *apud* Veiga, 2010: 28) diz que, graças a essa ideia, "tem sido possível desviar as atenções da tarefa básica de identificação das necessidades fundamentais da coletividade e das possibilidades que abre aos homens o avanço da ciência".

Contudo, percebe-se que, na maioria dos discursos, o desenvolvimento sempre foi vinculado ao crescimento, constituindo uma ideia paradigmática na racionalidade moderna. E, nessa questão, Leff (2001) reflete que a degradação ambiental se apresenta como um sintoma de uma crise de civilização, marcada pelo predomínio do modelo de modernidade regido pela razão tecnológica sobre a natureza.

Nesse sentido, Sachs (2010: 10) sintetiza que o desenvolvimento "não pode se limitar unicamente aos aspetos sociais e sua base econômica […]", pois há uma condicionalidade ambiental que é preciso respeitar. Assim, seguindo Gonçalves (2002), no final da década de 1960 assistiu-se a um crescimento dos movimentos sociais que criticavam não exclusivamente o modo de produção, mas essencialmente o modo de vida da humanidade.

A degradação ambiental, o risco de um colapso ecológico e o avanço das desigualdades (culturais, sociais, econômicas) são sinais incontestáveis da crise civilizacional do mundo globalizado, a qual alcança seu momento culminante na modernidade, cujas origens remetem para a conceção de mundo que serviram de base à civilização Ocidental (Leff, 2001). "Podríamos decir que con la sociedad de crecimiento estamos montados en un bólido que, claramente, ya nadie piloto, que va a toda velocidad, y cuyo destino es chocar contra un muro o caer por un precipicio" (Latouche, 2010).

Nesse momento, Latouche (2009) vem lembrar que a sociedade já está a par da situação de "barbárie" desde a publicação de *Primavera Silenciosa* de Rachel Carson, de 1962, e que se reafirmou no Relatório do Clube de Roma, *Os Limites do Crescimento*, em 1972, prevenindo para que "a busca indefinida do crescimento era incompatível com os "fundamentos" do planeta" (2009: XII). Até se chegar à discussão da Comissão Mundial sobre o Meio Ambiente e Desenvolvimento pelas Nações Unidas, que ficou conhecida como Comissão de Brundtland (Camargo, 2010).

Nesta ocasião se definiu sobretudo o conceito de desenvolvimento sustentável, "que incorpora o espírito ecológico de responsabilidade comum no processo de desenvolvimento econômico praticado até antão" (Fogliatti *et al.*, 2008: 11). Nas palavras de Veiga (2010), a publicação do Relatório de Brundtland "forneceu uma baliza internacional sem dúvida mais precisa que as tentativas precursoras".

Contudo, até então, segundo Brüseke (2001), o conceito de desenvolvimento sustentável tem uma conceção extremamente positiva, que combina eficiência econômica com justiça social e prudência ecológica. No entanto, conforme Lemos (2008: 48), "o desenvolvimento só pode ser sustentável se estiver baseado em pessoas e tendo-as como primeiro referencial".

Neste caso, para ser sustentável, o sistema econômico precisa de um apoio estável; para tanto, as taxas de regeneração e absorção da biosfera devem ser respeitadas, caso contrário só restará ao processo econômico a insustentabilidade (Cavalcanti, 1997).

> "De fato o desenvolvimento não pode ser mais considerado como uma obra desprovida de algum limite físico – tal como o definido pelas noções de matéria e energia, governadas como o são pelas implacáveis leis da natureza. Mas em que medida o desenvolvimento pode realmente ser sustentável? Não seria mais apropriado abandonar-se a ideia do desenvolvimento e buscar-se uma nova forma de evolução do sistema econômico dentro dos confins fixados pelas leis da termodinâmica? (Cavalcanti, 2001: 154).

Com base na segunda lei da termodinâmica, Georgescu assinala que "as atividades econômicas gradualmente transformam energia em formas de calor tão difusas que são inutilizáveis" (Veiga, 2010: 111). Ou seja, a energia passa da condição de disponível para a de não-disponível, uma vez que a humanidade tira da natureza os elementos de baixa entropia que não permitem compensar a alta que ela causa. Portanto, foi através da Lei da Entropia que Georgescu-Roegen percebeu que até então a economia excluía a irreversibilidade do tempo, ou seja, a não-reversibilidade das transformações da energia e da matéria. "Não pode mais produzir geladeiras, carros ou aviões a reação "melhores e maiores" sem produzir também resíduos "melhores e maiores" (Georgescu-Roegen (1994: 63, *apud* Latouche, 2009: 15).

Portanto, disso decorre uma "impossibilidade de um crescimento infinito num mundo finito e a necessidade de substituir a ciência tradicional por uma bioeconomia, ou seja, pensar a economia no seio da biosfera" (Latouche, 2009: 15-6). Logo, para Georgescu-Roegen (1976, *apud* Veiga, 2010: 112), "em algum momento do futuro, a humanidade deverá apoiar a continuidade de seu desenvolvimento na retração, isto é, com o decréscimo do produto. O oposto do sucedido nos últimos dez mil anos".

Conclui-se, portanto, que o paradigma econômico dominante de desenvolvimento, entendido como a ênfase dada aos aumentos de produtividade e ao crescimento, sobretudo nas sociedades industriais, enfrenta fatores limitantes da sua manutenção. Veiga (2010) observa que, seja qual for o resultado de toda essa colossal polêmica, o que é evidente é que as medidas de crescimento adotadas pelo homem não estão em vias de conciliação com a conservação da natureza, e que essa ação não é algo que se possa conseguir a curto prazo.

Logo, é preciso observar o desenvolvimento sob um novo paradigma econômico, que exigirá mudanças culturais, estruturais, políticas, econômicas e, sobretudo, sociais; revendo, portanto, de maneira profunda o atual modelo de progresso de uma sociedade do crescimento perpétuo. Isso configura algumas das ideias que propõe Serge Latouche em suas contribuições acerca do desenvolvimento.

De acordo com Latouche (2009), a sociedade atual partiu de uma sociedade englobada por uma economia cuja finalidade é apenas o crescimento pelo crescimento. Nesse ponto, Leff (2001) acredita que a fatalidade consiste na negação das causas da crise socioambiental e na obsessão pelo crescimento que ultrapassa os fins da racionalidade econômica. Para tanto, Baudrillard (1993: 31-32, *apud* Leff (2001: 23-24) considera que:

> "Somos governados não tanto pelo crescimento quanto por crescimentos. Nossa sociedade está fundada na proliferação, num crescimento que prossegue apesar de não poder ser medido por nenhum objetivo claro. Uma sociedade excrescente cujo desenvolvimento é incontrolável, que ocorre sem considerar sua autodefinição, onde a acumulação de efeitos anda a par do desaparecimento das causas. O resultado é um congestionamento sistêmico bruto e uma disfunção causada por [...] um excesso de imperativos funcionais, por uma espécie de saturação. As próprias causas tendem a desaparecer, a tornar-se indecifráveis, gerando a intensificação de processos que operam no vazio. Na medida em que existe uma disfunção do sistema, um desvio das leis conhecidas que governam sua operação, existe sempre a perspetiva de transcender o problema. Mas quando o sistema se precipita sobre seus pressupostos básicos, ultrapassando seus próprios fins a ponto de não poder encontrar nenhum remédio, então não estamos diante de uma crise, mas de uma catástrofe de sua inércia absoluta".

Leff (2001) faz uma comparação deste momento, de abismo entre o mundo finito, acabado e cercado por seu conhecimento de si e pelo saber especulativo do mundo novo, com o mundo fechado da Idade Média e a abertura ao universo "infinito" da modernidade. E, nesse contexto, o conceito de decrescimento surge como forma de enfatizar o abandono pelo crescimento ilimitado, "cujo motor não é outro senão a busca do lucro por parte dos detentores do capital, com conseqüências desastrosas para o meio ambiente e, portanto, para a humanidade» (Latouche, 2009: 4).

Segundo Latouche (2009: 4), o decrescimento "é um *slogan* político com implicações teóricas"; é, sobretudo, provocador para "salir de esa mecánica infernal" (Latouche, 2004), ou seja, "que intenta romper con el discurso eufórico del crecimiento viable, infinito y sostenible. Intenta demostrar la necesidad de un cambio de lógica" (Latouche, 2010), "que visa acabar com o jargão politicamente correto dos dragados do produtivismo" (Latouche, 2009: 4). Não é uma ideia perversa, sem nenhuma virtuosidade.

Diante disto, Latouche (2009, 26) observa a sabedoria do caracol, que ensina não somente a necessária lentidão, mas uma lição ainda mais indispensável, mostrando "o caminho para se pensar uma sociedade de 'decrescimento', se possível sereno e convivial". A saber:

> "O caracol constrói a delicada arquitetura de sua concha adicionando, uma após a outra, espiras cada vez mais largas e depois cessa bruscamente e começa a fazer enrolamentos agora decrescentes. Isso porque uma única espira ainda mais larga daria à concha uma dimensão dezasseis vezes maior. Ao invés de contribuir para o bem-estar do animal, ela o sobrecarregaria. A partir de então, qualquer aumento de sua produtividade de apenas serviria para paliar as dificuldades criadas por esse aumento do tamanho da concha para além dos limites fixados por sua finalidade. Passando a ponto-limite de alargamento das espiras, os problemas do excesso de crescimento multiplicam-se em progressão geométrica, ao passo que a capacidade biológica do caracol pode apenas, na melhor das hipóteses, seguir uma progressão aritmética" (Latouche, 2009: 26).

No entanto, o crescimento econômico abraçou a razão geométrica para continuar persistindo com taxas de crescimento cada vez mais elevadas; nesse ponto é válido refletir: "Se o crescimento produzisse mecanicamente o bem-estar, deveríamos viver hoje num verdadeiro paraíso" (Latouche, 2009: 25), tendo em vista as taxas de crescimento praticadas por diversos países. No entanto, "o que nos ameaça é bem mais o inferno" (2009: 25), a saber:

> "Si la felicidad dependiera del nível de consumo, deberíamos ser absolutamente felices, porque consumimos 26 veces más que en tiempos de Marx. Pero las encuestas demuestran que la gente no es 20 veces más feliz, porque la felicidad es siempre subjetiva" (Latouche, 2010).

Sob uma outra ótica, Latouche (2009) propõe o decrescimento como o abandono da fé ou da religião da economia, do progresso e do desenvolvimento, da mesma forma como a palavra "a-teísmo" é usada; nesse caso, conviria denominar o decrescimento em termos teóricos como "a-crescimento", no sentido de rejeitar o culto irracional e idólatra do crescimento pelo crescimento. Conciliar crescimento econômico e sustentabilidade é uma tarefa impossível; portanto, "é preciso renunciar ao crescimento enquanto paradigma ou religião", uma vez que, nas palavras de Latouche (2010):

> "Vivimos en una sociedad de crecimiento cuya lógica no és crecer para satisfacer las necesidades, sino crecer por crecer. Crecer infinitamente, con una producción sin límites. Y, para justificarlo, el consumo debe crecer sin limites".

Vale lembrar que, embora o termo "decrescimento" seja muito recente aos debates econômicos, políticos e sociais, suas ideias não são novas. O fracasso do desenvolvimento no Sul e as perdas de referência no Norte fizeram com que pensadores como Cornelius Castoriadis e Ivan Illich questionassem a sociedade de consumo e sua base imaginária fundamentada no progresso, na ciência e na técnica. Em resultado, pesquisas para um "após-desenvolvimento" foram lançadas, bem como foi aceita uma tomada de consciência da crise ambiental, pois "a sociedade de crescimento não só não é desejável, como não é sustentável!" (Latouche, 2009: 13).

Paradoxalmente, o decrescimento teve suas primeiras implicações nascidas no Sul, mais particularmente na África. Contudo, devido aos problemas ambientais e ao crescimento da globalização, esse tema teve maiores repercussão e aprofundamento nas economias e sociedades do Norte. Uma vez que a farsa do desenvolvimento sustentável diz respeito tanto ao Norte como ao Sul, "e os perigos do crescimento já são planetários. Foi assim que nasceu a proposição do decrescimento" (Latouche, 2009: 79-80).

Latouche (2010) chama a atenção para que "o projeto de uma sociedade de decrescimento é radicalmente diferente do crescimento negativo", pois isso apenas justificaria a dominação do imaginário do crescimento através do oxímoro absurdo (à letra: "avançar recuando"). A mera diminuição da velocidade do crescimento levaria a sociedade mundial a mergulhar na incerteza, acarretando a diminuição do mínimo indispensável à qualidade de vida; uma taxa negativa de crescimento provocaria o aumento das taxas de desemprego, abandono de projetos sociais, sanitários, educativos, culturais e ambientais. Como não existe "nada pior que uma sociedade trabalhista sem trabalho", é ainda pior "uma sociedade de crescimento na qual não há crescimento" (Latouche, 2009: 5). Contudo, essa condição é a que se faz presente caso não se mude de trajetória.

> "Por todas essas razões, o decrescimento só pode ser considerado numa 'sociedade de decrescimento', ou seja, no âmbito de um sistema baseado em outra lógica. Portanto, a alternativa é efetivamente: decrescimento ou barbárie!" (Latouche, 2009: 5).

Esse pânico que seria gerado pela simples ideia de um crescimento negativo causa desespero nas sociedades de crescimento, porque, segundo Latouche (2004), em entrevista extraída do documentário "La Terre Vue du Ciel" ("A Terra Vista do Céu"), de Renaud Delourme, a sociedade moderna acredita que o crescimento é algo ilimitado. Contudo:

> "Es este lado 'ilimitado' lo que supone un problema, porque creemos que es razonable – por ejemplo cuando tenemos un déficit alimentario, o de cualquier cosa, de agua, etc – forzarse a resolver este déficit, es decir, hacer crecer la cantidad de alimentos o de agua disponibles, en último término hacer crecer la salud, etc, hasta un cierto punto. Pero, hemos hecho del crecimiento uma espécie de 'fetiche' y se ha convertido en un poco 'todo y cualquier cosa', incluyendo el crecimiento de la contaminación, de lãs enfermedades, del envenenamiento, etc. por estas razones es un concepto perverso, porque en realidad es incocebible que, en un mundo finito, pueda haber un crecimiento infinito".

O excessivo crescimento econômico colide com a finitude da biosfera. "A capacidade regeneradora da Terra já não consegue mais seguir a demanda: o homem transforma os recursos em rejeitos mais rapidamente do que a natureza consegue transformar esses rejeitos em novos recursos" (Latouche, 2010). Segundo Capra (1996, *apud* Lemos 2008) esse excesso de consumo/produção, em conjunto com a preferência pela alta tecnologia, só cria quantidades ainda maiores de coisas inúteis, que para serem fabricadas exigem quantidades gigantescas de energia, sobretudo não renováveis e derivadas de combustíveis fósseis; ora, com o declínio destes, a própria energia tende a tornar-se um recurso escasso e dispendioso. No entanto, os processos de produção fazem o caminho inverso e aumentam ainda mais a exploração. Logo, estes fatos "podem vir a causar perturbações ecológicas e um sofrimento humano sem precedentes" (2008: 52).

Contudo, Victorino (2000) reflete que os recursos da Terra são suficientes para atender às necessidades de todos os seres vivos do planeta… Se forem manejados de forma eficiente e sustentados. A alta produtividade, a tecnologia moderna e o desenvolvimento econômico podem e devem coexistir com um meio ambiente saudável. A chave para isso está, entre outros aspetos, na participação, na organização, na educação e no fortalecimento das pessoas como cidadãos (elementos presentes no discurso do decrescimento).

Portanto, a proposta do decrescimento supõe que os atrativos de uma sociedade convivial combinada com o peso das exigências de mudança podem favorecer essa "descolonização do imaginário" e suscitar suficientes comportamentos "virtuosos" a favor de uma solução racional (Latouche, 2009).

Latouche (2009) caracteriza de forma bem realista o projeto do decrescimento como uma utopia, do ponto de vista da esperança e do sonho intrínseco. Longe do refúgio irreal, explora suas possíveis aplicações, configurando-se numa "utopia concreta", pois "sem a hipótese de um outro mundo ser possível, não há política, há apenas a gestão administrativa dos homens e das coisas" (Decrop, s.d: 81, *apud* Latouche, 2009: 40-41).

Contudo, o projeto de decrescimento é revolucionário, seja através de mudanças de cunho cultural ou de estruturas jurídicas e de produção. "Tratando-se de um projeto político, sua aplicação obedece mais à ética da responsabilidade do que à ética da convicção" (Latouche, 2009: 92).

De acordo com Latouche (2009), por conseguinte, essa revolução exigida para construir a sociedade do decrescimento pode ser representada pela articulação sistemática de oito mudanças que mutualmente se reforçam sintetizadas num "círculo virtuoso" de oito "erres": reavaliar, reconceituar, reestruturar, redistribuir, relocalizar, reduzir, reutilizar, reciclar. Oito objetivos capazes de desencadear "um processo de decrescimento sereno, convivial e sustentável" (2009: 42). Explicitando:

> "**Reavaliar**: Vivemos em sociedades que repousam sobre velhos valores 'burgueses', […] [onde] a única coisa que conta é a quantidade de dinheiro que você embolsou, […] [que] revelam 'uma megalomania individualista, uma recusa da moral, um gosto pelo conforto, um egoísmo' (CASTORIADIS, 1996, p. 220). [No entanto,] o altruísmo [é que] deveria prevalecer sobre o egoísmo, a cooperação sobre a competição desenfreada, o prazer do lazer e o *ethos* do jogo sobre a obsessão do trabalho, a importância da vida social sobre o consumo ilimitado, o local sobre o global, a autonomia sobre a heteronomia, o gosto pela bela obra da eficiência produtivista, o sensato sobre o racional, o relacional sobre o material etc.; **Reconceituar**: A mudança de valores acarreta outro olhar sobre o mundo e, portanto, outra maneira de apreender a realidade. Reconceituar, ou redefinir/redimensionar, impõe-se, por exemplo, para os conceitos de riqueza e pobreza, mas também para o par infernal escassez/abundância, fundador do imaginário econômico e que urge desconstruir. […]; **Reestruturar**: Adaptar o aparelho produtivo e as relações sociais em função da mudança de valores. […] É a orientação para uma sociedade de decrescimento […] e a da transformação de um aparelho produtivo que tem de se adaptar à mudança de paradigma; **Redistribuir**: Compreende a distribuição das riquezas e o acesso ao patrimônio natural, tanto entre o Norte e o Sul como dentro de cada sociedade, entre as classes, as gerações e os indivíduos. […] [Tendo] um duplo efeito positivo sobre a redução do consumo. Diretamente, reduzindo o poder e os meios da 'classe consumidora mundial' e […] indiretamente, diminuindo a incitação ao consumo ostentatório; **Relocalizar**: Produzir localmente, no que for essencial, os produtos destinados à satisfação das necessidades da população, em empresas locais financiadas pela poupança coletada localmente. Toda produção que possa ser feita em escala local para necessidades locais deveria, portanto, ser realizada localmente" (Latouche, (2009: 43-49).

Em síntese, esses parâmetros tão necessários à sociedade de decrescimento atuariam, sistematicamente: na reavaliação dos valores morais e éticos praticados em sociedade, levando o homem a repensar as suas conquistas; na reconceituação de conceções económicas direcionadas para as ideias de riqueza e pobreza, escassez e abundância dogmatizadas pelos princípios da dominação da natureza e da sua mercantilização; na reestruturação do aparelho produtivo mediante as mudanças de valores em caráter sistêmico, ao passo em que essa transformação orientaria para a adaptação da sociedade ao novo paradigma do decrescimento; na redistribuição das riquezas e do património natural entre as sociedades, de forma a garantir os mesmos direitos sobre o consumo, neste caso reduzido, e dos recursos naturais, amenizando a "dívida ecológica" entre os países; na relocalização das produções de artigos destinados a uma população com necessidades que podem ser atendidos por empresas locais. No decrescimento, ao contrário das ideias que devem ignorar fronteiras, os capitais e as mercadorias deveriam ser limitados às de cada um (Latouche, 2009). Contudo, pode-se perceber que a união desses objetivos e a sua atuação em conjunto são, mais que complementares, essenciais.

Nesse sentido, de acordo com Cortez (2009), não se terá um futuro minimamente aceitável sem uma profunda revisão dos conceitos, fundamentos e modelo da economia. E esta revisão não acontecerá sem uma clara compreensão das responsabilidades que cada ser humano tem em termos de cidadania planetária.

No tocante a reconceituar, Leff (2001) acredita que, quando se fala em ética, sobretudo, a ambiental, ela revela uma resistência frente à descrença e à desmoralização deixados pelo desmoronamento das ideologias modernas e pela perda de sentido do pensamento da pós-modernidade.

No pensamento de Gandhi, sublinhado por Sachs (2009), também há um lugar predominantemente ocupado pelo problema da ética. A esse respeito, Gandhi leva a preocupação com a ética até ao ponto de perder de vista o próprio conceito de produtividade: o que é levado em consideração são os serviços que os homens prestam uns aos outros. Gandhi visava ainda outros preceitos contidos na obra de Latouche, como:

> "[…] Reestabelecer a confiança dos aldeãos em si mesmos, restituir-lhes a dignidade, inculcar o gosto pela ação cívica, cotidiana, modesta mas eficaz, ensinar-lhes a se servirem dos meios à mão. Em suma, […] Gandhi recusava submetê-lo (o indivíduo) à tirania das necessidades incessantemente crescente e à corrida aos bens materiais» (Sachs, 2009: 258).

Contudo, tendo em vista a necessidade dos oito processos proposta por Serge Latouche para o desenvolvimento de uma sociedade de decrescimento sereno, convivial e sustentável, os três últimos "erres" tão discutidos, sobretudo pelos ecologistas, são indispensáveis em qualquer conjunto de interação humana que almeja viver em um planeta futuro com condições naturais de sobrevivência. São eles: reduzir, reutilizar e reciclar:

> "**Reduzir**: Diminuir o impacto sobre a biosfera de nossos modos de produzir e de consumir, […] limitar o consumo excessivo e o incrível desperdício de nossos hábitos. Outras reduções são desejáveis, desde a dos riscos sanitários até à dos horários de trabalho. […] Outra redução necessária: o turismo de massa. […] Temos de reaprender a sabedoria dos tempos passados: desfrutar da lentidão, apreciar nosso território. […] Reduzir o tempo de trabalho [elemento essencial] […] trata-se por certo de distribuir o trabalho para que todos os que assim quiserem possam ter um emprego; **Reutilizar/Reciclar**: Nenhuma pessoa de bom senso contesta a necessidade de reduzir o desperdício desenfreado, de

combater a obsolescência programada dos equipamentos e de reciclar os resíduos não reutilizáveis diretamente" (Latouche, 2009: 49-54).

Muitos autores observam a necessária redução dos fatores que contribuem para o agravamento da crise ambiental. Lemos (2007) afirma que reduzir a poluição por meio do uso racional de matéria-prima, água e energia representa uma opção ambiental e econômica de bom senso. Eliminar os desperdícios implica em maior eficiência no processo industrial e menores investimentos nas soluções de problemas ambientais.

Segundo Victorino (2000), uma maneira de preservar a natureza e conter o consumo da matéria-prima é incentivar o uso de recursos renováveis como a celulose, o ferro e outros metais, além de permitir a sua reciclagem e uma produção menor de lixo permanente.

De um modo geral, esses três últimos objetivos destacados, concentrados nas ações necessárias para a sociedade do decrescimento, atuariam da seguinte forma: na redução dos impactos ambientais gerados pelo superconsumo praticado, que geram desperdícios desnecessários, bem como na desmistificação dos desejos de dominação de territórios mascarados pela vontade de viajar, que acarreta um consumismo quilométrico, por vezes disfarçado sob o álibi do "ecoturismo", e na redução da jornada do trabalho, elemento essencial também na luta contra o desemprego; na reutilização e na reciclagem de produtos que, quando não podem ser reutilizados, podem ser reciclados, combatendo deste modo o desperdício de recursos e a obsolescência programada neles existente.

Logo, fica clara a atuação em conjunto desses objetivos, sobretudo para desenhar a construção de um funcionamento ideal, o qual pode ser concretizado baseado em dados existentes e evoluções realizáveis. "No centro do círculo virtuoso da revolução cultural dos oito 'erres' está um 'erre' que pode ser encontrado em cada um deles: resistir" (Latouche, 2009, 58). Resistir à "engrenagem da acumulação ilimitada e evitar o ciclo infernal das necessidades e da renda" (2009: 117-118).

Sobre a conceção de uma sociedade do decrescimento de forma utópica concreta, através das mudanças sistêmicas do "círculo virtuoso" dos oito "erres", Latouche (2004) faz um resumo de suas ideias na seguinte passagem:

> "Concretamente, una sociedad de decrecimiento se basaría, de entrada, en un cambio de imaginario, un cambio de valores, ya que la sociedad de crecimiento se basa sobre un número de crencias. La creencia de que el hombre debe siempre producir para consumir más, y esto para producir más etc; que debemos trabajar siempre más, para producir más, para consumir más, para ganar más. Se necesita todo un cambio de valores y mentalidad que debe llevanos a otros objetivos, una revalorización de los aspectos no cuantitivos, no mercantiles, de la vida humana. Descubrir otras formas de riqueza que no sean la económica o mercantil, y en particular la riqueza de relaciones, las relaciones más fuertes en el seno de la familia, con sus amigos, con los otros, vivir mejor en sociedad. Eso es mucho más importante que consumir más aparatejos. Reestructurar el aparato productivo, evidentemente, em función de otras formas de producción, porque lo esencial para el planeta es reducir lo que los especialistas llaman 'huella ecológica'".

Contudo, o objetivo da "boa vida" pode ser expresso conforme os contextos, ou seja, trata-se de reconstruir e/ou resgatar novas culturas, seja nas sociedades do Sul, que se defronta com inúmeros obstáculos, na aplicação desse programa societal, ou no Norte ainda resistente (Latouche, 2009). Para tanto, em um contexto de desenvolvimento regional sustentável, torna-se necessário observar o parâmetro da relocalização, e para Latouche (2009) esse "erre" possui um lugar central nesse projeto de sociedade: a relocalização, que busca renovar a velha conceção dos ecologistas do "pensar globalmente, agir localmente", propondo assim, no decrescimento, uma inovação política e uma autonomia econômica, sobretudo, local.

Sobre a relocalização, Latouche (2009) considera a visão de alguns autores que discutem esse assunto:

QUADRO 1. A RELOCALIZAÇÃO NA CONCEÇÃO DE DIVERSOS AUTORES

Autores	Consideração
Alberto Magnaghi	Não é totalmente absurdo pensar que uma sociedade ecológica possa ser constituída por uma municipalidade de pequenas municipalidades, cada uma das quais formada por uma "comuna de comunas" menores […] em perfeita harmonia com o seu ecossistema.
Gustavo Esteva	A reconquista ou a reinvenção dos *commons* (bens comunais, bens comuns, espaço comunitário) e a auto-organização de "biorregiões" constituem uma ilustração possível dessa postura.
Paola Bonora	O que conta é a existência de um projeto coletivo enraizado num território como lugar de vida em comum e que, portanto, deve ser preservado e cuidado para o bem de todos. Embora profundamente enraizado, esse projeto local não é nem fechado, nem egoísta, pressupondo, pelo contrário, aberturas e uma ideia generosa do dar e do acolher.
Carta del Nuovo Município (Itália)	Trata-se de um projeto político que valoriza os recursos e as especificidades locais, estimulando processos de autonomia consciente e responsável e recusando a condição externa (heterodireção) da mão invisível do mundo planetário.

Fonte: LATOUCHE, 2009.

Diante disto, Latouche (2009: 64) sintetiza então a ideia do pensar local:

> "Nessa perspetiva, o local não é um micro-organismo fechado, mas um nó numa rede de relações transversais virtuosas e solidárias, visando experimentar práticas de consolidação democrática (entre as quais orçamentos participativos) que permitam resistir à dominação liberal".

De acordo com Sachs (2009), os ensinamentos de Gandhi também incorporam a lógica de relocalizar de Latouche. Neles estão contidos os preceitos de "contar consigo mesmo", mostrando que é possível uma organização local e entre si para uma melhoria da qualidade de vida de uma sociedade, "que haverão de conjugar-se em formas solidárias na construção de outro mundo" (Leff, 2001: 129).

Em outra perspetiva, o programa da relocalização implica a busca da autossuficiência, sobretudo alimentar, depois econômica e financeira. Seria mais conveniente manter e desenvolver a atividade básica em cada região: agricultura e horticultura, de preferência orgânica, respeitando as estações (Latouche, 2009). O comércio local será assim incentivado, uma vez que "um emprego precário gerado nas grandes redes de varejo destrói cinco empregos duradouros nos comércio de vizinhança" (2009: 66).

Em meio as duras críticas levantadas pelos "objetores de decrescimento", Latouche (2009, 109) replica que, "apesar da extrema necessidade, não se vai suprimir do dia para a noite" todos os problemas sociais e ambientais do crescimento. E acrescenta:

> "Será preciso tempo para relocalizar a produção, as trocas, os modos de vida. Trata-se de um desafio, pois apesar da urgência social e ainda que ela mexa no formigueiro político, a política ecológica não pode ser postergada para o longo prazo. Tem de começar hoje e prever suas etapas sem perder o rumo. Aliás, seja qual for a opinião de nossos detratores, a política ecológica não tem dificuldade alguma de integrar a política social. É inclusive a condição de uma mudança que não se limite a um simples rearranjo tosco do sistema (Latouche, 2009: 109)".

Contudo, a regionalização (ou relocalização) significa: menos transporte, cadeias de produção transparentes, incitações a uma produção e a um consumo sustentáveis, uma dependência reduzida dos fluxos de capitais e das multinacionais, e maior segurança em todos os sentidos do termo. Regionalizar e reinserir a economia na sociedade local preserva o meio ambiente, que, em última instância, é a base de toda a economia, propicia para cada um uma abordagem mais democrática da economia, reduz o desemprego, fortalecendo a participação (e, portanto a integração) e consolida a solidariedade, oferecendo novas perspetivas para uma região (Latouche, 2009).

4. CONCLUSÕES

É a própria sobrevivência da humanidade que condena a reintrodução de uma preocupação ecológica no âmago das preocupações social, política, cultural e espiritual da vida humana. Pois trata-se não só de "diminuir a velocidade da acumulação, mas também de questionar o conceito (dominante) para inverter o processo destrutivo" (Latouche, 2009: 128).

Para tanto é preciso descolonizar o imaginário de adoração da modernidade e do progresso, sem ter receio que isso seja um retrocesso (miséria e humilhação), argumento utilizado pelos "objetores do decrescimento", cujo fundamento é incontestável, mas este temor é ilegítimo, pois não se trata de voltar para a penúria intensificada por desigualdades insuportáveis, trata-se de compreender o sentido da vivência de bem-estar, em analogia, se esta "exige necessariamente possuir dez pares de sapatos, com frequência de má qualidade, em vez de um ou dois sólidos" (Latouche (2009:73-4)).

A receita do decrescimento consiste em fazer mais e melhor com menos. Trata-se de consumir menos os recursos naturais limitados do planeta; logo, é preciso redesenhar a economia mundial, o que seria um feito inédito e só poderia acontecer com maciço apoio social e coordenadamente; para tanto, é preciso debater estes temas e encontrar as alternativas mais viáveis enquanto ainda se tem tempo (Cortez, 2009).

Logo, a realização de uma sociedade do decrescimento tem de passar necessariamente por um reencantamento do mundo, pois utilizar maciçamente uma energia fóssil fornecida gratuitamente pela natureza desvaloriza o trabalho humano e autoriza uma predação ilimitada das "riquezas" naturais. Disso resulta uma superabundância artificial desenfreada, "que destrói qualquer capacidade de maravilhamento diante dos dons do 'criador' e das capacidades artesanais da habilidade humana" (Latouche, 2009: 149-150).

Portanto, Latouche (2009) afirma que o programa de decrescimento parece paradoxal, pois a implementação de proposições realistas e razoáveis tem pouca chance de ser adotada e menos ainda de culminar numa subversão total. Por isso é necessária a mudança no imaginário que só a realização da utopia fecunda da sociedade autônoma e convivial pode provocar.

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THE CHARACTERISTICS AND REGIONAL DISTRIBUTION OF OLDER WORKERS IN PORTUGAL

AS CARACTERÍSTICAS E A DISTRIBUIÇÃO REGIONAL DOS TRABALHADORES MAIS VELHOS EM PORTUGAL*

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ABSTRACT/RESUMO

Population ageing is a common trend in most developed countries, with many important economic, social and political consequences. In Portugal, this trend has been particularly strong. One of the main issues associated with ageing is its effect on the composition of the workforce. The main purpose of this paper is to study the changes in the age structure of the Portuguese workforce between 1989 and 2009. First of all, the size and relative weight of older workers are quantified, both as a group (people aged over 54) and by age sub-groups (55-59; 60-64; 65 +) and gender. Next, particular attention is given to the regional and sectoral distribution of these workers. Finally, a comparative analysis is made between younger and older workers, taking into account their education levels, the size of the establishments where they work, their labour compensation and whether they have a part-time or a full-time employment regime. The main data used are the *Quadros de Pessoal* (Employment Records).

Keywords: Older Workers; Private Business Sector; Portuguese Regions

JEL Codes: R23; J14; J21.

O envelhecimento da população é uma tendência comum na maioria dos países desenvolvidos, que tem diversas e importantes consequências económicas, sociais e políticas. Em Portugal, esta tendência tem sido particularmente forte. Um dos principais problemas associados ao envelhecimento é o seu efeito sobre a composição da força de trabalho. O objectivo principal deste trabalho é estudar as mudanças na estrutura etária da força de trabalho entre 1989 e 2009. Em primeiro lugar, quantifica-se a dimensão e o peso relativo dos trabalhadores mais velhos. Em seguida, analisa-se a distribuição regional e sectorial destes trabalhadores. Finalmente, faz-se uma análise comparativa entre os trabalhadores mais jovens e os mais velhos, considerando a sua escolaridade, a dimensão dos estabelecimentos, as remunerações e o regime de trabalho. A base de dados usada são os "Quadros de Pessoal".

Palavras-chave: Trabalhadores mais Velhos; Setor Privado; Regiões Portuguesas

Códigos JEL: R23; J14; J21.

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1. INTRODUCTION

Population ageing has many consequences, some of which affect both the workforce and the labour market. Although population ageing is a nationwide phenomenon, it does not affect all parts of Portugal equally. The consequent change in the age composition of the workforce has implications in terms of productivity, labour costs and the suitability of management strategies. It is important to acknowledge regional differences in order to adapt policies and the management of firms accordingly.

There are significant and persistent differences in the regional composition of the workforce in Portugal, relating to its size, age composition, education level, industry specialisation and remuneration. In this study, we analyse these differences, seeking to identify the most noticeable changes occurring between 1989, 1999 and 2009.

Although, according to Eurostat data, the Portuguese population has been growing in size each year (except during the period from 2010 to 2011), the rise has mainly been concentrated in certain regions, such as Lisbon or the Algarve. This is a consequence of the natural balance of the population, as well as of migration flows (Caleiro, 2005). Despite the paucity of studies relating to the ageing of the Portuguese population from a regional perspective, attention has been given to some aspects of regional disparity in Portugal: development indices (Mourão, 2004), productivity and per capita income (Soukiazis and Antunes, 2004), health care (Santana, 2000), cohesion (Freitas et al., 2005), ageing and job creation (Ramos et al., 2012). In our study, we will focus on the composition of the workforce.

Although defining an older worker in terms of a particular age is an arbitrary matter, we identify older workers as being people aged 55 and over, which is in keeping with the criterion used in other studies (e.g. Denton and Spencer, 2009, Marshall and Ferrao, 2007, Auer and Fortuny, 2000).

Population ageing, together with the tendency for people to stop working later on in life, will give this group of workers a greater weight in the workforce. Differing age profiles across regions and across occupational sectors provide us with information about potential future workforce needs.

While pension reforms have been directed at increasing the labour supply of older workers, it is also necessary to consider the demand side, in order to promote an active ageing policy (European Commission, 2012, Gendron, 2011, Albuquerque and Lopes, 2010). The level of qualifications and skills that workers have is a characteristic that affects their retention in the labour market. Even if older workers do not want to retire, they are particularly at risk of unemployment. And older workers also have lower levels of education, on average. We analyse the evolution of the education level of older workers in Portugal, comparing it to that of younger workers.

Flexible work is a potential way of extending the working lives of older workers (Hollywood et al., 2008). In our study, we look at the rates of part-time employment among Portuguese workers.

We use the *Quadros de Pessoal* (Employment Records), a large database collected on an annual basis about Portuguese firms and their workers, provided by the Ministry of Solidarity and Social Security. These records cover people working in the private business sector (around 3.3 million workers, in 2009), excluding liberal professionals.

2. THE MAIN DIFFERENCES BETWEEN YOUNGER AND OLDER WORKERS

In this section, an analysis is made of the main differences between younger and older workers in Portugal, their evolution over time (1989, 1999 and 2009) and by gender, as well as by sector and various other dimensions: education level, part-time/full-time employment regimes, the size of the establishment where they work and their average labour compensation.

2.1. AGE STRUCTURE AND DYNAMICS OF OLDER AND YOUNGER MALE AND FEMALE WORKERS

The older workers (aged 55 or over) registered in the *Quadros de Pessoal* – 2009 (*QdP*) represent 10.57% of the total Portuguese workforce, or 330,538 workers out of a universe of 3,128,126 (see Table 1). This figure consists of 6.62% male workers and 3.95% female workers, and this gender bias is clearly more pronounced than it is among younger workers (48.9% male workers versus 40.57% female workers). As expected, the proportion of older workers diminishes significantly with age: 6.32% are in the sub-group of workers aged 55-59; 3.21% in the group of workers aged 60-64, and interestingly, although sometimes forgotten, 1.21% (or 32,586 workers) are aged above the legal retirement age of 65.

The ageing of the Portuguese workforce is a recent phenomenon in relative terms. Table 1 shows that the proportion of older workers fell slightly from 8.81% in 1989 to 8.22% in 1999. Over the whole decade, there was an overall increase of 19,976 workers and a growth rate of only 10.45%. On the other hand, there was a sizeable increase in the number of older workers between 1999 and 2009, both in absolute terms (119,937; +56.54%) and in relative terms (+2.35%) (see Table 2). This latter trend was mainly explained by the significant increase in older female workers (61,405 in absolute numbers, corresponding to a growth of 98.94% overall and a 1.53% growth in the relative weight of such workers among the Portuguese workforce as a whole). When analysed by sub-groups of older workers, it can be seen that there was also a slight increase in the first two sub-groups, and even an absolute fall in the number of workers in the oldest sub-group (-284 workers) between 1989 and 1999, as well as a significant increase in the number of workers in all sub-groups over the next decade.

TABLE 1. AGE STRUCTURE OF THE PORTUGUESE WORKFORCE – 1989; 1999; 2009

	1989		1999		2009	
	Fre.	**%**	**Fre.**	**%**	**Fre.**	**%**
Younger Workers: < 55	1.978.647	91,19	2.357.297	91,78	2.797.588	89,43
Males	1.246.060	57,43	1.345.377	52,38	1.528.392	48,86
Females	732.587	33,76	1.011.920	39,40	1.269.196	40,57
Older Workers: 55 +	191.183	8,81	211.159	8,22	330.538	10,57
Males	150.680	6,94	149.035	5,80	207.009	6,62
Females	40.503	1,87	62.124	2,42	123.529	3,95
55 - 59	107.058	4,93	119.397	4,65	197.693	6,32
60 - 64	60.051	2,77	67.972	2,65	100.259	3,21
65 +	24.074	1,11	23.790	0,93	32.586	1,04
Total	2.169.830	100,00	2.568.456	100,00	3.128.126	100,00

TABLE 2. CHANGES IN AGE STRUCTURE OF PORTUGUESE LABOUR FORCE

	1989/1999			1999/2009		
	Δ Fre.	**Δ Fre. %**	**Δ Rel %**	**Δ Fre.**	**Δ Fre. %**	**Δ Rel %**
Younger Workers: < 55	378.650	19,14	0,59	440.291	18,68	-2,35
Males	99.317	7,97	-5,05	183.015	13,60	-3,52
Females	279.333	38,13	5,64	257.276	25,42	1,18
Older Workers: 55 +	19.976	10,45	-0,59	119.379	56,54	2,35
Males	-1.645	-1,09	-1,14	57.974	38,90	0,82
Females	21.621	53,38	0,55	61.405	98,84	1,53
55 - 59	12.339	11,53	-0,29	78.296	65,58	1,67
60 - 64	7.921	13,19	-0,12	32.287	47,50	0,56
65 +	-284	-1,18	-0,18	8.796	36,97	0,12
Total	398.626	18,37	0,00	559.670	21,79	0,00

Source: *Quadros de Pessoal* and authors' calculations

2.2. ANALYSIS BY SECTOR

An analysis of the distribution of older workers by sector in Portugal shows that, in 2009 (Table 3), these workers were concentrated in services, and thus in the most labour-intensive sectors: 25.8% in Other Services; 18.4% in Wholesale and Retail Trade; 12.2% in Construction; 8.1% in Hotels and Catering; 7.3% in Transport Services. The non-service sectors with the largest number of older workers was Manufacture of Fabricated Metal Products, Machinery and Equipment (with 5.2% of all older workers), followed by Food, Beverages and Tobacco (4%), Agriculture (3.7%), Textiles (3.6%), Wood and Cork (2.4%) and Non-Metallic Mineral Products (1.8%).

In 1999 and 1989 (Tables 4 and 5), the sector employing the highest proportion of older workers was Wholesale and Retail Trade, with 21.2% in 1999 and 18.6% in 1989, followed by Other Services, which showed a significant growth (rising from 11.5% in 1989 to 16.4% ten years later). Construction ranked third in all the years covered by our analysis (9.6% in 1989 and 10.9% in 1999). Transport, Storage and Communications dropped one position in the ranking (from 4th to 5th), with Hotels and Catering rising above this, mainly due to the latter's strong growth from 4.2% in 1989 to 6.7% in 1999, coupled with the already-mentioned figure of 8.1% in 2009.

It is important to note that the relatively small percentage of older workers in Agriculture is explained by the absence in this Database (*QdP*) of independent farmers. All the results for this sector, both regionally and for the country as a whole, must be interpreted with this caveat in mind. In fact, this sector has by far the oldest workforce of all, with around 20% of older workers in all the years covered (see Table 6). The second sector according to this criterion is Mining (15% in 2009; 11.4% in 1999 and 11.8% in 1988), followed by Basic Metal Industries (14.46%) and Electricity, Gas and Water (13.8%). This last sector has had a strange ageing process, recording a percentage of older workers of only 5.6% in 1999, a figure that was below the national average for that year (8.2%), and 14.7% in 1989, which was clearly above the average for that year (8.8%). Closing the list of the top five sectors of older workers in 2009 was Food, Beverages and Tobacco, with a percentage of 12.9%, slightly above the previous levels of around 11% in 1999 and 1989.

TABLE 3. STRUCTURE OF SECTORS BY AGE GROUPS – 2009

	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
A - Agriculture	51,317	1.85	12,021	3.68	6,329	3.24	3,974	4.00	1,718	5.33	63,338	2.04
B - Mining	10,217	0.37	1,803	0.55	1,097	0.56	549	0.55	157	0.49	12,020	0.39
C1 - Food, beverages, tob.	88,956	3.21	13,113	4.01	7,919	4.05	3,996	4.03	1,198	3.71	102,069	3.29
C2 - Textiles	163,590	5.90	11,668	3.57	8,316	4.26	2,738	2.76	614	1.90	175,258	5.65
C3 - Wood, cork	56,105	2.02	7,672	2.35	4,875	2.50	2,217	2.23	580	1.80	63,777	2.06
C4 - Paper, publishing	37,662	1.36	4,436	1.36	2,846	1.46	1,227	1.24	363	1.13	42,098	1.36
C5 - Chemichals	36,975	1.33	4,909	1.50	3,200	1.64	1,347	1.36	362	1.12	41,884	1.35
C6 - Non-metallic Mineral Prod.	40,244	1.45	5,828	1.78	3,720	1.90	1,718	1.73	390	1.21	46,072	1.49
C7 - Base Metals	7,782	0.28	1,315	0.40	880	0.45	357	0.36	78	0.24	9,097	0.29
C8 - Fab. Metal Prod., Mach., Eq.	143,717	5.18	17,011	5.21	10,672	5.46	4,981	5.02	1,358	4.21	160,728	5.18
C9 - Other manufacturing ind.	5,510	0.20	540	0.17	369	0.19	150	0.15	21	0.07	6,050	0.20
D - Electicity, gas, water	19,617	0.71	3,127	0.96	2,293	1.17	685	0.69	149	0.46	22,744	0.73
E - Construction	328,153	11.83	39,779	12.17	24,347	12.47	11,873	11.96	3,559	11.03	367,932	11.87
F - Trade, repair of motor vehicles	565,038	20.37	60,025	18.37	33,821	17.32	19,165	19.31	7,039	21.82	625,063	20.16
G - Restaurants and hotels	209,097	7.54	26,386	8.07	15,721	8.05	8,330	8.39	2,335	7.24	235,483	7.59
H - Transport, storage, comunicat.	182,905	6.59	23,856	7.30	14,882	7.62	7,103	7.16	1,871	5.80	206,761	6.67
I - Financial services	84,216	3.04	8,896	2.72	6,003	3.07	2,281	2.30	612	1.90	93,112	3.00
J - Other services	742,688	26.78	84,430	25.83	48,005	24.58	26,568	26.77	9,857	30.55	827,118	26.68
Total	2,773,789	100.0	326,815	100.0	195,295	100.0	99,259	100.0	32,261	100.0	3,100,604	100.0

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 4. STRUCTURE OF SECTORS BY AGE GROUPS – 1999

	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
A - Agriculture	41,125	1.74	10,058	4.76	4,245	3.56	4,062	5.98	1,751	7.36	51,183	1.99
B - Mining	13,042	0.55	1,678	0.79	818	0.69	678	1.00	182	0.77	14,720	0.57
C1 - Food, beverages, tob.	81,781	3.47	9,659	4.57	5,367	4.50	3,167	4.66	1,125	4.73	91,440	3.56
C2 - Textiles	283,082	12.01	12,282	5.82	7,628	6.39	3,692	5.43	962	4.04	295,364	11.50
C3 - Wood, cork	40,196	1.71	4,668	2.21	2,437	2.04	1,721	2.53	510	2.14	44,864	1.75
C4 - Paper, publishing	43,061	1.83	4,185	1.98	2,535	2.12	1,206	1.77	444	1.87	47,246	1.84
C5 - Chemichals	38,251	1.62	4,118	1.95	2,553	2.14	1,204	1.77	361	1.52	42,369	1.65
C6 - Non-metallic Mineral Prod.	61,939	2.63	6,349	3.01	3,646	3.05	2,118	3.12	585	2.46	68,288	2.66
C7 - Base Metals	9,217	0.39	1,094	0.52	711	0.60	325	0.48	58	0.24	10,311	0.40
C8 - Fab. Metal Prod., Mach., Eq.	189,591	8.04	13,283	6.29	8,409	7.04	3,703	5.45	1,171	4.92	202,874	7.90
C9 - Other manufacturing ind.	47,909	2.03	3,877	1.84	2,115	1.77	1,382	2.03	380	1.60	51,786	2.02
D - Electicity, gas, water	16,280	0.69	971	0.46	723	0.61	203	0.30	45	0.19	17,251	0.67
E - Construction	247,678	10.51	22,956	10.87	12,190	10.21	8,386	12.34	2,380	10.00	270,634	10.54
F - Trade, repair of motor vehicles	485,810	20.61	44,652	21.15	23,499	19.68	14,952	22.00	6,201	26.07	530,462	20.65
G - Restaurants and hotels	160,217	6.80	14,006	6.63	8,042	6.74	4,580	6.74	1,384	5.82	174,223	6.78
H - Transport, storage, comunicat.	135,385	5.74	16,033	7.59	11,043	9.25	4,116	6.06	874	3.67	151,418	5.90
I - Financial services	80,442	3.41	6,279	2.97	4,740	3.97	1,288	1.89	251	1.06	86,721	3.38
J - Other services	380,063	16.12	34,582	16.38	18,332	15.35	11,129	16.37	5,121	21.53	414,645	16.14
Total	2,355,069	100.0	210,730	100.0	119,033	100.0	67,912	100.0	23,785	100.0	2,565,799	100.0

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 5. STRUCTURE OF SECTORS BY AGE GROUPS – 1989

	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
A - Agriculture	44,599	2.25	11,418	5.97	5,685	5.31	4,278	7.12	1,455	6.04	56,017	2.58
B - Mining	14,122	0.71	1,878	0.98	1,045	0.98	654	1.09	179	0.74	16,000	0.74
C1 - Food, beverages, tob.	92,337	4.67	11,394	5.96	6,162	5.76	3,773	6.28	1,459	6.06	103,731	4.78
C2 - Textiles	346,438	17.51	15,566	8.14	9,206	8.60	4,827	8.04	1,533	6.37	362,004	16.68
C3 - Wood, cork	79,093	4.00	6,873	3.59	3,902	3.64	2,324	3.87	647	2.69	85,966	3.96
C4 - Paper, publishing	45,286	2.29	4,464	2.33	2,583	2.41	1,295	2.16	586	2.43	49,750	2.29
C5 - Chemichals	59,531	3.01	6,553	3.43	4,005	3.74	1,948	3.24	600	2.49	66,084	3.05
C6 - Non-metallic Mineral Prod.	60,693	3.07	5,794	3.03	3,471	3.24	1,824	3.04	499	2.07	66,487	3.06
C7 - Base Metals	19,489	0.98	2,024	1.06	1,284	1.20	609	1.01	131	0.54	21,513	0.99
C8 - Fab. Metal Prod., Mach., Eq.	180,158	9.11	13,573	7.10	8,380	7.83	3,944	6.57	1,249	5.19	193,731	8.93
C9 - Other manufacturing ind.	10,703	0.54	934	0.49	502	0.47	293	0.49	139	0.58	11,637	0.54
D - Electicity, gas, water	22,213	1.12	3,840	2.01	2,347	2.19	1,309	2.18	184	0.76	26,053	1.20
E - Construction	171,557	8.67	18,386	9.62	10,593	9.89	6,073	10.11	1,720	7.14	189,943	8.75
F - Trade, repair of motor vehicles	314,952	15.92	35,470	18.55	17,855	16.68	11,060	18.42	6,555	27.23	350,422	16.15
G - Restaurants and hotels	101,776	5.14	7,956	4.16	4,352	4.07	2,504	4.17	1,100	4.57	109,732	5.06
H - Transport, storage, comunicat.	132,451	6.69	17,448	9.13	10,946	10.22	5,157	8.59	1,345	5.59	149,899	6.91
I - Financial services	76,340	3.86	5,584	2.92	3,813	3.56	1,462	2.43	309	1.28	81,924	3.78
J - Other services	206,852	10.45	22,019	11.52	10,923	10.20	6,714	11.18	4,382	18.20	228,871	10.55
Total	1,978,647	100.0	191,183	100.0	107,058	100.0	60,051	100.0	24,074	100.0	2,169,830	100.0

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 6. STRUCTURE OF AGE GROUPS BY SECTOR (VALUES IN %)

	1989					1999					2009				
	Y. W.	O. W.	55-59	60-64	65+	Y. W.	O. W.	55-59	60-64	65+	Y. W.	O. W.	55-59	60-64	65+
A - Agriculture	79.62	20.38	10.15	7.64	2.60	80.35	19.65	8.29	7.94	3.42	81.02	18.98	9.99	6.27	2.71
B - Mining	88.26	11.74	6.53	4.09	1.12	88.60	11.40	5.56	4.61	1.24	85.00	15.00	9.13	4.57	1.31
C1 - Food, beverages, tob.	89.02	10.98	5.94	3.64	1.41	89.44	10.56	5.87	3.46	1.23	87.15	12.85	7.76	3.91	1.17
C2 - Textiles	95.70	4.30	2.54	1.33	0.42	95.84	4.16	2.58	1.25	0.33	93.34	6.66	4.75	1.56	0.35
C3 - Wood, cork	92.00	8.00	4.54	2.70	0.75	89.60	10.40	5.43	3.84	1.14	87.97	12.03	7.64	3.48	0.91
C4 - Paper, publishing	91.03	8.97	5.19	2.60	1.18	91.14	8.86	5.37	2.55	0.94	89.46	10.54	6.76	2.91	0.86
C5 - Chemichals	90.08	9.92	6.06	2.95	0.91	90.28	9.72	6.03	2.84	0.85	88.28	11.72	7.64	3.22	0.86
C6 - Non-metallic Mineral Prod.	91.29	8.71	5.22	2.74	0.75	90.70	9.30	5.34	3.10	0.86	87.35	12.65	8.07	3.73	0.85
C7 - Base Metals	90.59	9.41	5.97	2.83	0.61	89.39	10.61	6.90	3.15	0.56	85.54	14.46	9.67	3.92	0.86
C8 - Fab. Metal Prod., Mach., Eq.	92.99	7.01	4.33	2.04	0.64	93.45	6.55	4.14	1.83	0.58	89.42	10.58	6.64	3.10	0.84
C9 - Other manufacturing ind.	91.97	8.03	4.31	2.52	1.19	92.51	7.49	4.08	2.67	0.73	91.07	8.93	6.10	2.48	0.35
D - Electricity, gas, water	85.26	14.74	9.01	5.02	0.71	94.37	5.63	4.19	1.18	0.26	86.25	13.75	10.08	3.01	0.66
E - Construction	90.32	9.68	5.58	3.20	0.91	91.52	8.48	4.50	3.10	0.88	89.19	10.81	6.62	3.23	0.97
F - Trade, repair of motor vehicles	89.88	10.12	5.10	3.16	1.87	91.58	8.42	4.43	2.82	1.17	90.40	9.60	5.41	3.07	1.13
G - Restaurants and hotels	92.75	7.25	3.97	2.28	1.00	91.96	8.04	4.62	2.63	0.79	88.79	11.21	6.68	3.54	0.99
H - Transport, storage, comunicat.	88.36	11.64	7.30	3.44	0.90	89.41	10.59	7.29	2.72	0.58	88.46	11.54	7.20	3.44	0.90
I - Financial services	93.18	6.82	4.65	1.78	0.38	92.76	7.24	5.47	1.49	0.29	90.45	9.55	6.45	2.45	0.66
J - Other services	90.38	9.62	4.77	2.93	1.91	91.66	8.34	4.42	2.68	1.24	89.79	10.21	5.80	3.21	1.19
Total	91.19	8.81	4.93	2.77	1.11	91.78	8.22	4.65	2.65	0.93	89.46	10.54	6.30	3.20	1.04

Source: *Quadros de Pessoal* and authors' calculations.

On the other hand, since 1989, the "youngest" sector in Portugal has been Textiles, starting in that same year with only 4.3% of its workforce aged 55 and over, a figure that fell to 4.2% in 1999 and then rose to 6.7% in 2009. As is well known, this sector has been the one that is most representative of the overall trend towards de-industrialisation in Portugal (Lopes et al., 2011), particularly after the beginning of Economic and Monetary Union, in 1999. Starting with 362,000 workers in 1989 (16.7%), the Textiles sector witnessed a decline to 295,300 workers in 1999 (11.5%) and then to 175,200 workers in 2009 (5.6%). The other side of this coin is the strong growth in services, particularly Other Services (Rental, Business, Health and Education), Wholesale and Retail Trade (by far the largest individual sector in Portugal, representing 20% of the *QdP* workforce), Hotels and Catering, and Transport and Financial Services, as well as the Construction sector. Today, all these sectors have the largest number of older workers in absolute terms, as expected, but their relative ageing is close to the national average (slightly above average in three of these sectors – Transport, Hotels and Catering and Construction – and below average in the others).

When analysing the situation by sub-groups, it is worth mentioning the high incidence of the two oldest groups of older workers (60-64 and 65 and over) in Agriculture, and the almost insignificant percentage of older workers in the Textiles sectors, just to mention the two most extreme cases.

2.3. EDUCATION LEVELS

One of the main structural problems of the Portuguese economy, and of society at large, is the low education level of the workforce (Alves et al., 2010), and the results obtained in this paper confirm this stylised fact. Generally speaking, almost two thirds of all workers registered in the *QdP* – 2009 have at most a basic education (Level I), around one quarter have secondary education or a Bachelor's degree (Level II) and only 12.5% (Level III) a Licentiateship or higher degree (0.76% have a Master's degree, 0.2% have PhDs). These numbers do, however, represent a significant improvement on the extremely low levels of two decades earlier (89%, 8.4%, and 2.5% for Levels I, II and III, respectively) and show reasonable progress in comparison with the numbers of a decade ago (76%, 19%, 5%) (see Table 7).

This general advance in education levels in Portugal is consistent and does in fact explain the persistence of a large divide between younger and older workers, as far as educational achievement is concerned. In 2009, the percentage of older workers with only a basic education was 82%, which was very close to the national average in 1989. On the other hand, "only" 60.6% of younger workers had a Level I education. The differences between these age groups are also significant for Level II (25% versus 11%) and Level III (13.5% versus 6.5%), and they are expected to persist for some time to come.

TABLE 7. EDUCATION LEVEL OF YOUNGER AND OLDER WORKERS IN PORTUGAL – 2009; 1999; 1989

2009	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre	%	Fre	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
< Basic	26,411	0.94	9,796	2.96	4,992	2.53	3,261	3.25	1,543	4.74	36,207	1.16
Basic	1,658,240	59.27	262,471	79.41	157,698	79.77	80,523	80.31	24,250	74.42	1,920,711	61.40
Secondary	644,524	23.04	29,361	8.88	18,586	9.40	8,000	7.98	2,775	8.52	673,885	21.54
Pos-Secondary	11,622	0.42	965	0.29	510	0.26	289	0.29	166	0.51	12,587	0.40
Bachelor	60,639	2.17	5,354	1.62	3,037	1.54	1,612	1.61	705	2.16	65,993	2.11
Licentiate	348,345	12.45	19,021	5.75	10,843	5.48	5,574	5.56	2,604	7.99	367,366	11.74
MSc	22,390	0.80	1,526	0.46	866	0.44	458	0.46	202	0.62	23,916	0.76
PhD	5,341	0.19	793	0.24	386	0.20	231	0.23	176	0.54	6,134	0.20
Unknown	20,076	0.72	1,251	0.38	775	0.39	311	0.31	165	0.51	21,327	0.68
Total	2,797,588	100.0	330,538	100.0	197,693	100.0	100,259	100.0	32,586	100.0	3,128,126	100.0

1999	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre	%	Fre	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
< Basic	34,272	1.51	17,437	8.49	6,839	5.88	8,122	12.24	2,476	10.85	51,709	2.09
Basic - 1st	770,585	33.95	127,112	61.88	73,092	62.87	41,167	62.06	12,853	56.32	897,697	36.27
Basic - 2nd	538,125	23.71	19,070	9.28	11,689	10.05	5,486	8.27	1,895	8.30	557,195	22.51
Basic - 3rd	381,413	16.81	20,896	10.17	12,812	11.02	5,596	8.44	2,488	10.90	402,309	16.26
Secondary	407,641	17.96	11,089	5.40	6,660	5.73	2,963	4.47	1,466	6.42	418,730	16.92
Bachelor	25,511	1.12	1,293	0.63	714	0.61	394	0.59	185	0.81	26,804	1.08
Licentiate	60,076	2.65	4,217	2.05	2,214	1.90	1,178	1.78	825	3.61	64,293	2.60
Unknown	51,876	2.29	4,303	2.09	2,236	1.92	1,433	2.16	634	2.78	56,179	2.27
Total	2,269,499	100.0	205,417	100.0	116,256	100.0	66,339	100.0	22,822	100.0	2,474,916	100.0

(continuation)

1989	Younger W.		Older W.		55-59		60-64		65 +		Total	
	Fre	%	Fre	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
< Basic	89,781	4.54	40,268	21.06	22,059	20.60	14,335	23.87	3,874	16.09	130,049	5.99
Basic - 1st	990,085	50.04	98,028	51.27	57,075	53.31	29,717	49.49	11,236	46.67	1,088,113	50.15
Basic - 2nd	344,211	17.40	11,554	6.04	6,574	6.14	3,429	5.71	1,551	6.44	355,765	16.40
Basic - 3rd	255,397	12.91	18,079	9.46	9,905	9.25	5,329	8.87	2,845	11.82	273,476	12.60
Secondary	144,250	7.29	5,670	2.97	2,843	2.66	1,704	2.84	1,123	4.66	149,920	6.91
Bachelor	14,857	0.75	1,370	0.72	701	0.65	430	0.72	239	0.99	16,227	0.75
Licentiate	46,709	2.36	6,180	3.23	2,662	2.49	1,898	3.16	1,620	6.73	52,889	2.44
Unknown	93,357	4.72	10,034	5.25	5,239	4.89	3,209	5.34	1,586	6.59	103,391	4.76
Total	1,978,647	100.0	191,183	100.0	107,058	100.0	60,051	100.0	24,074	100.0	2,169,830	100.0

Source: *Quadros de Pessoal* and authors' calculations.

An interesting fact worth mentioning here is that the last group of older workers tends to be the more educated, confirming the idea that one of the factors contributing to an active ageing process is having a better education. For example, in 2009, the percentage of people aged 65 and over that had a Master's degree was higher than it was in the other subgroups of older workers, and the percentage of those with a PhD was even higher than in the group of younger workers.

2.4. WORKING-TIME REGIME

The labour market in Portugal is considered to be relatively rigid (Alexandre et al., 2010), and this assessment is confirmed by the small proportion of workers who are employed on a part-time basis: 5.74% in 2009 (see Table 8). Although there is a larger proportion of older part-time workers (7.3% versus 5.6%), this difference is very small, and a significant value is only found in the case of the last subgroup of older workers (14.7%). This is one of the potential ways of promoting active ageing, if appropriate measures are taken. Unfortunately, there are no figures available for this variable in the *QdP* for 1999 and 1989.

2.5. SIZE OF ESTABLISHMENT

The Portuguese economy is populated mainly by small and very small enterprises, and so it is not surprising that almost two thirds of all workers belong to micro (0-9 workers) and small (10-49) establishments, 22% work in medium-size firms (50-249 workers) and only 14.4% in large ones (250+ workers). These numbers relate to 2009 (Table 9), and in that year the proportion of older workers in micro-establishments was higher (38.4%) than that of younger ones (32.1%), although it was lower in all of the other classes for the size of establishment. This tendency is reinforced by the results for the different age sub-groups, with the proportion of workers aged 60-64 and 65+ working in micro establishments (41% and 45.6%, respectively) being quite significant. For example, only 8% of workers aged 65 and over are employed by large companies (2,605 out of 32,586).

TABLE 8. WORKING TIME REGIME OF YOUNGER AND OLDER WORKERS IN PORTUGAL – 2009

	Younger Workers		Older Workers		55-59		60-64		65 +		Total	
	Fre	%	Fre	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Full time	2.475.282	94,44	258.056	92,66	161.345	93,99	75.884	92,05	20.827	85,34	2.733.338	94,26
Part time	145.853	5,56	20.443	7,34	10.308	6,01	6.557	7,95	3.578	14,66	166.296	5,74
Total	2.621.135	100,00	278.499	100,00	171.653	100,00	82.441	100,00	24.405	100,00	2.899.634	100,00

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 9. YOUNGER AND OLDER WORKERS, BY ESTABLISHMENTS SIZE – 2009

	Younger Workers		Older Workers		55-59		60-64		65 +		Total	
	Fre	%	Fre	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Micro	897.392	32,08	126.767	38,35	70.787	35,81	41.155	41,05	14.825	45,49	1.024.159	32,74
Small	865.775	30,95	98.779	29,88	58.892	29,79	29.724	29,65	10.163	31,19	964.554	30,83
Medium	624.584	22,33	65.490	19,81	41.767	21,13	18.730	18,68	4.993	15,32	690.074	22,06
Large	409.837	14,65	39.502	11,95	26.247	13,28	10.650	10,62	2.605	7,99	449.339	14,36
Total	2.797.588	100,00	330.538	100,00	197.693	100,00	100.259	100,00	32.586	100,00	3.128.126	100,00

Source: *Quadros de Pessoal* and authors' calculations.

An interesting empirical fact relating to the evolution in the average size of Portuguese firms is that in 1989 and 1999 the proportion of workers employed by micro establishments was smaller than in 2009 (20.2% and 29.8%). This trend is associated with the strong tertiarisation (and consequent de-industrialisation) of the Portuguese economy mentioned earlier, and it is a matter of serious concern affecting both younger and older workers. As a matter of fact, two decades ago more than 20% of workers were employed by large establishments, a figure that is significantly higher than today and represents almost twice as many people in the case of older workers.

2.6. AVERAGE LABOUR COMPENSATION

Considering only the 3,128,126 workers registered in the *Quadros de Pessoal*, the average monthly remuneration in Portugal was € 929.4 in 2009, € 624.6 in 1999 and € 259.2 in 1989, all expressed in current prices (see Table 10). We calculate the labour remunerations by adding together the base salary, subsidies, bonuses and overtime pay.

The average labour compensation of older workers in 2009 was € 942.4, slightly higher (1.6%) than the € 927.9 of the younger workers, meaning that, on average, the tenure effect is more important than the education effect. The average hourly remuneration of older workers is much higher than that of younger workers (16.5%, or € 7.7 versus € 6.6) as older people work fewer hours on average (see Table 11). These relative wage advantages of older workers were also to be noted in 1989 and 1999.

3. REGIONAL DIFFERENCES IN THE WORKFORCE

One of the most representative indicators of the regional differences in the workforce is the proportion of older workers to be found among the total number of workers in each region (see Table 12). In fact, for almost all regions, there are significant differences between these regional proportions and the national average in the years studied. Applying a one-proportion z-test to these differences (for details about this test, see Newbold et al., 2013), only in the Azores in 1989 and the Centro region in 1999 was the z value lower than 2.326, the critical value at a 1% significance level, above which the null hypothesis of equality of proportions is rejected (see Table 13).

TABLE 10. AVERAGE MONTHLY REMUNERATION BY AGE GROUP

	Younger Workers		Older Workers		Total	
	Value	%	Value	%	Value	%
1989	258,765	99,82	264,132	101,89	259,238	100,00
1999	624,193	99,93	629,310	100,75	624,613	100,00
2009	927,877	99,83	942,435	101,40	929,415	100,00

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 11. AVERAGE HOURLY REMUNERATION BY AGE GROUP

	Younger Workers		Older Workers		Total	
	Value	%	Value	%	Value	%
1989	1,752	98,11	2,134	119,53	1,786	100,00
1999	4,512	98,41	5,404	117,86	4,585	100,00
2009	6,631	98,28	7,728	114,54	6,747	100,00

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 12. AGE STRUCTURE OF WORKERS BY NUTS II

2009	Younger Workers		Older Workers		55-59		60-64		65 +		Nuts Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Norte	973.003	90,99	96.375	9,01	61.565	5,76	27.324	2,56	7.486	0,70	1.069.378	100
Algarve	126.644	87,80	17.593	12,20	9.531	6,61	5.934	4,11	2.128	1,48	144.237	100
Centro	555.268	88,99	68.676	11,01	41.417	6,64	20.919	3,35	6.340	1,02	623.944	100
Lisboa	866.736	88,41	113.616	11,59	65.249	6,66	35.558	3,63	12.809	1,31	980.352	100
Alentejo	157.139	86,88	23.731	13,12	13.326	7,37	7.578	4,19	2.827	1,56	180.870	100

(continuation)

2009	Younger Workers		Older Workers		55-59		60-64		65 +		Nuts Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Açores	54.038	92,88	4.145	7,12	2.608	4,48	1.139	1,96	398	0,68	58.183	100
Madeira	62.683	91,18	6.064	8,82	3.734	5,43	1.739	2,53	591	0,86	68.747	100
Estrangeiro	2.077	86,00	338	14,00	263	10,89	68	2,82	7	0,29	2.415	100
Total by Age Group	2.797.588	89,43	330.538	10,57	197.693	6,32	100.259	3,21	32.586	1,04	3.128.126	100

1999	Younger Workers		Older Workers		55-59		60-64		65 +		Nuts Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Norte	877.864	93,77	58.362	6,23	33.879	3,62	18.697	2,00	5.786	0,62	936.226	100
Algarve	81.830	89,72	9.381	10,28	5.108	5,60	3.156	3,46	1.117	1,22	91.211	100
Centro	470.766	91,78	42.172	8,22	23.742	4,63	13.885	2,71	4.545	0,89	512.938	100
Lisboa	712.148	90,17	77.622	9,83	44.804	5,67	23.802	3,01	9.016	1,14	789.770	100
Alentejo	128.028	87,93	17.582	12,07	8.561	5,88	6.512	4,47	2.509	1,72	145.610	100
Açores	37.856	93,77	2.516	6,23	1.363	3,38	761	1,88	392	0,97	40.372	100
Madeira	47.960	93,22	3.490	6,78	1.914	3,72	1.151	2,24	425	0,83	51.450	100
Estrangeiro	845	96,13	34	3,87	26	2,96	8	0,91	0	0,00	879	100
Total by Age Group	2.357.297	91,78	211.159	8,22	119.397	4,64	67.972	2,64	23.790	0,93	2.568.456	100

1989	Younger Workers		Older Workers		55-59		60-64		65 +		Nuts Total	
	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%	Fre.	%
Norte	766.314	93,29	55.093	6,71	31.208	3,80	17.366	2,11	6.519	0,79	821.407	100
Algarve	59.031	89,46	6.954	10,54	3.664	5,55	2.326	3,53	964	1,46	65.985	100
Centro	360.843	91,64	32.934	8,36	19.030	4,83	10.039	2,55	3.865	0,98	393.777	100
Lisboa	628.890	89,77	71.647	10,23	40.325	5,76	21.831	3,12	9.491	1,35	700.537	100
Alentejo	100.992	84,91	17.946	15,09	9.507	7,99	6.344	5,33	2.095	1,76	118.938	100
Açores	29.947	91,58	2.752	8,42	1.366	4,18	865	2,65	521	1,59	32.699	100
Madeira	31.777	89,37	3.781	10,63	1.914	5,38	1.257	3,54	610	1,72	35.558	100
Estrangeiro	853	91,82	76	8,18	44	4,74	23	2,48	9	0,97	929	100
Total by Age Group	1.978.647	91,19	191.183	8,81	107.058	4,93	60.051	2,77	24.074	1,11	2.169.830	100

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 13. ONE-PROPORTION Z-TEST RESULTS

	1989	1999	2009
Norte	17,390	17,480	15,752
Algarve	4,692	6,501	7,032
Centro	2,656	0,003	3,750
Lisboa	12,363	14,564	11,183
Alentejo	27,363	16,619	12,777
Açores	0,665	3,245	7,224
Madeira	3,640	2,763	4,432

Source: *Quadros de Pessoal* and authors' calculations.

Note: H0 is equality between the proportion of older workers in a region and the national average. H1 is inequality between the same proportions.

A particular region may exhibit a relatively old composition for its workforce because individuals of higher age categories tend to work more or because the region's residents are older. In Table 14, we present the proportion of individuals aged 55 and over that are employed in each NUTS II region. We do not show the corresponding proportions for NUTS III regions, but the respective calculations were made and the differences are even more glaring: the proportions range from 4.3% in Alto Trás-os-Montes to 15.1% in Grande Lisboa!

TABLE 14. PROPORTION OF INDIVIDUALS 55+ THAT ARE EMPLOYED, BY NUTS II

2009	Residents 55+	Older Workers	Old Wor./ Res. 55+
	No.	No.	%
Norte	1023079	96375	9,42%
Algarve	134954	17593	13,04%
Centro	774384	68676	8,87%
Lisboa	861615	113616	13,19%
Alentejo	263822	23731	9,00%
Açores	54021	4145	7,67%
Madeira	55856	6064	10,86%
Portugal	3436011	330200	9,61%

Source: *Quadros de Pessoal* and authors' calculations.

3.1. THE NORTE REGION

The Norte region is the one with most workers: 34.19% of all workers were to be found in this region in 2009. In 2009, this region still had one of the youngest age structures for the workforce, being superseded only by the islands: older workers here account for 9% of all workers, whereas the national average is 10.6%. However, 20 years earlier, it had had the youngest age structure of all (Table 12). Tâmega, the NUTS III region with the youngest workforce structure is located in the Norte region. Of the NUTS III regions that belong to the Norte region, only Alto Trás-os-Montes has an age structure that is slightly older than the national average. Nevertheless, Alto Trás-os-Montes is the Portuguese region with the lowest proportion of individuals aged 55 and over in employment (4.3%).[1] At the other extreme, Grande Porto has the third highest proportion in Portugal (11.5%).

Despite starting from a very low initial point, the rise in education levels was clearly visible in this region over the two decades under consideration here: the proportion of workers with only a basic education level fell from 92.8% to 82.8% and then to 69.4% (Table 15). The proportion of workers with the highest education level rose from 1.57% to 3.7% and then to 10.53%. The education level of workers in the Norte region is significantly lower than in the Lisbon region. The Tâmega NUTS III region, in particular, is the Portuguese region with the lowest levels of education: it has the lowest proportion of workers with Level III education and the highest proportion of workers with Level I education. In the Norte region, the NUTS III region with the highest levels of education is Grande Porto. This is the only NUTS III region in the Norte region that has better education levels than the national average.

The average education level of younger workers (67.81% with only a Level I education in 2009) is considerably higher than that of the older workers (85.18% with only a Level I education in 2009, see Table 15). In 1989, the situation was completely different: 92.68% of younger workers had only a Level I education, compared with 94.21% for older workers. Conversely, in 1989, the percentage of workers with a Level III education was slightly higher in the case of older workers (2.54%) than in the case of younger workers (1.5%). The numbers were very similar for both groups in 1999: 3.45% for older workers as against 3.72% for younger workers. And finally, in 2009, the difference clearly favoured younger workers: 5.47% for older workers compared to 11.04% for younger workers.

Although part-time work is not very expressive in Portugal, in 2009 Grande Porto exhibited the second highest proportion of workers employed under this regime, coming only after Grande Lisboa (Table 16).

In 2009, the sectors where the proportion of older workers in the Norte region was above the national average were: Textiles, Wood and Cork, Paper and Publishing, Basic Metal Industries, Metal Products, Machinery and Equipment, and Construction. In 1989, the workforce employed in Construction was younger than the national average, but this situation changed. Conversely, Electricity, Gas and Water employed more older workers in relative terms, but then became a younger sector (Table 17).

The Norte region had the lowest wage levels for all years of observation (Table 18). Alto Trás-os-Montes and Tâmega were the two NUTS III regions from the Norte region with the lowest average labour compensations. In 2009, there were only two other NUTS III regions with lower remunerations in Portugal. Tâmega had the lowest average labour compensations in Portugal in both 1989 and 1999 (60% and 65%, respectively, of the national average for hourly remunerations, and 63% of the average monthly remunerations in both cases), but, in 1989, Alto Trás-os-Montes had the third highest average labour compensations in the Norte region (85.27% of the national average for monthly remunerations). By 1999, however, the remunerations of workers in the Alto Trás-os-Montes region had already fallen quite considerably in relative terms.

3.2. THE ALGARVE REGION

The Algarve region is the smallest NUTS II region in continental Portugal. It has the second oldest workforce –

[1] This result must be interpreted with some caution, since in this region the proportion of individuals aged 55 and over working in agriculture is known to be quite considerable and, as mentioned earlier, independent farmers are not covered by the *QdP*.

12.2% of its workers were aged 55 or older, whereas the national average was 10.57%, in 2009 (Table 12). This is due mainly to the larger proportions of workers over 60 years of age and less to the proportion of workers aged between 55 and 60. In terms of the age composition of its workforce, the relative position of the region remained almost the same throughout the period under analysis, except that in 1989 Madeira had an even older workforce. The fact that the workforce is relatively old is also a consequence of the large proportion of individuals aged 55 and over that are in employment: 13%, the second highest rate in Portugal.

In 1989, the education level of the Algarve workforce was the second highest in Portugal, after Lisbon, due particularly to the education level of its younger workers. However, this situation also changed. Specifically, the proportion of workers with a higher education level grew much more rapidly in other regions, such as the Norte and the Centro, than in the Algarve (Table 15).

Only 5% of older workers in the Algarve work part-time, which is about the same rate as for younger workers (Table 16).

Hotels and Catering is undoubtedly the most important sector in this region (Table 17). More than 20% of the Algarve's older workers are employed there, and the proportion of older workers (compared with younger workers) in this industry rose from 8.4% in 1989 to 9.7% in 1999, and then to 13.5% in 2009. Wholesale and Retail Trade and Construction represent two other sectors that employ large proportions of the Algarve's older workers: 17.26% and 15.72%, respectively, in 2009 (Table 17). In the Algarve, in 1989, the proportion of workers in the Construction industry aged 55 and over was 12.74%, while in Wholesale and Retail Trade it was 8.92%. The figures were not very different in 2009: 13.10% for Construction and 9.42% for Trade. The group of Other Services also has some importance in the Algarve, due to the inclusion of Real Estate and Rental Services, here. In 2009, the only NUTS III region with more workers in the Real Estate and Rental sector was Grande Lisboa. In 1989, Grande Porto had many more workers in this industry: 15.6% as compared to 5.6% for the Algarve. If one focuses only on older workers, Grande Porto still had more workers than the Algarve in this activity area in 2009, although this figure was only slightly higher.

The average remuneration in the Algarve is 88.92% of the national average, and the situation is worse for older workers: their average remuneration is 80.49% of the average level of remuneration for the Portuguese as a whole (Table 18). The situation seems to improve slightly when hourly remunerations are considered: the figures are 90.5% of the national average for all workers in the Algarve and 81.42% for older workers, respectively. But, in truth, older workers in this NUTS II region now appear as the worst paid in Portugal. Of course, if the Algarve is seen as a NUTS III region, then there are many other regions that exhibit lower hourly remunerations for their older workers.

3.3. THE CENTRO REGION

This is the third largest NUTS II region in terms of its number of workers (Table 12). In 2009, the only NUTS III regions belonging to the Centro region that had a workforce younger than the national average were Dão Lafões and Pinhal Litoral. In 1989, there were 7 NUTS III regions with workforces that were younger than the national average. Several NUTS III regions have small proportions of individuals aged 55 and over in employment[2], but there are also regions where the reverse is true: Pinhal Litoral (11.8%), Baixo Vouga (10.5%) and Oeste (10.4%).

In 2009, the sectors in the Centro region with proportions of older workers that were larger than the national average were: Non-Metallic Mineral Products, Metal Products, Machinery and Equipment, Basic Metal Industries, Chemicals, Wholesale and Retail Trade, and Agriculture and Mining (Table 17). More than half of the workers involved in the production of Non-Metallic Mineral Products in Portugal are located in the Centro region. This is true for both younger and older workers. 32% of older workers in Portugal and 29% of all workers that are employed in the Basic Metal industries are to be found in the Centro region. 31% of older workers and 32% of all workers employed in the mining industry are also to be found here.

The education levels of workers in the Centro region are lower than the national average (Table 15). This is true for both the older workers and the younger workers. Baixo Mondego, the NUTS III region in which Coimbra is located, is the exception. Nevertheless, the education level of workers, especially younger workers, has risen significantly since 1989. For example, the proportion of younger workers with a Level 3 education in the Baixo Vouga region was 1.53% in 1989, and 12.1% in 2009. In Dão Lafões, it was 1.14% in 1989 and 12.19% in 2009. Such an improvement is not found in the case of older workers.

In the Centro region, the proportion of older workers working part-time is slightly higher than the proportion of younger workers working part-time, although both figures are below what is an already low national average (Table 16). Baixo Mondego is the NUTS III region where the level of recourse to part-time working schedules is above the national average, particularly in the case of older workers. In Beira Interior Sul, this situation only applies to younger workers.

The Centro region is the one where older workers are paid least. Based on monthly remunerations, it can be seen that, on average, younger workers earn more than older workers, but the opposite happens when calculations are based on hourly remunerations (Table 19). If we consider only hourly remunerations, then the Centro region's older workers are not as badly paid as the Algarve's older workers. When all workers are taken together, the Centro region is the region with the second lowest hourly remunerations.

[2] Again, this may be partly due to the sizeable number of self-employed farmers in this age category, not covered by the *QdP*.

The lowest average remunerations in Portugal are to be found in the Pinhal Interior Sul region, amounting to only 69.5% of the national average for younger workers, and 61.28% of the national average for older workers. The situation was totally different in 1989: younger workers in this region earned 81.28% of the national average, while older workers earned 94.92%! In 1999, the situation was already beginning to draw closer to that of 2009. Again based on hourly remunerations, the workers in the Pinhal Interior Norte region are the worst paid, because of the low wages received by younger workers (Table 18).

3.4. THE LISBON REGION

Lisbon is the country's second largest region in terms of its number of workers, only being superseded by the Norte region (see Table 12). It is by far the region with the largest proportion of older workers, whichever of the three years under consideration here is looked at. In 2009, 34.37% of the older workers employed in Portuguese firms, and 39.31% of workers aged 65 and over, worked in the Lisbon region.

The Lisbon NUTS II region contains only two NUTS III regions, and these are very different from one another. The workforce in Grande Lisboa is almost five times the size of the workforce in the Península de Setúbal. Although both regions have larger proportions of older workers than the national average, the Península de Setúbal has the higher proportion of older workers. In 1989, it was the other way round.

Grande Lisboa is the Portuguese NUTS III region with the highest proportion of individuals aged 55 and over in employment (15.1%), contrasting with a significantly lower proportion in the Peninsula de Setúbal (8.2%).

It is clear that workers are more highly educated in the Lisbon region (Table 15). This statement is true for both younger and older workers. But it is the Grande Lisboa region that makes the difference: here, 21.35% of younger workers and 10.83% of older workers are highly educated. In the Península de Setúbal, the percentages are 11.45% and 5.32% respectively. The proportion of workers in the Grande Lisboa region with only a Level I education or lower is 45.96% in the case of younger workers and 74.23% in the case of older workers, whereas these figures are 57.94% and 82.55% respectively in the Península de Setúbal. These differentials between the two NUTS III regions were already visible in 1989. Just as in the rest of the country, education levels have risen substantially since then.

Lisbon is the region where there are most workers employed on a part-time basis: 7.59% of younger workers and 10.16% of older workers (Table 16). This is particularly evident in the case of Grande Lisboa, because in the Península de Setúbal the proportion of part-time workers is lower, especially in the case of older workers.

The industries that provide most jobs for older workers in the Lisbon region are Financial Services, Other Manufacturing Industries, Transport Services, Other Services (include Real Estate and Rental Services). Some industries have reduced their proportions of older workers since 1989: Construction, Metal Products, Machinery and Equipment, Basic Metal Industries, Non-Metallic Minerals, Chemicals, Wood and Cork, and Mining (Table 17).

The Lisbon region is the region where workers earn the highest remunerations, on average, in Portugal (Table 18). This statement applies to both older and younger workers, but, on average, older workers earn slightly higher monthly remunerations than younger workers. The reverse was true in 1989 and in 1999. As far as hourly remunerations are concerned, older workers earned substantially more during all the time periods (Table 19). If we take only the Península de Setúbal region into account, remunerations are lower, and older workers earn less, on average, than younger workers. The difference in remunerations between the two NUTS III regions has widened considerably since 1989.

3.5. THE ALENTEJO REGION

The Alentejo is the region with the largest proportion of older workers (Table 12). All NUTS III regions in the Alentejo have workforces with more than 12.5% older workers, when the national average is 10.57%, and the youngest regions have less than 8%. The NUTS III region with most older workers in Portugal – 14.38% – is Alentejo Litoral, followed by Alto Alentejo – 13.63% – and by Alentejo Central – 13.26%. Except in the case of Alentejo Litoral, the proportion of older workers was even higher in these regions, in 1989. Alentejo Litoral is also the NUTS III region of the Alentejo with the highest proportion of individuals aged over 55 in employment (10.2%).

The education level of older workers in this region is the lowest in Portugal (Table 15): only 3.78% in the Alentejo have a Level III education, while 88.41% have only a Level I education. 95.9% of younger workers and 94% of older workers work full-time in the Alentejo (Table 16). Between 36% and 39% of older workers in the Alentejo work in Agriculture. Mining and Food, Beverages and Tobacco are the other main industries (Table 17).

Although the hourly remuneration of workers in the Alentejo is below the national average, the older workers are more penalised in comparison with those of the same age in the other regions (Table 18). However, this difference used to be greater and has narrowed since 1989.

3.6. THE AZORES REGION

The Azores is the smallest and youngest NUTS II region in Portugal, as far as its workforce is concerned (Table 12). Together with Tâmega, in the Norte region, it is also the youngest NUTS III region: in 2009, only 7.12% of its workforce were older workers, compared to the national average of 10.57%. The percentage of workers aged 60 and over was 2.64%. In 1989, there was a larger proportion of workers aged 60 and over (4.24%), but, by 1999, this figure had already fallen to 2.86%.

The average education level of the workforce is the lowest of all the NUTS II regions (Table 15). This is particularly noticeable in the segment of younger workers: 71.16% of younger workers have a Level I education – compared to 60.64% for Portugal – and only 8.98% have a Level III education, compared to 13.54% for Portugal as a whole.

The proportion of older workers in the region who work part-time is 8.49%, a figure that is higher than the national average, and the percentage of younger workers is 5.54%, which is similar to the national average (Table 16).

Most older workers are employed in the Wholesale and Retail Trade, Construction, and Transports and Communications sectors (Table 17). The sizeable share enjoyed by the Manufacture of Food Products, Beverages and Tobacco in 1989 has been considerably declined. It fell from the employment of 20.49% of older workers in the Azores to 14.47% in 1999, and 8.83% in 2009. This decline matched the fall in the total number of workers in this industry in the Azores.

Although it is below the national average, the Azores is ranked as the third NUTS II region where workers earn most, although not in hourly terms (Table 18). In 2009, older workers received higher monthly remunerations than younger workers, something which did not happen in 1989 or in 1999. Older workers always earned more per hour than younger workers during the period under analysis.

3.7. THE MADEIRA REGION

Madeira is the second smallest NUTS II region in Portugal, and the second youngest, as far as its workforce is concerned (Table 12). The proportion of younger workers has increased in Madeira since 1989: it rose from 89.37% in that year to 91.18%, in 2009. It is the NUTS III region with the sixth highest proportion of younger workers, despite the fact that 10.9% of individuals aged 55 and over are in employment.

The average education level of the workers in Madeira is below the national average (Table 15). However, the education level of older workers is one of the highest in Portugal. It is still below the national average, because this value is greatly influenced by the numbers of older workers in the regions with the three largest cities.

The proportions of part-time workers are below the national average, for both younger and older workers (Table 16) and the most important industries are Hotels and Catering and Wholesale and Retail Trade (Table 17). The workforce of Hotels and Catering, in particular, has aged considerably since 1989. In that year, this sector employed 12.75% of older workers and 18.37% of all workers. In 2009, it employed 19.01% of older workers and 17.6% of all workers.

Average remunerations in Madeira are some of the highest in Portugal: as a NUTS II region, its remunerations are only lower than those in the Lisbon region (Table 18); as a NUTS III region, its remunerations are only lower than those in the Grande Lisboa, Alentejo Litoral and Grande Porto regions. In 1989, the main differences were that average monthly remunerations in Madeira were lower than those in the Península de Setúbal and in the Algarve, and higher than those in the Grande Porto region. In 1999, average monthly remunerations in the Grande Porto region had already caught up with those in Madeira. During the whole period, older workers earned more than younger workers, in both monthly and hourly terms.

TABLE 15. EDUCATION LEVELS BY REGION NUTS II

2009	Younger Workers				Older Workers				Total Workers			
	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)
Norte	67,81	21,15	11,04	100	85,18	9,35	5,47	100	69,38	20,09	10,53	100
Algarve	62,24	28,01	9,75	100	84,63	11,16	4,22	100	65,00	25,93	9,07	100
Centro	64,65	24,12	11,23	100	88,08	8,01	3,91	100	67,24	22,34	10,42	100
Lisboa	47,94	32,34	19,72	100	75,66	14,46	9,88	100	51,17	30,26	18,58	100
Alentejo	65,03	25,34	9,62	100	88,41	7,81	3,78	100	68,11	23,03	8,85	100
Açores	71,16	19,86	8,98	100	84,42	9,86	5,72	100	72,11	19,14	8,75	100
Madeira	65,06	25,80	9,14	100	83,77	10,67	5,56	100	66,71	24,47	8,82	100
Total	60,64	25,82	13,54	100	82,68	10,84	6,48	100	62,98	24,23	12,79	100

1999	Younger Workers				Older Workers				Total Workers			
	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)
Norte	82,28	14,00	3,72	100	91,01	5,54	3,45	100	82,83	13,47	3,70	100
Algarve	74,67	21,93	3,40	100	92,08	5,38	2,53	100	76,48	20,21	3,31	100
Centro	79,22	16,31	4,48	100	92,67	4,07	3,26	100	80,33	15,29	4,38	100

(continuation)

1999	Younger Workers				Older Workers				Total Workers			
	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)
Lisboa	64,77	27,79	7,45	100	85,97	8,27	5,77	100	66,90	25,82	7,28	100
Alentejo	78,39	17,40	4,21	100	94,10	2,99	2,92	100	80,31	15,64	4,05	100
Açores	80,38	15,64	3,98	100	89,34	6,09	4,58	100	80,94	15,05	4,02	100
Madeira	80,07	18,58	1,35	100	91,86	6,47	1,67	100	80,87	17,76	1,37	100
Total	75,98	19,09	4,93	100	89,82	6,03	4,15	100	77,13	18,00	4,87	100

1989	Younger Workers				Older Workers				Total Workers			
	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)	Level I (%)	Level II (%)	Level III (%)	Total (%)
Norte	92,68	5,82	1,50	100	94,21	3,25	2,54	100	92,78	5,65	1,57	100
Algarve	87,63	10,74	1,63	100	95,68	2,80	1,52	100	88,48	9,90	1,62	100
Centro	92,22	6,40	1,38	100	95,29	2,55	2,16	100	92,48	6,07	1,45	100
Lisboa	82,47	12,87	4,65	100	88,80	5,69	5,51	100	83,12	12,14	4,74	100
Alentejo	91,69	6,92	1,39	100	97,26	1,54	1,20	100	92,53	6,11	1,36	100
Açores	89,99	8,68	1,32	100	48,65	50,05	1,30	100	90,23	8,35	1,42	100
Madeira	90,33	8,16	1,50	100	56,28	42,59	1,12	100	90,83	7,63	1,54	100
Total	89,09	8,44	2,47	100	90,35	6,33	3,32	100	89,40	8,04	2,56	100

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 16. WORKING TIME REGIME OF YOUNG AND OLDER WORKERS IN PORTUGAL: NUTS II - 2009

	Younger Workers			Older Workers			Total Workers		
	Full Time (%)	Part Time (%)	Total (%)	Full Time (%)	Part Time (%)	Total (%)	Full Time (%)	Part Time (%)	Total (%)
Norte	95,80	4,92	100	93,73	6,27	100	94,97	5,03	100
Algarve	94,91	5,09	100	94,97	5,03	100	94,91	5,09	100
Centro	95,82	4,18	100	94,80	5,20	100	95,72	4,28	100
Lisboa	92,41	7,59	100	89,84	10,16	100	92,14	7,86	100
Alentejo	95,90	4,10	100	94,00	6,00	100	95,66	4,34	100
Açores	94,46	5,54	100	91,51	8,49	100	94,26	5,74	100
Madeira	95,80	4,20	100	94,12	5,88	100	95,66	4,34	100
Total	94,43	5,57	100	92,65	7,35	100	94,26	5,74	100

Source: *Quadros de Pessoal* and authors' calculations.

TABLE 17. INDUSTRIES' OLDER WORKERS BY REGION

2009	Norte	Centro	Lisboa	Alentejo	Algarve	Madeira	Açores	Total by sector
	%	%	%	%	%	%	%	%
A – Agriculture	2,71	4,05	1,06	18,90	4,57	0,93	5,07	3,68
B – Mining	0,59	0,83	0,11	1,71	0,64	0,48	0,29	0,55
C1 – Food, beverages, tob.	3,92	5,52	2,64	6,80	2,24	5,22	8,84	4,01
C2 – Textiles	9,04	3,28	0,55	0,48	0,17	0,99	0,24	3,57
C3 – Wood, cork	4,27	3,27	0,65	1,75	0,84	1,12	0,89	2,35
C4 – Paper, publishing	1,51	1,46	1,55	0,52	0,47	0,55	0,80	1,36
C5 – Chemichals	1,56	2,05	1,42	1,60	0,24	0,23	0,07	1,50

(continuation)

2009	Norte	Centro	Lisboa	Alentejo	Algarve	Madeira	Açores	Total by sector
	%	%	%	%	%	%	%	%
C6 – Non metallic Mineral Prod.	1,24	4,44	0,90	1,29	1,31	0,51	1,38	1,78
C7 – Base Metal s	0,71	0,62	0,19	0,03	0,00	0,02	0,00	0,40
C8 – Fab. metal prod. mach., eq.	7,20	6,94	3,66	4,29	1,19	1,19	1,06	5,21
C9 – Other manuf. Ind.	0,07	0,09	0,25	0,16	0,52	0,15	0,02	0,17
D – Electricity, gas, water	1,00	0,95	0,82	0,88	1,16	2,26	1,50	0,96
E – Construction	13,64	12,71	10,10	9,86	15,76	13,84	13,99	12,17
F – Trade, repair motor vehic.	18,53	19,77	17,78	16,75	17,31	19,56	20,95	18,37
G – Restaurants hotels	5,18	5,64	9,35	5,82	24,76	19,05	6,91	8,07
H – Transport, storage, comunic.	5,82	6,22	9,96	4,32	4,61	10,41	11,33	7,30
I – Financial services	2,29	1,57	4,17	1,96	1,08	2,33	4,62	2,72
J – Other services	20,74	20,59	34,87	22,87	23,13	21,16	22,02	25,83
Total	100	100	100	100	100	100	100	100

1999	Norte	Centro	Lisboa	Alentejo	Algarve	Madeira	Açores	Total by sector
	%	%	%	%	%	%	%	%
A – Agriculture	1,65	4,42	1,45	29,95	7,11	0,92	6,52	4,77
B – Mining	0,71	0,89	0,27	3,15	1,00	0,60	0,44	0,80
C1 – Food, beverages, tob.	4,55	5,61	3,05	7,70	4,29	4,70	14,47	4,58
C2 – Textiles	14,73	5,61	1,30	1,01	0,16	3,64	0,60	5,83
C3 – Wood, cork	3,18	3,75	0,81	1,92	1,84	1,46	1,91	2,22
C4 – Paper, publishing	2,20	2,02	2,37	0,51	0,79	0,97	0,76	1,99
C5 -Chemichals	1,99	2,37	2,31	0,78	0,29	0,20	0,08	1,95
C6 – Non metallic Mineral Prod.	1,81	7,95	1,70	2,14	1,95	1,15	1,19	3,01
C7 – Base Metal s	1,08	0,51	0,31	0,06	0,00	0,03	0,00	0,52
C8 – Fab. metal prod. mach., eq.	7,98	8,51	5,23	4,21	1,77	2,01	0,99	6,30
C9 – Other manuf. Ind.	4,20	1,84	0,74	0,29	0,19	0,37	0,28	1,84
D – Electricity, gas, water	0,37	0,25	0,62	0,23	0,23	2,26	1,07	0,46
E – Construction	10,76	11,41	10,80	9,07	11,99	15,02	10,50	10,89
F – Trade, repair motor vehic.	20,24	20,93	22,87	16,92	19,92	23,47	27,59	21,19
G – Restaurants hotels	4,06	4,69	7,38	4,74	24,91	19,20	4,69	6,65
H – Transport, storage, comunic.	6,23	6,32	10,13	4,31	5,72	9,06	11,53	7,61
I – Financial services	2,57	1,83	4,53	1,45	1,40	2,15	1,71	2,98
J – Other services	11,69	11,11	24,14	11,57	16,43	12,78	15,67	16,41
Total	100	100	100	100	100	100	100	100

1989	Norte	Centro	Lisboa	Alentejo	Algarve	Madeira	Açores	Total by sector
	%	%	%	%	%	%	%	%
A – Agriculture	1,27	5,43	1,44	38,86	9,53	1,53	7,38	5,97
B – Mining	0,62	1,09	0,45	4,06	1,16	0,66	0,22	0,97
C1 – Food, beverages, tob.	5,81	6,93	4,32	8,25	6,50	8,36	20,49	5,96
C2 – Textiles	19,62	8,28	2,05	0,91	0,13	9,79	0,55	8,15
C3 – Wood, cork	5,42	5,46	1,78	2,74	2,93	1,64	2,18	3,60
C4 – Paper, publishing	2,32	3,59	2,52	0,49	0,50	1,22	1,20	2,34

(continuation)

1989	Norte	Centro	Lisboa	Alentejo	Algarve	Madeira	Açores	Total by sector
	%	%	%	%	%	%	%	%
C5 – Chemichals	3,09	2,95	4,92	1,44	0,59	0,63	1,24	3,43
C6 – Non metallic Mineral Prod.	1,52	7,92	2,45	1,78	2,80	1,16	1,38	3,03
C7 – Base Metal s	1,46	1,35	1,06	0,11	0,03	0,00	0,00	1,06
C8 – Fab. metal prod. mach., eq.	8,33	8,87	7,60	2,33	1,70	1,40	1,05	7,10
C9 – Other manuf. Ind.	1,13	0,19	0,33	0,02	0,09	0,00	0,18	0,49
D – Electricity, gas, water	2,69	2,39	1,58	1,18	1,25	2,38	1,82	2,01
E – Construction	8,34	8,35	10,94	6,94	16,90	13,49	8,21	9,60
F – Trade, repair motor vehic.	17,70	16,06	21,40	13,31	16,74	24,01	23,07	18,56
G – Restaurants hotels	2,39	2,58	4,70	2,52	20,22	12,75	2,98	4,16
H – Transp. storage, comunic.	7,75	8,81	11,16	6,12	7,82	7,11	13,37	9,13
I – Financial services	2,34	1,92	4,35	1,44	1,91	1,88	2,83	2,92
J – Other services	8,19	7,83	16,96	7,51	9,19	11,95	11,85	11,52
Total	100	100	100	100	100	100	100	100

Source: *Quadros de Pessoal* and authors' calculations
Note*:* The observations with no information about the industry were removed.

TABLE 18. REGIONAL RELATIVE POSITION OF LABOUR REMUNERATIONS OF AGE GROUPS, NUTS II AND NUTS III

	1989			1999			2009		
	Younger Workers	Older Workers	Total by Nuts III	Younger Workers	Older Workers	Total by Nuts III	Younger Workers	Older Workers	Total by Nuts III
	%	%	%	%	%	%	%	%	%
NORTE	82,46 (84,85)	92,94 (89,01)	82,93 (85,10)	83,96 (83,91)	90,67 (86,44)	84,13 (84,05)	86,76 (85,78)	89,43 (88,33)	86,82 (85,99)
Minho Lima	80,59	87,70	80,98	76,47	82,35	76,50	82,96	78,21	82,22
Cávado	69,79	83,68	69,90	74,80	80,29	74,56	83,12	80,54	82,50
Ave	70,98	77,92	70,76	72,18	80,77	72,17	76,88	82,96	76,99
Grande Porto	97,45	104,39	98,05	101,20	106,01	101,53	100,38	104,46	100,83
Tâmega	60,58	69,51	60,47	65,55	63,17	64,92	72,03	68,36	71,32
Entre Douro e Vouga	70,60	69,24	70,06	79,11	76,27	78,70	82,93	83,06	82,89
Douro	86,84	88,33	87,04	77,27	75,47	77,07	81,14	72,74	80,10
Alto Trás-os-Montes	84,84	85,89	85,04	75,89	72,73	75,51	76,33	68,03	75,33
ALGARVE/ Algarve	105,37 (103,70)	85,26 (90,99)	103,23 (102,38)	94,16 (93,95)	79,89 (81,66)	92,81 (92,69)	91,69 (90,09)	81,42 (80,49)	90,50 (88,92)
CENTRO	85,62 (88,53)	85,01 (87,96)	85,47 (88,48)	85,35 (85,63)	81,63 (81,41)	84,99 (85,28)	88,60 (88,51)	81,92 (80,18)	87,82 (87,59)
Baixo Vouga	87,74	87,69	87,52	87,64	84,72	87,30	90,52	84,79	89,83
Baixo Mondego	95,37	93,22	95,33	94,52	90,56	94,18	95,37	92,87	95,12
Pinhal Litoral	87,61	83,44	86,87	92,69	92,62	92,60	96,39	85,48	95,06
Pinhal Interior Norte	72,86	74,19	72,59	71,50	66,14	70,89	74,07	65,03	72,98
Dão Lafões	75,88	78,44	75,85	79,51	72,31	78,78	87,63	72,84	85,85
Pinhal Interior Sul	83,21	98,07	84,84	74,14	63,36	73,12	74,48	63,06	73,08
Serra da Estrela	74,77	79,27	74,85	70,13	86,32	71,65	74,66	92,41	77,45
Beira Interior Norte	85,29	82,28	84,93	75,43	75,22	75,32	77,81	77,51	77,82
Beira Interior Sul	86,60	73,43	85,26	78,93	71,01	78,26	78,71	74,74	78,38

(continuation)

	1989			1999			2009		
	Younger Workers	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**
	%	%	%	%	%	%	%	%	%
Cova da Beira	70,92	75,84	71,13	73,43	75,26	73,47	75,54	72,29	75,24
Oeste	85,41	81,22	84,89	84,91	76,75	84,14	86,84	82,62	86,43
Médio Tejo	89,22	88,09	89,65	85,92	81,78	85,72	89,13	81,25	88,26
LISBOA	130,80 (125,90)	122,39 (121,20)	130,17 (125,45)	132,21 (132,11)	124,99 (125,57)	131,79 (131,68)	125,38 (126,85)	124,42 (127,16)	125,46 (126,90)
Grande Lisboa	135,55	127,03	134,95	137,75	131,03	137,42	130,01	130,09	130,22
Península de Setúbal	106,26	95,46	105,17	104,10	90,96	102,88	101,19	95,50	100,65
ALENTEJO	89,96 (91,64)	68,72 (77,44)	87,34 (89,58)	90,85 (90,35)	73,29 (78,36)	89,04 (88,92)	90,12 (90,05)	84,50 (84,95)	89,65 (89,40)
Alentejo Litoral	111,57	81,37	107,79	106,23	80,67	103,41	100,25	101,46	101,07
Alto Alentejo	86,08	66,37	83,63	85,40	71,03	83,00	84,41	78,39	83,89
Alentejo Central	90,25	66,27	86,93	85,51	69,82	83,88	87,63	89,83	88,35
Baixo Alentejo	86,49	61,75	83,03	90,34	66,06	87,53	91,55	74,99	89,46
Lezíria do Tejo	84,95	72,52	83,76	92,34	78,27	91,01	89,37	79,93	88,30
AÇORES/ Açores	109,14 (101,87)	95,08 (83,67)	107,63 (100,30)	86,89 (91,43)	87,21 (86,54)	86,58 (91,11)	88,60 (90,89)	101,04 (99,74)	89,12 (90,74)
MADEIRA/ Madeira	94,35 (100,42)	86,46 (99,25)	93,71 (100,33)	94,75 (100,03)	97,78 (104,66)	94,73 (100,34)	97,00 (98,27)	102,19 (102,66)	97,25 (98,64)
Total by Age Group	100	100	100	100	100	100	100	100	100

Source: *Quadros de Pessoal* and authors' calculations.

Note: The values express the proportions of hourly remunerations, except those that are in brackets, which express the proportions of monthly remunerations.

TABLE 19. COMPARISON OF LABOUR REMUNERATIONS OF AGE GROUPS, BY REGION NUTS II AND NUTS III

	1989			1999			2009		
	Younger Workers	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**
	%	%	%	%	%	%	%	%	%
NORTE	97,56 (99,53)	133,95 (106,57)	100	98,20 (99,76)	127,03 (103,62)	100	98,22 (99,59)	117,98 (104,15)	100
Minho Lima	97,64	129,44	100	98,37	126,86	100	99.16	108,96	100
Cávado	97,96	143,09	100	98,71	126,91	100	99,01	111,81	100
Ave	98,41	131,62	100	98,41	131,90	100	98,14	123,42	100
Grande Porto	97,52	127,26	100	98,08	123,06	100	97,84	118,67	100
Tâmega	98,29	137,38	100	99,36	114,68	100	99,25	109,77	100
Entre Douro e Vouga	98,87	118,13	100	98,92	114,21	100	98,33	114,77	100
Douro	97,88	121,30	100	98,66	115,42	100	99,55	104,01	100
Alto Trás-os-Montes	97,89	120,72	100	98,89	113,51	100	99,59	103,43	100
ALGARVE/ Algarve	100,15 (101,11)	98,73 (90,56)	100	99,83 (101,29)	101,45 (88,77)	100	99,58 (101,14)	103,05 (91,78)	100
CENTRO	98,28 (99,88)	118,88 (101,29)	100	98,82 (100,34)	113,20 (96,19)	100	99,15 (100,89)	106,84 (92,82)	100
Baixo Vouga	98,36	119,76	100	98,79	114,38	100	99,04	108,11	100
Baixo Mondego	98,15	116,87	100	98,75	113,33	100	98,55	111,84	100

(continuation)

	1989			1999			2009		
	Younger Workers	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**	**Younger Workers**	**Older Workers**	**Total by Nuts III**
	%	%	%	%	%	%	%	%	%
Pinhal Litoral	98,95	114,80	100	98,50	117,88	100	99,65	102,99	100
Pinhal Interior Norte	98,48	122,17	100	99,25	109,96	100	99,75	102,07	100
Dão Lafões	98,16	123,61	100	99,31	108,18	100	100,31	97,18	100
Pinhal Interior Sul	96,23	138,17	100	99,78	102,13	100	100,16	98,84	100
Serra da Estrela	98,01	126,59	100	96,32	142,00	100	94,74	136,67	100
Beira Interior Norte	98,52	115,80	100	98,54	117,70	100	98,27	114,08	100
Beira Interior Sul	99,65	102,94	100	99,25	106,95	100	98,70	109,23	100
Cova da Beira	97,83	127,44	100	98,35	120,73	100	98,67	110,05	100
Oeste	98,72	114,36	100	99,29	107,50	100	98,76	109,49	100
Médio Tejo	97,64	117,44	100	98,63	112,44	100	99,25	105,43	100
LISBOA	98,59 (100,18)	112,39 (98,44)	100	98,72 (100,26)	111,78 (97,61)	100	98,22 (99,79)	113,58 (101,61)	100
Grande Lisboa	98,55	112,51	100	98,63	112,37	100	98,13	114,43	100
Península de Setúbal	99,13	108,49	100	99,57	104,20	100	98,81	108,68	100
ALENTEJO	101,06 (102,12)	94,05 (88,08)	100	100,41 (101,54)	97,01 (88,79)	100	98,80 (100,55)	107,96 (96,35)	100
Alentejo Litoral	101,56	90,23	100	101,08	91,93	100	97,48	114,98	100
Alto Alentejo	100,98	94,86	100	100,05	99,66	100	98,89	107,02	100
Alentejo Central	101,86	91,12	100	100,31	98,09	100	97,48	116,46	100
Baixo Alentejo	102,21	88,89	100	101,56	88,95	100	100,58	96,01	100
Lezíria do Tejo	99,50	103,49	100	99,83	101,36	100	99,47	103,68	100
AÇORES/ Açores	99,49 (101,38)	105,59 (85,00)	100	98,76 (100,29)	118,72 (95,70)	100	97,71 (99,19)	129,85 (110,55)	100
MADEIRA/ Madeira	98,78 (99,91)	110,28 (100,79)	100	98,42 (99,63)	121,65 (105,10)	100	98,03 (99,46)	120,35 (105,53)	100
Total by Age Group	100	119,53 (101,89)	100	98,40 (99,93)	117,85 (100,75)	100	98,28 (99,83)	114,54 (101,40)	100

Source: *Quadros de Pessoal* and authors' calculations.
Note: The values express the proportions of hourly remunerations, except those that are in brackets, that express the proportions of monthly remunerations.

4. CONCLUSION

Population ageing is changing the age structure of the Portuguese workforce. This paper quantifies the evolution of the total number and relative share of older workers between 1989 and 2009. Among the older workers – taken as those aged over 54 – we individualize three age subgroups (55-59; 60-64; 65+).

In 2009, the proportion of older workers in Portugal was 10.57%. The increased employment of older people is usually viewed as desirable for two reasons. Firstly, it is supposed to increase the well-being of older people by encouraging an active ageing process. Secondly, it helps to offset the negative economic effects not only of the demographic trend associated with the budgetary pressure deriving from the payment of pensions, but also of the future labour shortages resulting from the higher rates of labour market entry for young workers than of labour market exit for older workers. One measure that may help retain older workers in the labour market is the wider spread of part-time employment arrangements; these are currently used only by a surprisingly small proportion of older workers (around 7%).

Population ageing does not necessarily affect the various regions in the same way. We pay particular attention to the regional distribution of older workers at the level of both NUTS II (7 regions) and NUTS III (30 regions). We identify significant differences among them: for example between the "older" region of the Alentejo and the "younger" Norte region. The regions with those demographic structures of workers that are most distinct from the national average are precisely these two regions. The Centro region is the region with the age structure that is closest to the national average. From our study, it is clear that the Grande Lisboa region occupies a prominent position, with the highest remunerations, the most educated workers, the highest proportion of part-time workers and the largest percentage of individuals aged 55 and over that are still in employment.

Strategies designed to deal with labour ageing should take these differences into account. Measures to retain older workers in the labour market are most needed in those regions that have the smallest proportions of individuals aged 55 and over still in employment.

Gender and sectoral distributions are also important, both at the national and the regional level. Older workers in Portugal are mainly male and, relatively speaking, work mostly in Agriculture (20.4%), Electricity, Gas and Water (14.7%), Mining (11.7%), Transport Services (11.6%), and Food, Beverages and Tobacco (11%). Textiles is the sector with the smallest proportion of older workers (4.3%). But, in absolute terms, older workers are to be found concentrated in the Services sectors, given the strong tertiarisation (and de-industrialisation) of the Portuguese economy in the last decade, as well as in the Construction sector, as is generally well known.

It was also confirmed that, on average, older workers are far less educated than younger ones, but tend to be better paid, particularly as far as hourly remunerations are concerned, a fact that must be due to seniority wages. This is usually pointed out as a major reason why firms prefer to employ younger workers. Looking at monthly remunerations, the older workers in the Algarve, Centro and Alentejo regions earn less on average than younger workers.

A curious exception as far as educational attainments is concerned is the relatively high proportion of older workers from the oldest age sub-group (65+) who have a postgraduate degree (Master's Degree and PhD), revealing an important reason why people remain active in work at older ages.

Finally, it is worth mentioning that older workers tend to be employed in establishments that are small in size, particularly micro establishments (0-9 workers) and small enterprises (10-49 workers). But the small scale of most production units in Portugal is a general characteristic of the national economy.

All these results, and others, were obtained using the *Quadros de Pessoal* database of the Ministry of Solidarity and Social Security. These employment records cover the people working in the private business sector (around 3.3 million workers, in 2009), excluding liberal professionals. It would be very interesting to also study these latter workers, as well as Public Sector employees, since this would help to deepen the economic and social analysis of this important group of workers, namely older people.

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THE SOCIAL IMPACT OF THE TRAMWAY SYSTEM

O IMPACTO SOCIAL DO SISTEMA DE ELÉTRICOS*

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ABSTRACT/RESUMO

Technological change and responsible town planning are key parts of human development, as long as its social impact is an issue inherent in its implementation. Moreover, the revival of the tramway system represents a revolution and social commitment of industrialized countries. The main aim of this research is to gain more knowledge about the social contribution of public transport systems and draw up a proposal for improvement based on a thorough analysis on access, accessibility, and efficiency of public transport systems.

To achieve it, this paper provides the results of a research carried out prior to the introduction of a tramway system in a medium-sized city, reviewing the effects of such introduction on people with impaired mobility. We describe the context prior to the establishment of this system as well as the attitudes and meanings surrounding it.

A quantitative methodology is used, by means of survey technique, in order to perform a descriptive and factorial analysis, which leads to the knowledge and classification of the social impact of the tramway system in the city of Jaén (Spain). Prior to it, we reflect upon the processes that facilitate the removal of obstacles and barriers, addressing the incorporation of increasing technological offer, taking into account different perspectives.

Keywords: Public Transport, Tramway System, Social Impact, Social Barriers, Accessibility

Jel Codes: I30, I39, R40.

A mudança tecnológica e o planeamento urbano responsável são peças-chave no desenvolvimento humano, sendo que neste último a questão é o impacto social inerente à sua implementação. Além disso, a revitalização dos sistemas de carros elétricos representa uma revolução social e um compromisso dos países industrializados. O principal objetivo desta investigação é obter um maior conhecimento acerca da contribuição social dos sistemas de transporte público e elaborar uma proposta de melhoria com base numa análise aprofundada sobre o acesso, a acessibilidade e a eficiência dos sistemas de transportes públicos.

De modo a alcançar o objetivo proposto, este artigo apresenta os resultados de uma pesquisa realizada antes da introdução de um sistema de elétricos numa cidade de média dimensão, analisando os efeitos de tal introdução junto das pessoas com mobilidade reduzida. Para tal, descreve-se o contexto antes da criação deste sistema, bem como as atitudes e os significados que o rodeiam.

O recurso a um inquérito foi a metodologia quantitativa utilizada, de modo a realizar uma análise descritiva e fatorial que levou ao conhecimento e à classificação do impacto social do sistema de elétricos na cidade de Jaén (Espanha). Inicialmente, refletiu-se acerca dos processos que facilitem a remoção de obstáculos e barreiras, abordando a incorporação da crescente oferta tecnológica e tendo em conta diferentes perspetivas.

Palavras-chave: Transportes Públicos, Sistema de Elétricos, Impacto Social, Barreiras, Acessibilidade

Códigos JEL: I30, I39, R40.

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** Contact person.

1. INTRODUCTION

The current city model is characterised by high levels of dispersion that generate a considerable increase in the needs and demands which are related to mobility. Nevertheless, in spite of its unquestionable importance, there has been an insufficient number of researches into the need for mobility and the social impacts resulting from its availability or its absence. Moreover, such social impacts are difficult to identify, measure and understand.

Technological evolution and responsible town planning are key parts of human development, provided that their social impact is an inherent consideration in their implementation. At the same time, the reintroduction of tramway systems constitutes a revolution which represents the commitment of the most industrialised countries to society and to technology, which is part of the new trend towards environmental revolution.

In this paper, we aspire to advance in the knowledge of the contribution of the tramway system in Jaén (Spain). Specifically, we are making a proposal for improvement which is based on an exhaustive analysis of access[1] to public transport and of its accessibility[2] and efficiency. We start with the premise that inefficiencies in the tram system could be removed or considerably removed through a complete evaluation of such a system that takes into account the social dimension of its implementation.

In accordance with these premises, in this paper we offer the results of research carried out prior to the establishment of a tramway system in a medium-sized city (200.000 inhabitants approximately), where this kind of urban development experiences is completely new, but where they affect a large part of the population with mobility difficulties, because of personal characteristics such as age, disability, pregnancy, having to move babies in pushchairs, etc. However, we are not only interested in advance in the knowledge about the social impact of the tramway system on the potential user with mobility difficulties, but we also try to extend that knowledge towards the residents' social networks.

We have tried to describe the context prior to the introduction of this system as well as the system of attitudes and meanings that surround it. All this with the aim of advancing in the knowledge on the social aspects to be taken into account when building sustainable and social urban development infrastructures.

We used a quantitative methodology through a survey, with the aim of performing a descriptive and factorial analysis, which provided us with the knowledge and classification of the social impact of the tramway system in the city of Jaén. Previously, we reflected on the processes that facilitate the elimination of obstacles and barriers for people with mobility difficulties, with the aim of analysing the foundations of their integration into social life in a context of growth of technological possibilities, in which a readiness to achieve objectives of equality is not enough, but in which, on the contrary, it is necessary to tackle their integration from different intervention parameters.

2. LITERATURE REVIEW

Actions related to public transport constitute one of the priority guidelines in urban and interurban regional transport policy, characterised by the promotion of sustainability and the reduction of saturation and/or congestion levels. This is mainly due to the fact that, since the end of the 20th century, Europe has witnessed important patterns of all-round growth towards the exterior and increased demand for personal transport. In short, there has been an increase in importance given to mobility in general, and on public transport systems in particular, as a means for carrying out different activities and reach key places, to cater to daily material needs.

Waldorf and Pitfield (2005) delved deeper into this idea, and highlighted the fact that mobility and transport have become basic prerequisites in day-to-day living, in the maintenance of social relationships and in reaching key places to cater to daily and healthcare needs. So we are witnessing an increasing interest in transport systems, as well as in their strategic reorientation. It should be noted that, at both micro and macro level, transport is not an end in itself, it acquires its meaning in the extent to which it allows needs to be satisfied or the desire to achieve other objectives.

At the macro level, according to Black et al. (2007: 139), transport usually takes place in a wider context to attain socio-economic objectives, such as respect for safety and security, protection of the environment, awareness of changes in the use of the territory, leading free lifestyles, and so forth. At the micro level, something similar happens. The use of transport by individuals and groups does not generally constitute a service which is a last resort, but a means that allows access to other goods, services or needs. In this context, it is worth highlighting the enormous influence of transport in the development of a country. Thus, economic growth and transport are closely linked, especially since the introduction of the privatisation policy during the 90s.

2.1. CONCEPT OF ACCESSIBILITY.

In this sense, "accessibility" which, in its widest sense, should be conceived of in its dual dimension – (i) access to the place where the transport system is located, and (ii) accessibility to the transport itself – has special relevance. Both dimensions are taken into account socially by potential users when they have to choose between the different transport systems and when they have to plan journeys. Therefore, users' attitudes towards urban transport condition its implementation, as can be deduced from this research.

It was Hansen (1959) who introduced the concept as "the potential of opportunities for interaction". Since that moment, multiple definitions of the concept have been de-

[1] To access or reach the place or service.

[2] Characteristic or prerequisite for basic use, even when it has been reached.

veloped, and considerable in-depth research has been undertaken on different aspects of accessibility, including territorial planning and spatial interaction. As Juncá Ubierna (2002) asserts: "when we talk about accessibility we have to take into account people's diversity. There is no normalised and single type of human being, but a wide mosaic of differences that constitutes us as we are. So the relationship of every person with the environment is different, and it explains specific characteristics that should be taken into account when setting out the universal design". With regards to urban barriers, the concept of universal accessibility emerges. It should also be noted that "a good accessibility is the one that exists, but goes unnoticed by most users, except, obviously, by people with serious problems of mobility and/or sensory, visual and/or hearing limitations" (Rovira-Beleta, 2003: 34).

Universal accessibility and design should be conceived as a transverse policy that must necessarily involve different services, products, environments and systems, including the transport system. To achieve this, we deem that three key requisites have to merge: the development of an efficient regulatory framework, political stimulus, principally motivated by social consciousness, and technical progress and procedure.

2.2. THE CASE OF SPAIN

The case of Spain stands out because, since the mid-80s, and supported by European funds, it has made a considerable effort to overcome its deficiencies in transport infrastructures. Between late 80s and mid-90s it was placed, together with Germany, in first position in the European Union in terms of the percentage of GDP allocated for investment in transport infrastructures, doubling its average investment of the European Union (Strategic Infrastructure and Transport Plan, 2005).

The Treaty Establishing the European Community (art. 6) establishes the following mandate: transport must include sustainable development principles; in this sense, the Sectorial Integration Strategy — Council of Ministers, October 1999 — and the European Sustainable Development Strategy — Gothenburg European Council, 2001 — establish that:

> "A sustainable transport policy should tackle rising volumes of traffic and levels of congestion, noise and pollution and encourage the use of environment-friendly modes of transport as well as the full internationalisation of social and environmental costs (…). Action is needed to bring about a significant decoupling of transport growth and GDP growth".

2.3. THE TRAMWAY SYSTEM IN JAÉN

First trams were launched- horse drawn- in United States in the 19th century. The tramway system, as a public means of transport, reached its peak in the 50s and 60s, but was later relegated because of the massive use of private cars, which eventually dominated cities to a surprising extent. Therefore, according to a comparative study between different european transport practices and policies, examples of tramway network in Nantes, Grenoble and Strasbourg (France), or the S-Bahn in Zurich and Berne in Switzerland, urban road traffic has not been reduced (Guidez, 2000). It is only noticeable a levelling off daily car usage in those urban districts where parking restrictions have been implemented in a robust way (Pharoah y Apel, 1995).

Focusing on Europe, France is one of the European countries more affected by this form of urban and interurban means of transport, considered as a *transport tool*. De la Héronnière (2012) asserts that the tram system, as a clean, safe and comfortable means of transport, is attracting an increasing number of European cities, being 5% the predicted annual growth rate of the tram market.

Moreover, during the 58th World Congress of the International Association of Public Transport (UITP), held in Vienna in 2009 under the title: 'Public transport: Making the right mobility choices', Laurent Dauby pointed out that the challenge was "to double the amount of public transport in the world by the year 2015", and was confident that the international resurgence of the tramway would achieve that.

So, some cities, including Jaén, have opted for the recovery of the tramway system, but by making it modernized and adapted to different needs. In short, thanks to technological advances, the old tramways have been transformed into a new means of public transport with a high level of performance, being accessible, noiseless, fast, regular, comfortable and ecological.

The Tramway of Jaén (Spain) is a metropolitan light train line that connects the centre of the city with the north. Construction work started in April 2009, and the commercial tramway service has not yet begun, although there have been two intermittent periods of tramway operation for testing purposes[3]. This tramway system runs entirely on the surface and has 10 stations, passing through the city's main streets to reach industrial and business areas, as well as other points of interest.

The construction cost of this railway infrastructure amounted to EUR 74.8 million and was carried out by a consortium consisting of Alstom, Gea21, Ghenova, Inabensa, Mipelsa and Pavimentaciones Morales. It involved considerable reorganisation of traffic in main avenues and city areas, a redevelopment in the areas where the tramway runs, as well as a new configuration for the urban bus routes. The tramways were bought from the French company Alstom (De la Fuente, 2011).

3. METHODOLOGY

INSTRUMENT

To discover the social impact of implementing the Tramway System Project in Jaén, we observed the attitudes

[3] First testing period: May 2011 (starting and stopping in the same month) Second testing period: June 2012.

towards this system and its operative framework of influence, using a quantitative methodology through a survey. We performed a multiple-stage stratified random sampling with proportional affixation on the census sections of the city, corresponding to those areas affected by the tramway system construction works.

Survey is directed to people who live in the areas affected by the tramway construction work. However the questionnaire focused exclusively on family homes with one or more members in a situation of lack of personal autonomy. To do this, we applied a filter in the surveys to select the focus group.

(Level 1): Those family units with one or more members in a situation of lack of personal autonomy : a person over 65 years old, people with any kind of disability (temporary or permanent) or with any condition that results in a lack of personal mobility (pregnancy, convalescence, pushchairs, etc.). In those cases, the survey was focused on the affected person.

(Level 2): Those family units whose relational level requires accessibility in their environment because they have a level 1 relative in their family or social network system who frequently visits (at least once a week) any member of the main family unit.

On the other hand, the city is divided into 7 strata (Figure 1)

FIGURE 1. STRATA

Surveys were conducted in homes based on whether they belonged to level 1 or 2, and the survey was addressed to the head of the family (a person who normally lives in that house and who is considered as the head of the family by the members of the household).

PARTICIPANTS

The sampling size was 600 surveys with a confidence level of 95.5% and a maximum acceptable error of 3.9%. Focusing on sociodemographic characteristics of the sample, 64.7% of the polled people were women, against 35.3% of men. With regard to work situation, 64.2% of those polled were inactive, 30.3% were working and only 5.5% were unemployed. The average age of those polled was 69.33 years and the trend being 65 years old, because older people were the subject of this study.

From the polled people who live in the areas affected by the tramway construction work, 71.8% belong to level 1 and 28.2% to level 2.

4. ANALYSIS

4.1. DESCRIPTIVE ANALYSIS

This analysis consists of an individualised study of the variables identified in the questionnaire, which provides a clear idea of the information available in the database. Most variables that form the survey are qualitative, so we conducted an analysis of the total surveyed population and strata (roadmaps). Moreover, dispersion and centralisation measures have been calculated in the case of quantitative variables.

This analysis addresses 4 key issues:

1) Socio-demographic characteristics of the sample.
2) Differences between strata.
3) Mobility difficulties.
4) Opinion of the current situation related to the tramway system.

4.1.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS

In the descriptive analysis, the most significant results are related to the differences between strata. However, before analysing these differences, some socio-demographic characteristics have been identified, which reflect the global situation of people surveyed and also provide interesting information about the mobility needs of the sample, amongst others.

Of all the interviewed people, 52.9% have a physical disability. Similarly, a high percentage of these people need specific technical help for mobility (64.4%). Among them, we can highlight that 28.81% of them use a walking stick, 18.6% use crutches, 11.86% use walking frames and 40.78% use wheelchairs.

With regard to the disability level, in 89.2% of cases it was a permanent disability, with the significant detail that only 40.9% of them were receiving benefits and assistance, and only 20.4% of them belonged to any association.

As regards to the kind of household, the predominant type (43.8%) was composed of a couple and one or more dependent children, followed by couples without dependent children (30.3%). With regard to the distribution of types of home by strata, there is a connection between it and the different tramway routes.

Finally, the average annual income of the polled people was € 22,726.44, with a predominance of an average standard of living in 65.5% of households.

Among the polled population who stated that they received some kind of assistance or financial aid, the most frequent kinds were assistance for old age, retirement (78.20%), widowhood, orphanage, or assistance for the benefit of relatives (15.26%) and for unemployment, employment promotion or professional training (6.54%).

4.1.2. DIFFERENCES BETWEEN STRATA

The descriptive analysis of the society living near the tramway route shows that there is a clear differentiation according to the stratum type.

It is worth highlighting that there was a higher percentage of people older than 65 years old at the beginning of the route (strata 1-3), compared with the number of people between 31 and 50 years old, who were more present on the remainder of the route (strata 4-7).

With regard to people belonging to level 1 and 2, disaggregating data by strata, there is association between variables using divergent x^2

Association between variables: Divergent x^2 p-value= 0.000. Association exists.

Differences between strata can be observed in tables below. People surveyed in 1-3 strata (tram ride start), belong to level 1 in a high percentage, which decrease progressively in strata 4 to 7.

TABLE 1. POPULATION BELONGING TO LEVEL 1 BY STRATA

	Yes	No
Strata 1	91.1	8.9
Strata 2	97.1	2.9
Strata 3	96.0	4.0
Strata 4	69.0	31.0
Strata 5	62.0	38.0
Strata 6	55.8	44.2
Strata 7	50.7	49.5
Total	71.7	28.3

In those strata at the beginning of the route (e.1-e.3) we find lower incomes with a higher average age and households in which couples without children and single households predominate. The strata at the last stage of the route (e.4-e.6) correspond to urban areas inhabited by a young and active working population, with higher incomes and households composed of couples with one or more dependent children.

4.1.3. MOBILITY DIFFICULTIES

According to the survey´s results, the first cause of lack of mobility is ageing. Seven out of ten people with a lack of mobility are over 65 years old and, of these, one is over 85 years old, which considerably highlights mobility problems caused by age, especially among those people who are in the age range 65-85. More specifically, the causes of this mobility difficulty are mostly those typical of old aged people, with 60.2% of people with mobility difficulties between 65 and 85 years old, and 9.1% over 85. These are followed by other relevant causes, such as, in order of representation: having to move a baby in a pushchair (19.1%), or difficulties resulting from physical disabilities (only 4.7%).

But we were not only interested, in this study, in knowing about the mobility difficulties of potential tramway users — we also tried to extend that knowledge towards the residents' social networks. So we tried to learn about the mobility difficulties of people who visit them at their own homes. In the streets at the beginning of the route (e.1-e.3), the principal cause of the mobility difficulty of visiting relatives is having to move with a pushchair. Next in order of difficulty are visits by older people. In the other strata there is a greater variety of causes, notably visits from elderly relatives, followed by the movement of babies in pushchairs, and the movement of people with physical disabilities.

Another interesting variable in our research was the frequency with which they are visited at their own homes. The results show that 49.0% of people who live in the tramway streets or adjacent streets receive visits from relatives

TABLE 2. TRAVEL TYPE AND MEANS OF TRANSPORT

	On foot	**Own car**	**Bus**	**Taxi**	**Shared car**	**Adapted Transport Service**	**Ambulance**	**Official and company vehicles**
Work	34.60%	54.20%	8.90%	1.10%	0	0	0	1.10%
Shopping	59.30%	32.50%	1.40%	0.40%	0	0.20%	0	0
Attending classes/courses	65.40%	24.30%	9.30%	0.90%	0	0	0	0
Health matters	63.10%	26.80%	4.40%	5.20%	0	0.40%	0.20%	0
Administrative matters	90.70%	6.00%	2.80%	0.50%	0	0	0	0
Leisure	74.40%	2.60%	1.20%	0.80%	0	0	0	0
Visits	50.80%	4.60%	5.60%	0.50%	0.50%	0	0	0
Citizen participation	90.40%	7.20%	2.10%	0	0	0	0	0.30%
Social attention	73.50%	2.20%	1.30%	0	0	0	0	0

with mobility difficulties once a week. Another point to be highlighted is that 79.1% of the polled people believe that their relatives have difficulties in reaching their homes.

The causes cited were connected with the construction works, particularly the difficulty in moving about on foot, which was due to the bad state of the pavements and the lack of signposting and alternative routes. They also highlighted other problems caused by traffic and the lack of parking places, which resulted in a decrease in the frequency with which these people visit them.

In this case, there are no significant differences between the different strata regarding the perception of the polled population on the difficulties experienced by their relatives in reaching their homes.

Once it has been demonstrated that the provision of a tramway system is needed for this kind of community, we shall proceed to show the characteristics of these people's itinerant mobility.

Owing to the fact that, in these areas, 52.5% of the polled population is over 65 years old, 70.5% state that they never travel. The reasons for travelling are, firstly, daily shopping, followed by travelling for working and leisure.

4.1.4. ATTITUDES TOWARDS A NEW MEANS OF TRANSPORT: IT ONLY JUST GETS THE PASS MARK

It is worth noting that tramway systems usually have the added value of connecting urban areas that are socially different, normally centre-outskirts. In this context, the trends that characterise the different strata and their homogeneity have made it easier to analytically connect the attitudes and needs of the citizens with this model of urban transport.

With regard to knowledge about the introduction of the tramway, 100% of the polled population was informed, because we are dealing with a small city, wherein construction work has a huge impact on the daily lives of the citizens. Hence, we insist on the need to carry out research into attitudes and satisfaction levels in relation to the new means of transport, prior to or in parallel with its introduction. Nevertheless, citizens take a critical stand, since the average level of satisfaction given to the project is 2.26 points out of 5 (the tramway only just gets the pass mark). More specifically, using Likert scale (1. Absolutely not satisfied; 5. Totally satisfied), the following results were obtained:

TABLE 3. SATISFACTION WITH THE TRAMWAY SYSTEM

Likert Scale	Frequency (number of interviewers)	Percentage
1	289	48.2%
2	68	11.3%
3	110	18.3%
4	65	10.8%
5	68	11.3%
Total Average value 2,26	600	100%

Among the advantages the tramway can offer, only three of them exceed the average value. Those advantages are speed, safety and comfort.

On the other hand, when we asked the citizens of Jaen if they are satisfied with the Tramway Project, the advantages implied by its start-up and the importance of creating a tramway in Jaén, there was a higher level of consensus in the "new" area (strata 1-3). These are precisely the areas which are composed of younger families and of a lower percentage of people in dependent situations or with reduced mobility compared with other, more central areas. Nevertheless, in these "new" areas one in two families have a member who has a lack of personal autonomy, and current or permanent situations that make their mobility difficult. These are the families that have a more positive attitude towards the opportunities provided by the tramway.

4.2. FACTORIAL ANALYSIS

In relation with the previous section, one of the purposes of this study was to know the behaviour of attitudes towards the new tramway system and to record instances of the difficulties and opportunities generated by this urban project, both in people in dependency situations and in their social and family networks. For this, we considered that it was very interesting to conduct a factorial analysis, with an overall aim to decrease or condense the information contained in a series of original variables into a smaller number of new dimensions or factors with the least possible loss of information. This analytical process served to discover the dispersion of attitudes of the citizens of Jaén towards the tramway.

Variables involved in the analysis were:

- Q. 15. Satisfaction with the implementation of the tram system.
- Q. 16. Tram advantages related to environment, traffic, noises, high speed. security, comfort beauty of the city, mobility improvement and accessibility.
- Q. 17. Influence of the tram in your personal life.
- Q. 19. Opinion about the current situation of Jaen (accessibility/inaccessibility).
- Q. 20. Evolution of Jaen in recent years in some specific matters: infrastructure, innovative projects, social services, public transport.

Beforehand, in order to have the opportunity of conducting a factorial analysis according to the statistical data, we carried out KMO and Barlett tests and correlations matrix study.

KMO and Barlett test	
KMO	0.905
χ^2	9230.428
gl	0.406
Sig.	0.000

Barlett test indicate null hypothesis (correlated variables) and KMO = 0.905, which points out that both are successful, which shows that it was appropriate to do a factorial analysis.

The next step was to obtain the matrix of components, having selected only those values with high factorial charges (> 0.30).

4.2.1. SELECTED FACTORS SOCIAL IMPACT

After performing the factorial analysis, the programme, by the rule of Kaiser (which takes as many factors as there are 'eigenvalues' greater than 1), seven factors were selected. Because the seventh factor offers a very low percentage of explained variance, which makes it more difficult to reach conclusions, we reduced the number of factors to six, with 62.27% of applied variance.

These are the six factors:

- Factor 1: "Opportunities offered by the tramway". It is entirely composed of variables 16, 17 and 15.1.
- Factor 2: "Services 5 years ago". Composed of transport, infrastructures, projects and social services available 5 years ago.
- Factor 3: "Current services". Composed of transport, infrastructures, projects and social services available currently.
- Factor 4: "Accessibility 5 years ago". Composed of accessibility and inaccessibility variables in traffic matters in the city 5 years ago.
- Factor 5: "Cleanliness". Composed of variables relating to the image of Jaén with regard to cleanliness.
- Factor 6: "Current accessibility". Composed of accessibility and inaccessibility variables in traffic matters in the city currently.

5. CONCLUSIONS

5.1. INITIAL OBJECTIVES AND THE WAY TO ACHIEVE THEM

With this analysis we have tried to create an analytical picture of the context in which the tramway is being introduced. As in a medical implant, we think the "body" in which it is to be implanted should be previously analysed to predict its use, profitability and social impact.

Those objectives have been reached and this research allows having a real knowledge about the social contribution and social effects of the tramway system implementation in Jaén.

5.2. RESULTS

The city tramway system crosses different areas. This research shows that those newly constructed areas, with an emerging middle class, young, with children, and who are mainly affected by the tramway construction works in a more indirect manner. They perceive difficulties in the visits of elderly relatives or due to their lack of current mobility because they have to travel with a baby. Nevertheless, the prime cause of lack of mobility, which is common to all areas, is ageing, because seven out of every ten people with a lack of mobility are over 65 years old and, of these, 1 is over 85 years old.

One of the main discoveries is that there are relevant differences between the strata, such that the polled people who live in the streets at the beginning of the tramway construction works belong to level 1 in a high percentage, which diminishes as we advance along the tramway route, where the number of people who belong to level 1 decreases. Consequently, differences in the attitudes and effects system between strata can be observed.

On the other hand, we may observe a high degree of sensitivity in those people who live next to any construction area in the city which prevents them from travelling to perform their daily tasks, and also, at a higher level, to be able to work normally or, in case of those over 65 years old, to integrate into the social life of the city with normality. Nevertheless, we believe that, logically, their work is not the most important reason for the itinerant movements of this group of people. 70.5% of them assert that they never travel for working purposes (kindly remember that 52.5% of polled people are over 65 years old), and most of the polled people travel especially to do daily shopping, followed by travel for work and leisure.

Social relationships are those which acquire the highest prominence in the areas affected by the tramway construction works and they are, at the same time, the worst affected. The polled people travel especially to do daily shopping, followed by travel for work and leisure. Once a week, 49.0% of people who live in tramway streets and adjacent streets receive visits from relatives who have some mobility difficulty. Similarly, 79.1% of the polled people believe that those relatives have difficulty in reaching their homes.

When asked about the time prior to the construction works, 84.1% of the polled people state that before the commencement of works they had no difficulties in walking in the street. Among the factors that are perceived as making this situation impossible, the following stand out: poor lighting, floor tiles, badly parked cars, shortage of pedestrian crossings, lack of ramps, dirtiness, unevenness and obstacles, signposting and water and drainage channelling.

As regards knowledge of the tramway, all the polled people knew about its introduction. Nevertheless, overall, it received an average mark of 2.26 out of 5, although the lowest marks were given by people who live in the oldest part of the city, and the highest ones by people who live in new areas where there is a younger population and, paradoxically, by those who suffer from fewer direct mobility problems. Those attitudes are based on a negative idea of progress and everything that entails a change in their daily life.

To sum up, when introducing a new means of transport, it is essential to take into account the attitudes of the social context where it will be introduced. A failure to consider opinions, citizens' needs and beliefs, significant facts, as well as their travelling and mobility needs, simply jeopardizes the feasibility of a project with an important social, innovative and sustainable character which is for some people an immense leap in progress and, for others, merely a look back to the past.

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4. Os artigos submetidos à direção editorial para publicação serão sempre avaliados (anonimamente) por dois especialistas na área, convidados para o efeito pela direção editorial. Os dois avaliadores farão os comentários que entenderem ao artigo e classificá-lo-ão de acordo com critérios definidos pela direção editorial. Os critérios de avaliação procurarão refletir a originalidade, a consistência, a legibilidade e a correção formal do artigo. No prazo máximo de 16 semanas após a submissão do artigo, os seus autores serão contactados pela direção editorial, sendo-lhes comunicado o resultado da avaliação feita.
   O processo de avaliação tem três desenlaces possíveis:
   (1) O artigo é admitido para publicação tal como está (ou com meras alterações de pormenor) e é inserido no plano editorial da revista. Neste caso, a data previsível de publicação será de imediato comunicada aos autores.
   (2) O artigo é considerado aceitável mas sob condição de serem efetuadas alterações significativas na sua forma ou nos seus conteúdos. Neste caso, os autores disporão de um máximo de seis semanas para, se quiserem, procederem aos ajustamentos propostos e para voltarem a submeter o artigo, iniciando-se, após a receção da versão corrigida, um novo processo de avaliação.
   (3) O artigo é recusado.
5. A RPER poderá organizar números especiais de natureza temática, na sequência de conferências, *workshops* ou outros eventos relevantes na sua área de interesse. Embora nestes casos o processo de avaliação dos artigos possa ser simplificado, a RPER manterá ainda assim, escrupulosamente, o princípio de revisão pelos pares de todos os artigos.
6. Excecionalmente, a RPER poderá contudo publicar artigos "por convite", ou seja não sujeitos ao crivo de revisores. A singularidade destes artigos será sempre assinalada, de forma transparente, na sua primeira página.
7. A RPER reconhece o direito dos membros da sua direção editorial (incluindo o seu diretor) a submeterem artigos para publicação. Sempre que um membro da direção editorial é autor ou coautor de um artigo, então é necessariamente excluído do processo de revisão, em todos os seus passos, incluindo a decisão final.
8. A RPER reconhece o direito de recurso de qualquer sua decisão relativa à aceitação de um artigo para publicação. Esse recurso é endereçado ao diretor que deverá informar toda a direção editorial. Os termos do recurso serão enviados aos revisores, que terão um prazo máximo de 30 dias para se pronunciarem em definitivo. No caso de não haver acordo entre os dois *referees*, a direção editorial tem obrigatoriamente de indicar um terceiro especialista. Não existe novo recurso, para uma segunda decisão que decorra deste processo.
9. A RPER encoraja a publicação de críticas relevantes, por outros autores, a artigos publicados nas suas páginas. Os autores criticados têm sempre a possibilidade de resposta.
10. Os *referees* estão sujeitos ao dever de confidencialidade, quer quanto ao conteúdo dos artigos que apreciam, quer quantos aos seus próprios comentários, devendo mais em geral garantir que todo o material que lhes é submetido é tratado em confiança. Será sempre enviada aos revisores a informação sobre os princípios do Código de Conduta referido em 1.
11. Uma vez o artigo aceite, e feito o trabalho de formatação gráfica prévio à sua publicação na revista, serão enviadas ao autor as respetivas provas tipográficas para revisão. As eventuais correções que este quiser fazer

terão de ser devolvidas à direção editorial no prazo máximo de 5 dias úteis a contar da data da sua receção. Só serão aceites correções de forma.

12. Ao autor e a cada um dos coautores de cada artigo aceite será oferecido um exemplar do número da revista em que o artigo foi publicado.
13. Os originais, depois de formatados de acordo com as presentes normas, não poderão exceder as 30 páginas, incluindo a página de título, a página de resumo, as notas, os quadros, gráficos e mapas e as referências bibliográficas.
14. As propostas de artigo deverão ser enviadas por *e-mail* para rper@apdr.pt, ou pelo correio, para o secretariado técnico da revista: APDR – Universidade dos Açores 9700-042 Angra do Heroísmo – PORTUGAL. Para informações ou para a comunicação posterior o contacto com o secretariado técnico far-se-á pelo *e-mail*: rper@apdr.pt.

B. NORMAS RESPEITANTES À ESTRUTURA DOS ARTIGOS

1. Os autores deverão enviar o artigo completo (conforme os pontos seguintes), por *e-mail* ou em *CD-rom*, para o os contactos referidos no ponto 14 das Normas A.
2. Os textos deverão ser processados em Microsoft Word for Windows (versão 97 ou posterior). O texto deverá ser integralmente a preto e branco.
3. Na publicação os gráficos, mapas, diagramas, etc. serão designados por "figuras" e as tabelas por "quadros".
4. As eventuais figuras e quadros deverão ser disponibilizados de duas formas distintas: por um lado devem ser colocados no texto, com o aspeto pretendido pelos autores. Para além disso, deverão ser disponibilizados em ficheiros separados: os quadros, tabelas e gráficos serão entregues em Microsoft Excel for Windows, versão 97 ou posterior (no caso dos gráficos deverá ser enviado tanto o gráfico final como toda a série de dados que lhe está na origem, de preferência no mesmo ficheiro e um por *worksheet*); para os mapas deverá usar-se um formato vetorial em Corel Draw (versão 9 ou posterior).
5. As expressões matemáticas deverão ser tão simples quanto possível. Serão apresentadas numa linha (entre duas marcas de parágrafo) e numeradas sequencialmente na margem direita com numeração entre parêntesis curvos. A aplicação para a construção das expressões deverá ser ou o Equation Editor (Microsoft) ou o MathType.
6. Salvo casos excecionais, que exigem justificação adequada a submeter à direção editorial, o número máximo de coautores das propostas de artigo é quatro. Só deverão ser considerados autores os que contribuíram direta e efetivamente para a pesquisa refletida no trabalho.
7. O texto deve ser processado em página A4, com utilização do tipo de letra Times New Roman 12, a um espaço e meio, com um espaço após parágrafo de 6 pt. As margens superior, inferior, esquerda e direita devem ter 2,5 cm.
8. A primeira página conterá exclusivamente o título do artigo, em português e em inglês, bem como nome, morada, telefone, fax e *e-mail* do autor, com indicação das funções exercidas e da instituição a que pertence. No caso de vários autores deverá aí indicar-se qual o contacto para toda a correspondência da revista. Deve ser também incluída na primeira página uma nota sobre as instituições financiadoras da investigação que conduziu ao artigo. Este nota é obrigatória quando pertinente.
9. A segunda página conterá unicamente o título e dois resumos do artigo, um em português e outro inglês, com um máximo de 800 carateres cada, seguidos de um parágrafo com indicação, em português e inglês, de palavras-chave até ao limite de cinco, e ainda dois a cinco códigos do *Journal of Economic Literature* (JEL) apropriados à temática do artigo, a três dígitos, como por exemplo R11. Os títulos, os resumos, as palavras--chave e os códigos JEL são obrigatórios.
10. Na terceira página começará o texto do artigo, sendo as suas eventuais secções ou capítulos numerados sequencialmente utilizando apenas algarismos (não deverão ser utilizadas nem letras nem numeração romana).
11. Cada uma das figuras e quadros deverá conter uma indicação clara da fonte e ser, tanto quanto possível, compreensível sem ser necessário recorrer ao texto. Todos deverão ter um título e, se aplicável, uma legenda descritiva.
12. A forma final das figuras e quadros será da responsabilidade da direção editorial que procederá, sempre que necessário, aos ajustamentos necessários.

C. NORMAS RESPEITANTES ÀS REFERÊNCIAS BIBLIOGRÁFICAS

1. A "Bibliografia" a apresentar no final de cada artigo deverá conter exclusivamente as citações e referências bibliográficas efetivamente feitas no texto.
2. Para garantir o anonimato dos artigos, o número máximo de citações de obras do autor do artigo (ou de cada um dos seus coautores) é três e não são permitidas expressões que possam denunciar a autoria tais como, por exemplo, "conforme afirmámos em trabalhos anteriores [cfr. Silva (1998: 3)]".
3. O estrito cumprimento das normas à frente só é obrigatório na versão final dos artigos, após aceitação. Ainda assim, recomenda-se fortemente a sua adoção em todas as versões submetidas.
4. Os autores citados ao longo do texto serão indicados pelo apelido seguido, entre parêntesis curvos, do ano da publicação, de "," e da(s) página(s) em que se encontra a citação. Por exemplo, ao citar-se "Silva (2003, 390-93)", está-se a referir a obra escrita em 2003 pelo

autor "Silva", nas páginas 390 a 393. Deverá usar-se "Silva (2003, 390-93)" e não "SILVA (2003, 390-93)". No caso de uma mera referenciação do autor bastará indicar "Silva (2003)".

5. No caso de o mesmo autor ter mais de um trabalho do mesmo ano citado no artigo, indicar-se-á a ordem da citação, por exemplo: Silva (2003a, 240) e Silva (2003b, 232).
6. As referências bibliográficas serão listadas por ordem alfabética dos apelidos dos respetivos autores no fim do manuscrito. O nome será seguido do ano da obra entre parêntesis, e da descrição conforme com a seguinte regra geral: Monografias: Silva, Hermenegildo (2007a), *A Teoria dos Legumes*, Coimbra, Editora Agrícola;
   Colectâneas: Sousa, João (2002), "Herbicidas e estrumes" *in* Cunha, Maria (coord.), *Teoria e Prática Hortícola*, Lisboa, Quintal Editora, pp. 222-244;
   Artigos de Revista: Martins, Vicente (2009), "Leguminosas Gostosas", *Revista Agrícola*, Vol. 32, n.º 3, pp. 234-275.
7. A forma final das referências bibliográficas será da responsabilidade da direção editorial que procederá, sempre que necessário, aos ajustamentos necessários.

NORMS FOR THE SUBMISSION OF PAPERS TO THE PORTUGUESE REVIEW OF REGIONAL STUDIES

A. NORMS CONCERNING PAPERS SUBMISSION AND EVALUATION

1. Although the *Portuguese Review of Regional Studies* (RPER) is not a member of the Committee on Publication Ethics (COPE), its Editorial Board decided to adhere to the principles of the COPE Code of Conduct, from January 1st 2012 onwards (http://publicationethics.org/files/Code%20of%20conduct%20for%20journal%20editors4.pdf).
2. In principle, only papers that have never been published (in another journal or book, including conference Proceedings) can be considered for publication in RPER. The previous publication in a series of "working papers" (electronic or paper format) is an exception to this rule. The Editorial Board may agree with other sporadic exceptions, when copyrights are secured.
3. When a paper is submitted to RPER, authors must explicitly state that it will not be submitted for publication in any other journal or book until the reviewing process is completed. For this purpose, a signed declaration must be sent along with the paper. If the paper is rejected by the Editorial Board, the authors are free to publish it anywhere else.
4. Papers submitted for publication will always be reviewed (anonymously) by two experts in the area, invited by the Editorial Board. Both referees will offer their comments and classify it in accordance with the criteria defined by the Editorial Board. The reviewing criteria include originality, consistency, readability and the paper's formal correction. The authors will be informed by the Editorial Board of the results of the evaluation within 16 weeks of its receipt. The assessment has three possible outcomes:
   (1) The paper is accepted for publication just as it is (or with minor changes) and it is included in the editorial plan. In this case, the authors are immediately informed of the expected publication date.
   (2) The paper is considered acceptable provided that major changes are made to its form or contents. In this case, authors will have a maximum of six weeks to make such changes and to submit the paper again. Once the revised version is received, a new assessment process starts.
   (3) The paper is refused.
5. RPER may organize special issues on specific themes, following conferences, workshops, or other events relevant in its area of interest. Although, in these cases, a simplifying shorter reviewing process may be adopted, the principle of peer-review selection will always be preserved.
6. Exceptionally, RPER may publish articles "by invitation", meaning that they are not subject to the reviewing process. These outstanding articles, however, are always clearly signaled as such in their front page.
7. RPER acknowledges the right of the members of its Editorial Board (including its Director) to submit papers to the journal. When an author or co-author is also a member of the Editorial Board, he/she is excluded from the reviewing process in all its stages, including the final decision.
8. RPER acknowledges the authors' right of appeal on any publishing decision of the Editorial Board. That appeal is made to the Director of RPER that will inform the Editorial Board. The new arguments will be sent to the reviewers, asking for a final judgment within a 30-day term. In case of disagreement between the two referees, the Editorial Board is compelled to appoint a third reviewer. There is no further appeal for a second decision ensuing this process.
9. RPER positively welcomes cogent criticism on the works it publishes. Authors of criticized material will have the opportunity to respond.
10. Reviewers are required to preserve the confidentiality on the contents of the papers and on their comments, and requested, more generally, to handle all the submitted material in confidence. Proper information on the principles of the Code of Conduct referred in 1. will always be provided to the reviewers.
11. Once the paper has been accepted and formatted for publishing, it will be sent to the author for graphics checking and revision. Any corrections the author might want to make must be sent to RPER within five days. Only formal corrections will be accepted.
12. Each author and co-author of accepted papers will be offered a number of the published issue
13. Articles cannot exceed 30 pages after being formatted according to the present norms, including the title page, the summary page, notes, tables, graphics, maps and references.
14. Papers must be sent, by e-mail to rper@apdr.pt or by normal mail, to the Executive Secretariat of RPER at APDR – APDR – Universidade dos Açores 9700-042 Angra do Heroísmo – PORTUGAL. For further information

or future contact please use the e-mail address: rper@apdr.pt.

B. NORMS CONCERNING PAPERS STRUCTURE

1. The authors must send a complete version of the paper by e-mail or on a CD-Rom by mail, in the original Microsoft Word file, to the contacts specified in point 14 of Norms (A).
2. Texts must be processed in Microsoft Word for Windows (97 or later version). All written text must be black.
3. Graphics, maps, diagrams, etc. shall be referred to as "Figures" and tables shall be referred to as "Tables".
4. Figures and Tables must be delivered in two different forms: inserted in the text, according to the author's choice, and in a separate file. Tables and graphics must be delivered in Microsoft Excel for Windows 97 or later. Graphics must be sent in both the final form and accompanied by the original data, preferably in the same file (each graphic in a different worksheet). Maps must be sent in a vector format, like Corel Draw or Windows Metafile Applications.
5. Mathematical expressions must be as simple as possible. They will be presented on one line (between two paragraph marks) and numbered sequentially at the right margin, with numeration inside round brackets. Equation Editor (Microsoft) or Math Type are the accepted Applications for original format files.
6. The paper must have no more than four co-authors. Exceptions may be accepted when a reasonable explanation is presented to the Editorial Board. Authorship must be limited to actual and direct contributors to the conducted research.
7. Text must be processed in A4 format, Times New Roman font, size 12, line space 1.5 and 6 pt space between paragraphs. The upper, lower, left and right margins must be set to 2.5 cm.
8. The first page shall contain only the paper's title, the author's name, address, phone and fax numbers and e-mail, and the author's affiliation. In the case of several authors, please indicate the contact person for correspondence. A remark on funding institutions of the research or related work leading to the article – that is compulsory when it applies – must be placed as well in this first page.
9. Second page shall contain the title and the abstract of the paper, in English and, if possible, in Portuguese as well, with no more than 800 characters, followed by two lines, one with the key-words to a limit of 5, and the other with the proper Journal of Economic Literature (JEL) codes describing the paper. JEL codes must be from 2 up to 5, with three digits, as for example R11. The title, the abstract, the key-words and the JEL codes area all compulsory, at least in English.
10. Text starts on the third page. Sections or chapters are numbered sequentially using Arabic numbers only (letters or Roman numeration must not be used).
11. Figures and Tables must contain a clear source reference. These shall be as clear as possible. Each must have a title and, if applicable, a legend.
12. The final format of Figures and Tables will be of the responsibility of the Editorial Board, who will allow some adjustments, whenever necessary.

C. NORMS CONCERNING BIBLIOGRAPHIC REFERENCES

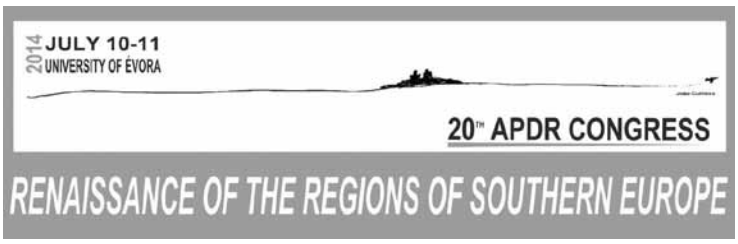
1. The references listed at the end of each paper shall only contain citations and references actually mentioned in the text.
2. To ensure the anonymity of papers, each author's self references are limited to three and no expressions that might betray the authorship are allowed (for example, "as we affirmed in previous works (cfr. Silva (1998:3)").
3. Although their meeting in preliminary versions is recommendable, the bibliographic norms below are mandatory for the final (accepted) version only.
4. Authors cited in the text must be indicated by his/her surname followed, within round brackets, by year of publication, by ":" and by the relevant page number(s). For example, the citation "Silva (2003: 390-93)", refers to the work written in 2003 by the author Silva, on pages 390 to 393. If the author is merely mentioned, indication of "Silva (2003)" is sufficient.
5. In case an author has more than one work from the same year cited in the paper, citation must be ordered. For example: Silva (2003a: 240) and Silva (2003b: 232).
6. References must be listed alphabetically by authors' surnames, at the end of the manuscript. The name will be followed by year of publication inside round brackets and the description, thus:
   Monographs: Silva, Hermenegildo (2007a), The Vegetables Theory, Cambridge, Agriculture Press
   Collection: Sousa, João (2002), "Weed Killers and Manure" in Cunha, Maria (coord.), Farming - Theories and Practices, London, Grassland Publishing Company, pp. 222-244
   Journal Papers: Martins, Vicente (2009), Tasty Broccoli, Farmer Review, Vol. 32, n.º 3, pp. 234-275.
7. The final format of the references will be the responsibility of the Editorial Board, who will allow adjustments whenever necessary.

PRÓXIMOS EVENTOS/COMING EVENTS

20.º Workshop da APDR
FAMÍLIA E DESENVOLVIMENTO REGIONAL
Fátima
27-28 de abril de 2014
http://www.apdr.pt/evento_20

10th World Congress of the RSAI
SOCIOECONOMIC INTEGRATION AND TRANSFORMATION: RESHAPING LOCAL, REGIONAL, AND GLOBAL SPACES
Thailand, Bangkok, May 26-30, 2014
http://www.2014worldcongress.regionalscience.org/

20.º Congresso da APDR
RENASCIMENTO DAS REGIÕES DO SUL DA EUROPA
Universidade de Évora, Évora
10-11 de julho de 2014
http://www.apdr.pt/congresso/2014/



LIVROS/BOOKS

Ciência Regional em Cabo Verde
Coordenador: Sousa Brito, Jorge

«O desenvolvimento das regiões depende do capital territorial nelas enraizado e das redes e dos fluxos que as vivificam. Este é um tema seminal da ciência regional que é sempre actual e importa retomar para reflexão e debate. Isto é ainda mais explícito num país como Cabo Verde, onde as facetas tangíveis e intangíveis, públicas e privadas do capital territorial estão intrinsecamente ligadas aos fluxos e redes de pessoas, de capitais, de conhecimento e de bens que a situação geográfica e a força cultural deste país possibilitam e potenciam.»

A presente compilação reúne as comunicações mais relevantes do I Congresso de Ciência Regional de Cabo Verde que a Universidade Jean Piaget de Cabo Verde em boa hora acolheu tendo especialmente em conta a particularidade que é a conjugação do carácter transdisciplinar da universidade com a natureza regional das vivências insulares cabo-verdianas. Uma conjugação que conduz a uma «dinâmica de desenvolvimento complexa, sob o confronto constante de realidades micro-regionais com realidades de dimensão macro-regional».

Jorge Sousa Brito

Data: Abril 2011; ISBN: 978-989-8131-83-6; N.º páginas: 224

Compêndio de Economia Regional – Volume I: teoria, temáticas e políticas
Coordenadores: Silva Costa, José; Nijkamp, Peter

O *Compêndio de Economia Regional* que agora se reedita em colaboração com a APDR (Associação Portuguesa para o Desenvolvimento Regional), essencialmente elaborado e escrito por investigadores portugueses ou por estrangeiros que leccionam em universidades nacionais, insere-se nos projectos de apoio ao ensino da APDR.

Trata-se de uma obra de carácter pedagógico, destinada ao público que se interessa pelas questões da economia do território e, em especial, aos estudantes universitários de economia, geografia, engenharia, planeamento e outras ciências que abordam questões do território – esperando-se que venha a ser um contributo significativo para o ensino e a investigação da Economia Regional no mundo que fala português.

Data: Janeiro 2010; ISBN: 978-989-8131-55-3; N.º páginas: 888

Compêndio de Economia Regional – Volume II: métodos e técnicas de análise regional
Coordenadores: Silva Costa, José; Nijkamp, Peter; Dentinho, Tomaz Ponce

A exemplo do que sucedeu com o primeiro volume deste *Compêndio de Economia Regional*, este segundo volume insere-se nos projectos de apoio ao ensino da Associação Portuguesa para o Desenvolvimento Regional (APDR) e procura dar resposta ao interesse de professores, estudantes, investigadores e do público em geral pelas questões da economia do território e contribuir de forma significativa para o ensino e a investigação da economia regional no mundo lusófono.

Tendo o primeiro volume sido dedicado, mais concretamente, às teorias, temáticas e políticas associadas à ciência regional, propõe-se agora este segundo explicitar e exemplificar a aplicação prática dos métodos e técnicas utilizados neste domínio científico. Os 23 capítulos do presente volume, escritos por diversos especialistas universitários portugueses e estrangeiros, são agrupados em cinco grandes áreas temáticas: i) Análises Espaciais; ii) Multidimensionalidade Espacial, iii) Econometria Espacial, iv) Modelos de Economia Regional, e v) Instrumentos de Apoio à Decisão.

Data: Janeiro 2011; ISBN: 978-989-8131-78-2; N.º páginas: 760

Desafios Emergentes para o Desenvolvimento Regional
Coordenadores: Dentinho, Tomaz Ponce; Viegas, José Manuel

Este livro corresponde ao primeiro de uma série de três obras e responde a uma proposta da Associação Portuguesa para o Desenvolvimento Regional junto dos seus associados para a realização de três estudos sobre temas importantes para o desenvolvimento regional em Portugal: um primeiro sobre os problemas emergentes para o desenvolvimento regional, outro sobre casos de desenvolvimento regional e um terceiro sobre modelos operacionais de desenvolvimento regional.

O objectivo desta primeira obra é responder a questões emergentes para a problemática do desenvolvimento regional em Portugal nomeadamente as que se relacionam com os impactos territoriais que resultam de alterações profundas no movimento de pessoas, de capital, de energia e de mercadorias estimuladas por fenómenos globais. O resultado é um desafio estruturado e fundamentado à reinvenção das políticas tradicionais de desenvolvimento regional; pelo público, pelos políticos, pelos técnicos e pelos cientistas.

Data: Setembro 2010; ISBN: 978-989-8131-77-5; N.º páginas: 400

Modelos Operacionais de Economia Regional
Coordenadores: Ramos, Pedro; Haddal, Eduardo; Anselmo, Eduardo

Num tempo em que, cada vez mais, se tornam claros os riscos de valorização excessiva do curto prazo, vale a pena dar atenção aos temas e aos processos que condicionam a melhoria sustentável da qualidade de vida. É disso que o desenvolvimento regional cuida.

Casos de Desenvolvimento Regional é um livro diferente. No conteúdo e na forma. Focado na economia e política do desenvolvimento regional, estabelece uma ponte entre teoria e prática que visa preencher uma falha no mercado editorial. Foi escrito para satisfazer dois públicos-alvo: inúmeras disciplinas de ensino superior no espaço lusófono e ibérico que versam sobre questões de desenvolvimento económico e social e profissionais ligados à formulação de políticas e à dinamização de acções colectivas visando a competitividade e a coesão dos territórios.

Adopta a metodologia de "casos de estudo", com exercícios propostos no final de cada capítulo. Possui alguns textos em inglês para viabilizar a sua utilização com estudantes não fluentes em português. Os contributos foram escolhidos através de um processo competitivo para reunir experiências profissionais complementares, da academia à execução operacional, passando pelas formulação e avaliação de políticas e pela dinamização de actores.

Data: Junho 2011; ISBN: 978-989-8131-82-9; N.º páginas: 560

Casos de Desenvolvimento Regional
Coordenador: Baleiras, Rui Nuno

Num tempo em que, cada vez mais, se tornam claros os riscos de valorização excessiva do curto prazo, vale a pena dar atenção aos temas e aos processos que condicionam a melhoria sustentável da qualidade de vida. É disso que o desenvolvimento regional cuida.

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Data: Setembro 2011; ISBN: 978-989-8131-85-0; N.º páginas: 800

Casos de Desenvolvimento Regional: Exercícios e Soluções
Coordenador: Baleiras, Rui Nuno

Boa economia e boa política do desenvolvimento regional requerem prática e maturação. Assim, a obra *Casos de Desenvolvimento Regional*, sobre aquele tema, dá agora origem a *Casos de Desenvolvimento Regional – Exercícios e Soluções*. Este livro complementa o anterior com uma ampla oferta de desafios aos leitores para ajudar a sedimentar o conhecimento. Trata-se de companhia indispensável a uma obra baseada na metodologia de «casos de estudo» que, pela sua natureza, deve suscitar interrogações e provocar discussão, dentro ou fora de uma sala de aula, de um gabinete de consultoria, de uma direcção de serviços ou de uma sala de reuniões entre actores do desenvolvimento regional.

Os exercícios, totalmente resolvidos, correspondem às tarefas de auto-aprendizagem propostas no final de cada capítulo do livro principal. Embora tenham sido elaborados tendo os alunos do ensino superior como principal público-alvo, muitos exercícios também poderão ser úteis a profissionais que habitualmente utilizam aqueles espaços. As tarefas tanto podem servir para cada leitor autotestar a sua apreensão do caso como para aplicar, individual ou colectivamente, o conhecimento transmitido a novas situações.

A variedade de exercícios visa estimular várias capacidades transversais, como síntese, rigor analítico, redacção técnica, entrevista , trabalho em equipa, exposição oral e negociação. Para o efeito, são propostos exercícios como perguntas de resposta breve, questões para desenvolver, ensaios, sínteses bibliográficas, aplicações de métodos quantitativos, trabalhos de campo (com recolha de informação e entrevistas no local) e jogos de simulação.

Os capítulos do livro de texto redigidos em língua inglesa têm neste manual prático exercícios na mesma língua, tendo em conta o número cada vez maior de estudantes estrangeiros que integram programas de intercâmbio internacional no Ensino Superior português.

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