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# Deindustrialization and Post-Industrial Cities in Iberia Peninsula

## Desindustrialização e Cidades Pós-Industriais na Península

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### Abstract/ Resumo

This article addresses the process of industrialization and deindustrialization in Iberia Peninsula from the early XX century to the dawn of the XXI century. Specifically, it focuses on the dynamic territorial processes which led to a general deindustrialization trend in many industrial Iberian strongholds, since the early 1970s. Furthermore, it explores one case-study (Barreiro city in Portugal), which was known as the first, and most important modern Portuguese industrial city, and which has suffered from a violent process of deindustrialization in the last couple of decades. In synthesis, this article builds on the Barreiro experience in adapting to a new panorama where the industrial landscape is no longer a prevalent one, and assesses the role of the national and EU policies in supporting these adaptation processes.

*Keywords:* Deindustrialization, Post-industrial city, Iberia Peninsula, Barreiro, New Industrial Spaces, Policies for industrial spaces.

*JEL Codes:* O14, O18, O25

Este artigo aborda o processo de industrialização e desindustrialização na Península Ibérica desde o início do século XX até o início do século XXI. Especificamente, o artigo concentra-se nos processos territoriais dinâmicos que levaram a uma tendência geral de desindustrialização em muitos redutos ibéricos industriais, desde o início dos anos setenta. Além disso, explora um estudo de caso (cidade do Barreiro em Portugal), que ficou conhecido como a primeira e mais importante cidade industrial portuguesa da era moderna, e que sofreu um processo violento de desindustrialização nas duas últimas décadas. Em síntese, este artigo baseia-se na experiência da cidade do Barreiro em adaptar-se a um novo panorama onde a paisagem industrial já não é predominante e avalia o papel das políticas nacionais e da UE no apoio a estes processos de adaptação.

*Palavras-Chave:* Desindustrialização, Cidade Pós-industrial, Península Ibérica, Barreiro, Novos Espaços Industriais, Políticas para espaços industriais.

*Códigos JEL:* O14, O18, O25

## 1. INTRODUCTION

Despite its overall decline role in employment, in Europe, the industrial sector still plays a vital task in the European territorial development process. In present times of financial, social and economic crisis, some argue that one of the answers to pave the way to more developed nations could be to support industrialisation and (re)industrialization processes in many regions, despite existing barriers to achieve that goal (Evans et al., 2018; Rasiah et al., 2015a; Zhang, 2011; Zhang et al., 2004). Regardless of some local/regional attempts to support (re)industrialisation processes, notably present in strategic development plans, in the past decades, one of the most visible effects in the more developed countries, has been the process of deindustrialisation, associated with the decline in manufacturing capacity and jobs (Stutz and Warf, 2012).

It is also worth underlying that, over the past decades, deindustrialisation has been affecting industrial bastions in less developed regions, as well (Pang, 2005; Frankema, 2015; Rasiah, et al., 2015b). Crucially, industrialization does not necessarily leads to massive economic development, as some Third World countries have found out (Simandan, 2009). In much the same way, worldwide, since the 1970s, with the globalization of trade and of the markets for manufactured goods, many traditional centres of manufacturing in the developed world have started their decline. As reiterated by Harris (2009: 386) “individual industrial cities had experienced decline in the nineteenth and early twentieth centuries, but the extent of recent shifts is unprecedented”.

From a theoretical point of view, deindustrialisation processes, understood as “the removal or reduction of industrial activity in a country or region, especially heavy industry or manufacturing industry”<sup>1</sup>, can be interpreted upon several prisms. Two of the most common results from this process are the industrial (re)structuration and the industrial (re)localisation (Vale, 2005d). Another known process is the creation of ‘New Industrial Spaces’, which are basically “concentrations of manufacturing, especially associated with newer technologies such as electronics, that have developed in areas, such as Silicon Valley, quite different from the

traditional centers of industrial production” (Chapman, 2009: 396).

From an EU policy perspective, the Europe 2020 strategy points out to the need to go ‘smart’: in developing an economy based on knowledge and innovation. More specifically, in this strategy, the European Commission (EC) envisions an industrial policy for the globalisation, which creates a better environment, and maintains and develops a strong, competitive and diversified industrial base in Europe, and which supports a transition of manufacturing sectors to greater energy and resource efficiency (EC, 2010: 15). As Wabe (1986: 27) alludes, however, “Community regional policy was conceived as an instrument for promoting more widespread industrialization and mitigating the effects of industrial change when the European national economies were providing the driving force of economic growth”. Instead, Chisholm (1985: 312) advocates that the primary emphasis this policy should be “to facilitate economic growth, not to redistribute the existing stock of employment opportunities”.

In this framework, this article aims at giving a generic overview of the industrialization and deindustrialization process in Iberia Peninsula during the last century. More concisely, it takes the Barreiro city case study to illustrate the significant changes experienced by one of the major peninsular industrial cities in the xx century. For one, Barreiro was the first major modern industrial Portuguese city, and remained so at the breakthrough of the first world oil crisis (1973). Since then, a chain of events provoked an industrial decline in this specific industrial city.

In order to better understand the deindustrialization process in Barreiro, we propose a ‘typology of industrial regions change’ which facilitates the comparison between old industrial cities worldwide, and allows for checking on how they could possibly adapt to a new post-industrial reality. In sum, the paper is structured as follows: the second topic is dedicated to a brief overview of the industrialization phases in Iberia Peninsula, and also to identify its main industrial areas and their main changes. The following topic focuses on explaining the role of public policies in supporting the industrial sector in Iberia Peninsula. The last topic will briefly discuss the rise and fall of Barreiro as an Industrial powerhouse city, and will point out

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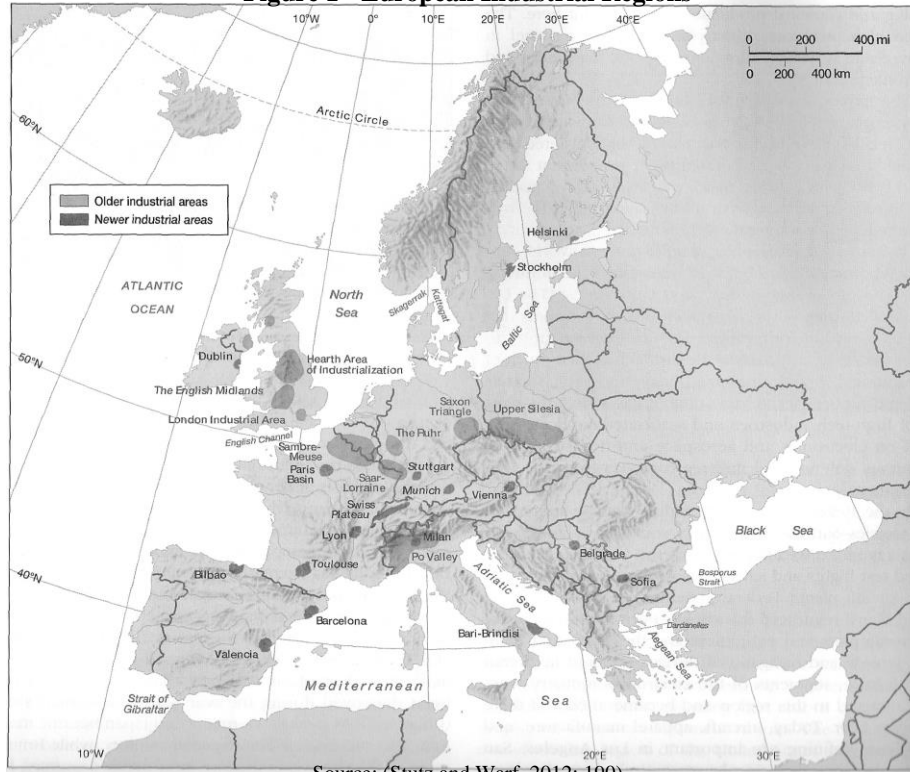
some of the most relevant prospects to the city reaffirmation as a vital development hub of the Setubal Peninsula.

## 2. INDUSTRIALIZATION, DEINDUSTRIALIZATION AND ‘NEW INDUSTRIAL SPACES’ IN IBERIA PENINSULA

It is still a quite common procedure to divide the economic activities into three main branches: (I) the primary sector – which includes agriculture, livestock and forest activities; (ii) the secondary sector – which includes industry and mining, and the (iii) tertiary sector – which is associated with services. In Europe,

the Industrial Revolution, which took place in the mid-eighteenth century, led to an increasing rise of the importance of the secondary sector, both in employment and wealth creation. This industrialization process was originated in areas of northern and central England, before spreading into many other parts of the European continent and North America (Mackinnon and Cumbers, 2011). By today, Europe is still regarded as one of the most important world industrial regions. Nevertheless, these industrial areas are mostly concentrated in cold and iron rich territories such as the Belgium-Netherlands lowlands, north-western Germany, north-eastern France, southern Poland, England-Wales region, and the Po River valley in Italy (Fig. 1).

**Figure 1 - European Industrial Regions**



Source: (Stutz and Warf, 2012: 190)

Conversely, at present, and based on the same picture, Iberia Peninsula has only a few important pockets of relevant industrial areas, all of which in Spain (Bilbao, Barcelona and Valencia). As we will soon see, this is an obvious simplified picture of the Iberian industrial might. Yet, it makes a case for the late industrialization process in Iberia Peninsula (IGE, 2014; Méndez, 2007), when compared with many other European territories. In spite of this delay, the process of modern industrialization in Iberia Peninsula had its boost in two distinct

phases (Valentí, 1989: 236): (i) 1915-1930 and (ii) 1950-1955.

This industrial upraise in Iberian Peninsula was, however, rather slow. As the main barrier to a faster and more robust industrialization process in this territory was the unavailability of vast and cheap quantity of energy resources. The exception here was the Asturian and the Basque Country coal reserves, and the Catalan hydraulic capacity. In synthesis, the industrial capacity in Spain and Portugal grew steadily until the 1973-1974 oil crises. Also, the lack

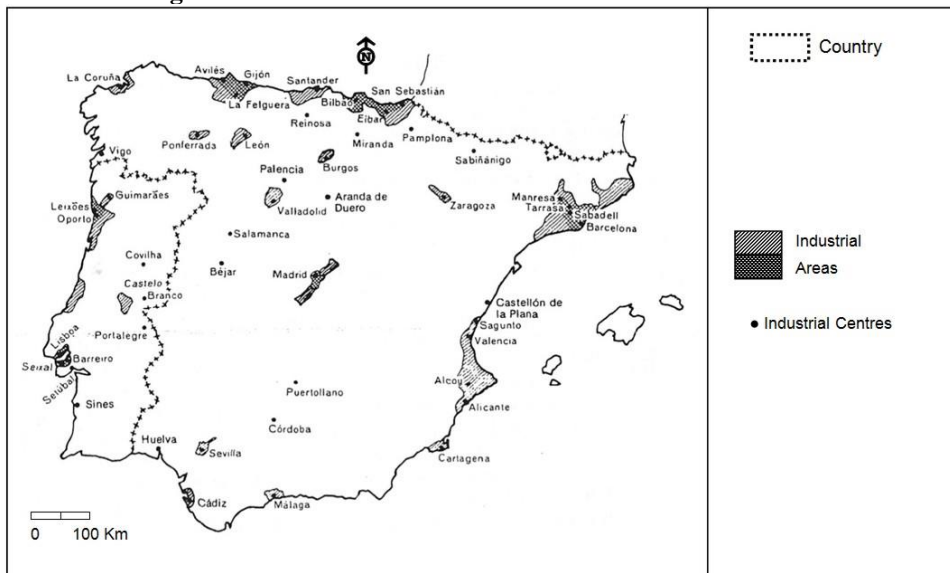
of a dynamic social structure did not favour the process of entrepreneurship in Iberia Peninsula, which was constrained by the rule of long-standing dictatorships. In sum, Valentí (1989: 259-260) identifies three main phases of the industrial process in Iberia Peninsula:

- Phase 1 - 1950-1959: Industrial take-off;
- Phase 2 - 1960-1973: Industrial expansion and consolidation;
- Phase 3 - 1975-2013: Crisis and recovering.

As favourable circumstances for the industrial take-off and expansion, one can point out: (i) the political will and the incentives to

implement and expand industrial production, both in Spain and Portugal; (ii) the large volumes of cheap and controlled labour force; and (iii) the pivotal role of the foreign investment, since 1960. In 1973, the international oil crisis took its toll in the industrial sector, and in Iberia this phenomenon was particularly evident, since most of the industrial facilities were small, with low technological and reduced financial capacity, they suffered from high levels of monopoly domination and from the process of democratic transition (Valentí, 1989: 260). As expected, the areas which suffered most from deindustrialization and industrial conversion processes were the most industrialized areas in Iberia: Setubal Peninsula, Grande Lisboa and Grande Porto, in Portugal. Valencia Region, Catalonia Region, Basque Country, Madrid Region and the Asturian Region, in Spain (see Fig. 2).

Figure 2 – Industrial Areas in Iberia Peninsula in the 1980s



Source: (Valentí, 1989) - adapted by the author

By this time (1970s), the industrial production started to lose its importance as an economic, social, and cultural motor in large parts of Iberia and the ‘western world’, as it shifted massively towards Asia and other less developed territories, much more attractive to the capital, in a new era of neoliberal globalization (Pedroni, 2011: 204). This deindustrialization process is typically reflected in the loss of manufacturing capacity (Stutz and Warf, 2012: 193), but also gave place to an urban reconfiguration in several industrial cities, which are now known as post-industrial cities (Balibrea, 2003: 31). In this process, the legacy of old industrial

regions was one of high unemployment, poverty, and decay, as their manufactory power declined in face of competition, overproduction and reduced demand (Mackinnon and Cumbers, 2011: 78).

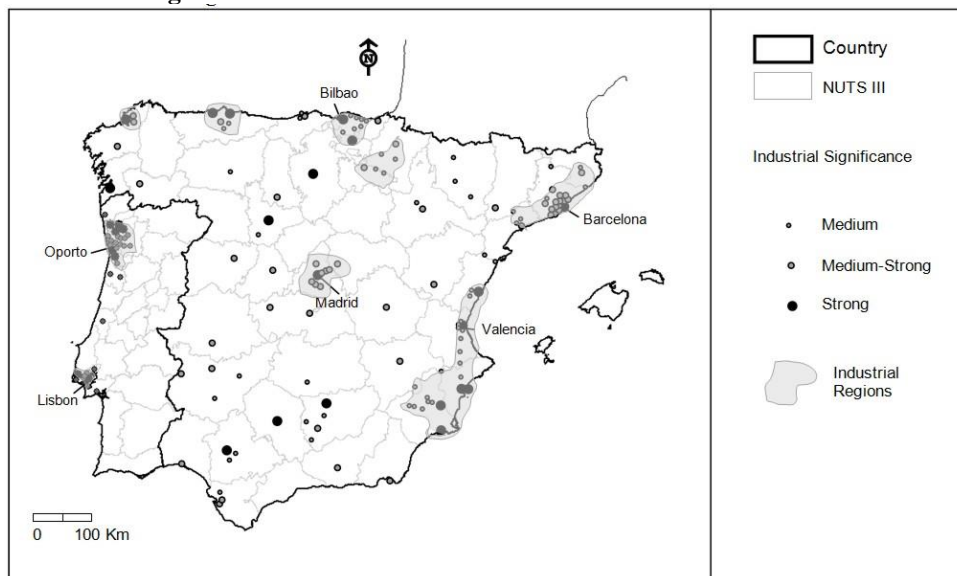
In synthesis, the post-industrial city can be seen a forced adaptation to an increasing process of deindustrialization. With unprecedented force, many of these cities were converted into ‘services hubs’ faced with a shift from the primary and secondary sectors to the tertiary sector. Here, the tourism/leisure/culture related activities, together with the financial/commercial, and the education related activities, became

widely important for the post-industrial cities economy (Mose, 2009:77; Mommaas, 2004; Gospodini, 2006; Gaspar et al., 1996). Consequently, the growth of services has led to an increasing number of white-collar, middle-class occupations (Mackinnon and Cumbers, 2011: 155; Ley, 1980:240). As Miles (2010:1) puts it “cities throughout Europe are being re-branded as places to be consumed; as tourist destinations, centres of culture and as places worthy of the ‘cultured’ middle classes”.

Also, and according to Florida (2011: xxi), creativity became the driving force of economic growth, and the Creative Class has become the mainstream force in society in terms of its influence. Finally, alongside the displacement of jobs in manufacturing industries by jobs in services, there was an increasing participation of women in the labour market. As it stands, “in recent years, virtually all the net employment growth in the developed economies has been in services, although manufacturing remains relatively strong in such countries as Germany, Italy and Japan” (Dicken, 2011: 494). Moreover, the industrial sectors in these ‘old industrial powerhouses’ suffered a process of ‘restructuring’ and ‘rationalization’ (Gómez, 2002: 107).

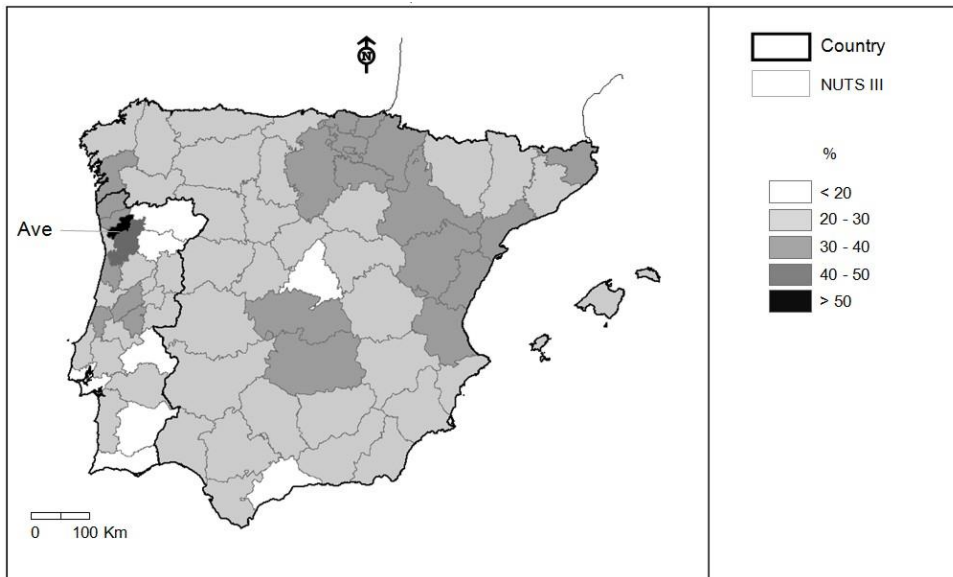
In recent years, in Spain and in Portugal, many of the prominent 1960s-1980s industrial landscapes suffered a huge transformation, while a new Geography of production took form, in the midst of a certain spatial inertia, which favours a somewhat resistance to change (Méndez, 2007: 491). To be more precise, at present, Iberia Peninsula has nine major industrial areas (two in Portugal), and while regions such as Madrid, Catalonia, Valencia and the Basque Country continue to play an important role in the industrial production, others, like the Setubal Peninsula region, were widely deindustrialised (Fig. 3). Here, our case study (the Post-Industrial Barreiro city, located in this Peninsula) is one noteworthy example of such a process. Conversely, in Portugal, the Grande Porto and the Ave (see Fig. 4) regions (located in the North - which concentrates more than 50% of the employment in industry) became, since the 1980s, the major industrial areas (Vale, 2005a: 197; Ferrão and Baptista, 1989: 45). As the main factor of the deindustrialization in Iberia Peninsula are the weakening of the competitiveness model based on low and intensive labour costs and the integration of the Eastern European countries in the EU (Vale 2005b: 203).

**Figure 3 – Main Industrial Areas in Iberia Peninsula in 2010**



Source: National Statistics + [www.recursosacademicos.net-1426](http://www.recursosacademicos.net-1426) – Author’s cartography

**Figure 4 – Relevance of the secondary sector in employment (%) per NUTS III (2008-2011) in Iberia Peninsula**

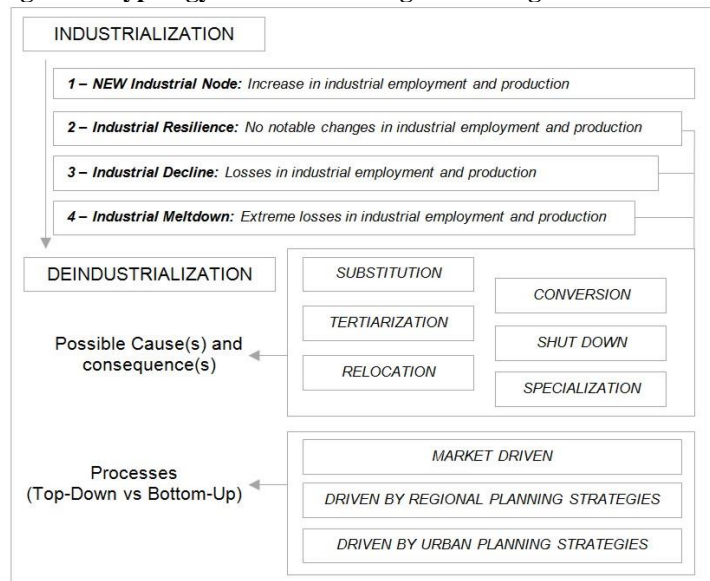


Source: National Statistics (Spain 2008 and Portugal 2011) – Author’s cartography

In an ever globalized world (see Haggett, 2001), it is expected that industrial regions change and adapt themselves to new economic realities. This changing and adapting process, however, is not straightforward, and can take different directions and options both at a regional level, and at an urban metropolitan level (see Gomes, 2001). At the regional level, several general scenarios could take place, from an initial phase to a present phase. In order to simplify this picture, we propose the identification of four distinct paths that old industrial cities can follow. Firstly, they can experience an increase in industrial activity and employment,

either by reinforcing their mainstream industrial activities, or by shifting into new (normally more technological) types of industries. Secondly, they can demonstrate a highly resilience to globalisation trends and maintain their strong position as industrial powerhouses. Thirdly, they can experience a significant decline in industrial production, but still remain as important industrial nodes, at least at the regional level. Finally, they can experience a significant industrial meltdown and completely lose their industrial character, both at the national and regional levels (Fig. 5)

**Figure 5. Typology of Industrial Regions Change: Source: Author**



Source: Author

The process(es) behind these changes can go from a simple industrial shut-down, to a relocation/specialization/conversion/substitution process. In the end, the industrial meltdown usually gives way to a rise in the employment on tertiary sector. Again, market forces and public policies can play a vital role in the deindustrialisation process. Indeed, the latter (public policies) usually act as a mitigation factor to helping old industrial cities to relaunch their economic activity, and to combat social and environmental problems caused by increasing unemployment and the need to reduce pollution footprints left by decades of industrial activity. Also, the motivation behind these changes can be diverse. Here, they can be based purely on a voluntary and strategic decision, on an involuntary decision, or on a commercial/policy failure (Vale, 2001).

### **3. THE ROLE OF THE PUBLIC POLICIES IN SUPPORTING THE INDUSTRIAL SECTOR IN IBERIA PENINSULA**

In large measure, both in Portugal and Spain, the industrialization process was mainly a result of a political will and policy strategic intervention. In Spain, this process started in the 1830s, with the Catalonia textile industry, the Andalusian and Castile agro-industry, and the Asturian metallurgy. There, the National Institute of Industry (INI) was created in 1939, as an instrument of ‘protectionist nationalism’, with the ultimate goal of fighting against monopolies, to develop the industry related with the national defence, and to fill-up the gap in sectors neglected by the private industry. In the end, this Institute had a crucial role in energising the industrial expansion in Spain until the 1970s (Valentí, 1989: 260).

In Portugal, the first modern development plan (1953-1958) invoked the need to modernize essential infra-structures to supporting industrial development in the country. In reality, during the dictatorship period (1933-1974), certain areas like the Setubal Peninsula experienced an extensive and intensive industrialization process, with the ‘Companhia União Fabril (CUF)’ (Union Fabric Company - In English), in Barreiro city, being known as the most important industrial company (Queirós, 2004: 14-15). In reality, until 1986, the only main industrial public project, in Portugal, was the creation of the ‘Sines Industrial Complex’ (Vale,

2005c). Just like in most developed countries, this initial industrial expansion came to a halt in the mid-1970s. From then on, a deindustrialisation process gained increasing momentum.

In this context, the adhesion of both Iberian Countries to the EU, in 1986, was key to restructuring both the Portuguese (Costa and Costa, 1996: 7) and the Spanish (Méndez, 2007:481) industrial panorama. Specifically, in Portugal, in the 1980s, four main instruments were used to stimulate the industrial capacity: (i) the integrated system of incentives to the industrial investment; (ii) the regional-based stimulus system; (iii) the regional-based incentive system, and the (iv) the specific programme of industrial development of the Portuguese industry (PEDIP). The later programme (I and II), together with the EU Operational Programmes to support the industrial sector, financed by EU funds, were pivotal in improving its organizational structures and technological levels (Vale, 2005c:225).

In Spain, the industrial reconversion process started in the 1980s, in a context of a liberal and privatization political tendency. Soon after (in 1995), the INI was shut down, and the mainstream Spanish industrial policy shifted towards the support for a more innovative and technologic advanced industrial production, both by the national and the regional administrations. At the same time, a greater effort was put in concentrating the support to the larger and the more dynamic enterprises, with a wider presence of external capital (electronics, informatics, electric material, pharmacy-chemistry, automobile and food production) (Méndez, 2007: 490-491).

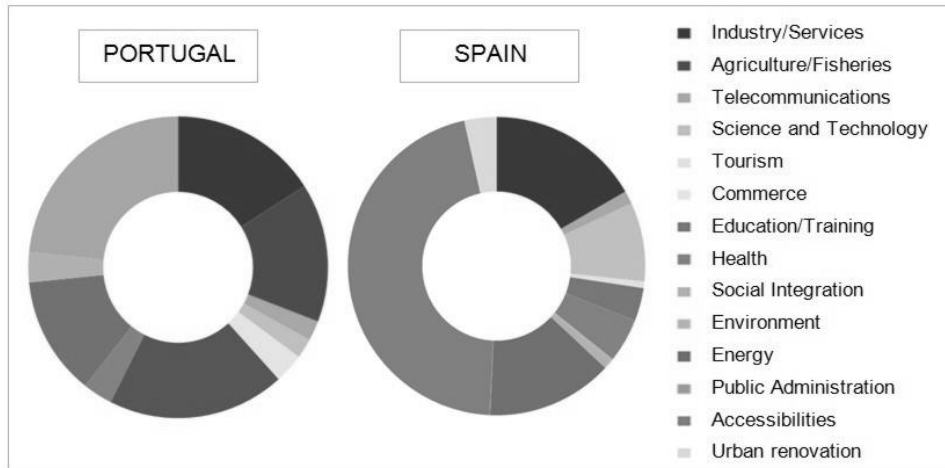
Alongside, the EU policies, through their funding, also had a crucial direct and indirect role in modernising the industrial sector in both Iberian countries, namely by the investments put in improving several key territorial development infra-structures (accessibilities, telecommunications, social services, etc.) (Vale, 2005c:226). Moreover, some policies aimed at rehabilitating old and decadent urban areas, such as the URBAN EU Community Initiative, also contributed to revitalize some Iberian post-industrial spaces, namely in Lisbon and Barcelona old industrial areas (Pérez and González, 2010: 39).

Overall, in both Iberian countries, the EU total funding allocation in supporting industrial activities did not exceed 10% of the total investments (more than 80 billion euros in Portugal

and 160 billion euros in Spain, from 1989 to 2013), as the bulk of this financial support was concentrated in building and renovating infra-structures (accessibilities, and environmental and social infra-structure), through the

European Regional Development Fund - ERDF (Fig. 6) and the Cohesion Fund, and also in valorising the human capital, through the European Social Fund (ESF) (Medeiros, 2013, 2014).

**Figure 6 – ERDF distribution per main sector (1989-2013) in Portugal (1989-2013) and Spain (2000-2013) (%)**



Source: Project databases (IFDR + DGFC) – Author’s calculations

During the first EU Cohesion Policy programming period (1989-1993), the Portuguese industry was mostly financed from the PNI-CIAP (Programa Nacional de Interesse Comunitário de Incentivo à Actividade Produtiva - National Programme to Support the Productive Activity - free translation), and fundamentally through the already mentioned PEDIP. As a result, the industrial production received around 46.1% of the PEDIP total allocation funds, soon followed by the support given to technology-based infrastructures (30.1%), whilst the ‘missions for productivity’ received around 8% (Silva et al., 1994).

During the following programming period (1994-1999), the financial support given to the industrial activity in the Lisbon Metropolitan Area was focused essentially in building new infrastructure and equipment, to support industrial production (10 lots / industrial zones, with 167 lots, covering an area of 187 ha) . This also included two pavilions for expositions and enterprise associations. In overall terms, however, the industrial sector only received 0.4% of the total investment from the Regional Operational Programme during this phase (CCDRLVT, 2000). It was the era of strong infrastructural building in Portugal, and the industrial activity also benefited with significant improvements on road accessibilities.

For the third programming period (2000-2006), EU funds contributed to support the creation of 662 companies, from which 97% were SMEs, and ¼ related with areas of medium-high technology in the transforming industry, and with knowledge intensive related services. By then, the modernization of the economic activities, industry included, was in full swing. In the Lisbon Metropolitan Area and surroundings, however, the Regional Operational Programme did not contribute significantly to attract the industrial activity, as one might expect (Vale and Petersen, 2010).

The fourth programming period (2007-2014) focused mostly on supporting technological-base start-ups and creative industries, as well as the development of SMEs in strategic sectors for the regional competitiveness of the Lisbon Metropolitan Area. Concretely, the transforming industry received, until 2012, more than 23 M€, around 7% of the total financial allocations for this area (CCDRLVT, 2012). At a national level, from 2007 until 2012, around half of the financial support given to the economic activities was allocated to the industrial sector. More importantly, however, 90% of these industries had an exporting character (QREN, 2012). This is a clear sign that the national governments intended to reinforce the national industrial sector, in an increasing globalization context.



On closer inspection, one EU flagship industrial project stands out in Portugal: the Ford-Volkswagen AUTOEUROPA factory, in Palmela (Setubal Peninsula), which received, in the first EU Cohesion Policy programming period (1989-1993), around 1.180.688.372 €, to be implemented. Yet, the question remains: did this two world automobile construction powerhouses needed the EU financial support to make this project viable? Put differently: would it not be more reasonable to support existing Portuguese SMEs instead, as they depend much more on external financing to become viable? In fact, if we look at the EU financial support to the industrial sector allocated to the Barreiro municipality between 1989 and 1999 (around 12.167.509 €), it is easy to conclude that no particular attention was given by the Portuguese Authorities in renovating this industrial Portuguese stronghold.

In Spain, instead, the ERDF project database is only available from 2000 onwards. Even so, the available data shows that the larger EU (Cohesion Policy) financed industrial related projects (around 200.000.000 €) are located in Andalusia, and were put in supporting science and innovation related initiatives. For the present programming period (2007-2014), we highlight the use of the JEREMIE (Joint European Resources for Micro to medium Enterprises) financial instrument. Additionally, it is important to stress that some Spanish industrial declined areas were financially supported by the Objective 2 of the EU Cohesion Policy in the first programming cycle (EC, 2018).

#### **4. BARREIRO: FROM AN INDUSTRIAL POWERHOUSE INTO A CONSUMPTION SPACE?**

##### **4.1 - The context of the industrial production in Portugal**

The industrial revolution had its genesis in territories which had a favourable association of three main ingredients: iron, energy and coal. These were generically absent in the Mediterranean Europe. This initial adverse scenario was never compensated in Portugal, despite the extensive efforts made, since the 1930s, to endow the country with modern and appropriate infrastructures and to supporting the establishment of new industries and a merchant fleet, capable of fulfil the commerce flows of that era (Ribeiro, 1987). Moreover, specific political and

socioeconomic contexts in which a wide external dependency, social structures limitations, and relatively reduced energy and mining resources, justify the relatively reduced relevance of the Portuguese industrial production within the European context (Medeiros, C., 1996).

In synthesis, the industrial activity in Portugal only suffered a profound transformation over the past century (XX), and especially from the 1960s onwards. In one way, this industrial expansion depended both on the most economic developed European countries, and on a metropolitan dominating relation with the Portuguese colonies, mostly in Africa. (Daveau, 1987). The adherence to the presently known European Union (EU) led to the execution of the PEDIP. The results led to an undeniable process of industrial modernization, but without any concrete change of the productive specialization (Medeiros, C., 1996).

##### **4.2 - The Industrial Barreiro**

The name of Barreiro, a city located on the south margin of the Tagus river with a view to Lisbon, is immediately associated to a stronghold industrial pole, and the old CUF (Companhia União Fabril) industrial emporium. This powerful company, with diversified industrial production, had its origins in a small factory in Lisbon (Alcântara) in 1865. Installed in the city of Barreiro in 1907, it was developed progressively. In particular, several factories were created for producing mostly chemical related products: soap; sulphur, insecticides, fertilizers, sulfuric and chloride acid, plastic bags, and sisal wiring.

In comparison with other localities, Barreiro presented several advantages to attracting industrial activities, such as the fact it is has a large harbour in the Tagus estuary, with easy access to energy and all sorts of needed imported resources. Moreover, it is connected via the only railway line which brought vital raw materials from the south of the country (Alentejo). Furthermore, the capital city (Lisbon) was located right on the other side of the river margin with the necessary markets, institutional and financial assets do engage on business. Finally, Barreiro and the surroundings had vast sources of labour and human capital (Cruz, 1973).

The expansion of the Barreiro industry had its peak in the 'Estado Novo' (1933-1974) period (Medeiros, C., 1996). By the early 2000s, however, Barreiro was not anymore an industrial

powerhouse in Portugal, and was included in a few number of municipalities with reasonable concentration of small companies (Marques, 2004). According to Vale (2005d), from 1990 to 2000, the industrial employment in Barreiro was reduced by more than 40%, one of the

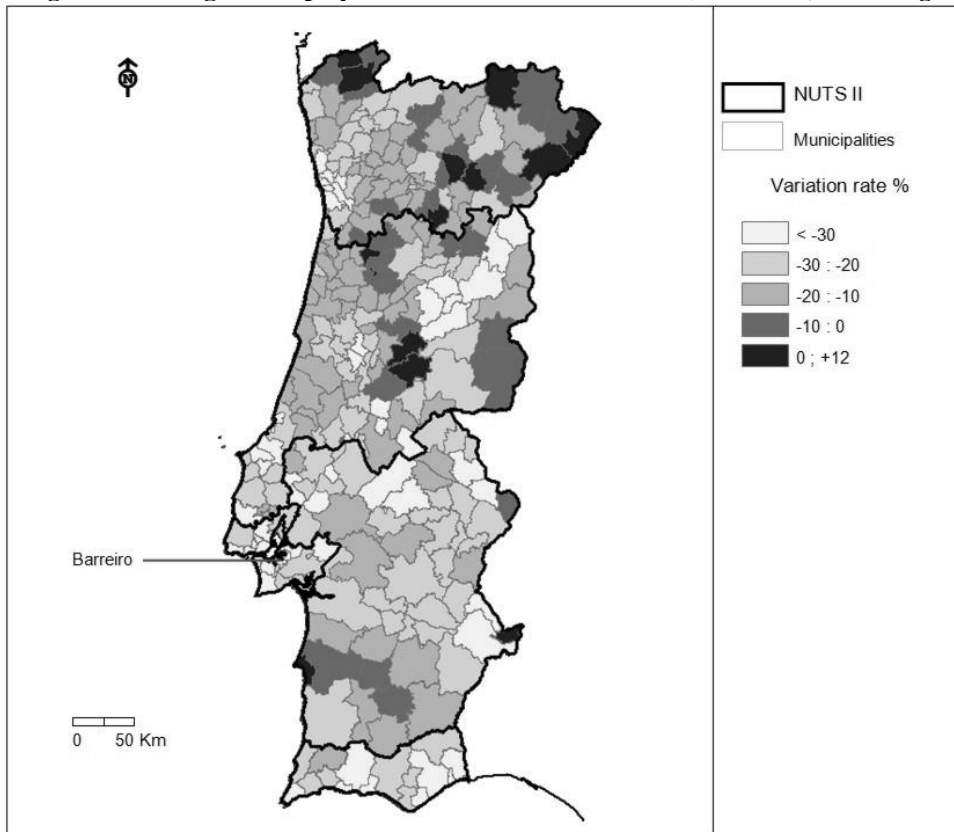
highest changes in the Portugal. The statistical analysis (Table 1 - Fig. 7), clearly illustrates these trending, of a significant reduction of the importance of the industrial activity in Barreiro, since the beginning of the early XXI century.

**Table 1 - Change in Employment per activity sector in Barreiro (%)**

	1900	1930	1960	1981	2001	2011
Primary	35	19	4.7	0.8	0.5	0.2
Secondary	29	34	60.7	47.8	27.1	19.1
Tertiary	36	47	34.6	51.4	72.4	80.6

Source: National Census - Author compilation

**Figure 7 - Change in Employment in the Industrial sector (1960-2011) in Portugal**



### 4.3 - The post- industrial Barreiro

In order to maintain its industrial vocation, and to manage and develop its vast industrial area, the municipality of Barreiro, together with the national government, decided to create an Industrial Park (Quimiparque) in January 1989. As an added value, this Park not only offered geographical (good accessibilities - road, rail and maritime - and access to large markets), but

also affordable renting fees, easy installation procedures, enterprise synergies, security (close space), low levels of pollution and green spaces. By 2009, the Quimiparque project was fused into a new entity denominated ‘Baia do Tejo’, with the main goals of:

- Valorising and develop their territories;
- Promoting urban and environmental requalification;

- Managing the Industrial Parks located in the municipalities of Barreiro, Seixal, and Estarreja;

- Promoting the Arco Ribeirinho Project (Barreiro, Seixal and Almada municipalities).

Starting with 40 companies in 1989, the Barreiro Industrial Park reached a peak of 314 companies by 1998, 40% of which associated with the industrial sector. Presently, it encompasses 199 companies (BDT, 2017), around 5.5% of which are associated with the industrial sector. For the most part, these industries have a small expression within the national industrial context (CMB, 2010). However, the construction of the future container port-terminal can lead to an increasing importance of the industrial sector in the city. This terminal covers a vast area (48,207 m<sup>2</sup>), and offers warehouses, offices, a police and a fire station, a museum, a gymnasium, a nursery, and 169 companies (Rodrigues, 2016)

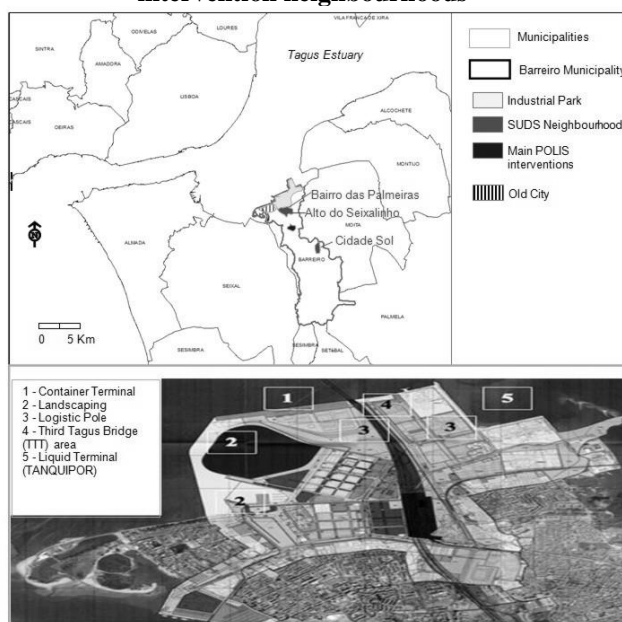
With a total area of 234ha and 3km of river front, the Barreiro Industrial Park represents 1/3 of the Barreiro county territory (Fig. 8), thus having a significant urban value, in terms of potential urbanizing areas, with a goal to attracting population and qualifying the space from an environmental prism. This recent interest to urbanise this territory comes from the realization that its qualification as an industrial area is not appropriate any longer. Thus the consensus between the municipality and the Barreiro Industrial Park to engage on a novel planning instrument, which shifts the mainstream industrial use

into other uses via a regeneration planning process (CMB, 2010).

In essence, the urban qualification plan for Barreiro suggests a brown field qualification process. From a strategic standpoint, the municipality intends to follow a mix-use and diversified functional focus, but with higher levels of urban qualification of public spaces, collective equipment and mobility, and a closer presence of services. Furthermore, there is an awareness of the need to eliminate important physical barriers, and to better interconnect the enterprises interests and other urban development dimensions of the city (AMA, 2007). This plan lacks, however, a stronger focus on what new economic activities should predominate in the city. Indeed, the city Development Plan for 2030 does not invoke the need for a reindustrialization process. Instead, it calls for a promotion of a dynamic and diversified urban economy, integrated in the urban spaces (CEDRU, 2016).

Curiously, several Barreiro urban neighbourhoods were a directed and planned result of the implementation of the C.U.F industrial complex in 1907 (Costa, 2006). Presently, however, from an urbanization planning point of view, the municipality intends to incorporate three main variants for making this space more central: (i) attract water-recreation activities; (ii) create a mix-uses area for the river estuary and the river front facing Lisbon, and (iii) promote the road-rail interface with the economic and logistic fabric (CMB, 2007).

**Figure 8 - Barreiro Industrial Area Zones and the Sustainable EU Urban Development Strategies (SUDS) intervention neighbourhoods**



Source: Author and (Rodrigues, 2016) - adapted

From an international perspective, these post-industrial cities can be identified according to the nature of their predominant economic sectors and economic organization (Touraine, 1971), and the new sources of value and growth (Kumar, 2005). This follows a need for reinventing themselves as more service-driven cities. Indeed, according to Burgers (2000) the growth of the service sector has been one of the most relevant changes which have affected cities in the past few decades. “The irony here, however, is that the seductive vision of the city that is promoted as a means of reasserting the legitimacy of the post-industrial city is fundamentally incompatible with that city’s lived reality” (Miles, 2010: 164).

Expectedly, post-industrial cities have followed different avenues. Some have adapted to a new technological paradigm and saw the creation of new industries associated with technological change, benefiting from the advantages of “the digital revolution of the 2000s, while others have failed to create new industries”, thought these are “more likely to emerge in skilled cities” (Berger and Frey, 2017: 405). In parallel, a successful transition into a more economically creative (see Florida, 2012) city requires the “integration of technical, institutional and citizen capabilities” (Graus, 2014: 520).

Also important to assess the post-industrial cities’ success, in this economic transition period, is the change in the number of inhabitants, which is ultimately associated with the capacity to attract ‘new jobs’, even though some of these cities can metamorphose themselves into dorms of a larger metropolis. In the same manner, a post-industrial city requires a significant reduction of pollution levels in order to increase the quality of life of its dwellers. Equally important, is the need to requalify and articulate urban spaces which can support interesting, green and lively environments (Peruzzo, 2012).

#### 4.4 - EU urban Interventions in Barreiro

Being left out of the EU URBAN Community Initiative which, in Portugal, tackled urbanistic socioeconomic physical problems in Lisbon and Porto (and in adjacent municipalities) deprived neighbourhoods, Barreiro was, nevertheless, included in the group of the Portuguese cities which received support from the POLIS (2000-2006), and later on POLIS XXI (2007-2013) programmes. Both were financed mainly by EU funding, with the main goal of promoting

urban renovation. More recently (2014-2010) two Barreiro neighbourhoods benefited from the financial support provided by the EU Sustainable Urban Development Strategies (SUDS).

As regards the POLIS programme, it was an innovative initiative specifically designed for fostering urban requalification and the improvement of the urban environment in cities, and ultimately for improving the quality of life (Partidário et al., 2004). On the positive side, the POLIS programme was implemented with an integrated policy perspective and, in general, provided positive impacts, by allowing the adoption of an environmental sustainability and urban planning vision for renovating urban spaces. Alongside, it concretely led to the creation of new public spaces designed to satisfy the local inhabitants (Sousa, 2017).

In Barreiro, (one of the selected 39 Portuguese cities in a total of 170 M€), the POLIS programme had its start in 2001. The approved funding (5M€) was mainly used to create a large recreation park (and green spaces) within the city, and to requalify the river front. Moreover, a concrete intervention led to the extension of the City Recreational Park (PRC), which included a children’s playground, a picnic park, pedestrian walks, ample green spaces, and a bike path. In all, this programme allowed for the modernisation of the city’s public spaces, but did not have any direct major impact in its economic fabric and structure. The POLIS XXI aimed mostly at recovering the old industrial area.

Conversely, the Barreiro SUD strategy aimed at stimulating the socioeconomic development of two selected intervention areas (Alto do Seixalinho and Cidade Sol - Fig. 7), as well as to modernise the public spaces and buildings. In more detail, this strategy defines a clear goal to adapting urban spaces for hosting productive initiatives, thus contributing to an urban environment that encourages creativity and social innovation. Finally, it defines the common goal of physically rehabilitating, modernising, qualifying and revitalising residences and public spaces.

From our fieldwork on analysing the proposed strategies of both mentioned Barreiro SUD intervention areas, it was possible to conclude that these urban planning strategies are mostly focused in promoting social inclusion measures, as fundamental elements to support local development and urban qualification

processes. More concretely, the present Barreiro city development strategies are supported by a novel demographic reality in which special attention is given to an ageing population and also to a physical decadence of urban spaces. In this context, these SUD strategies do not add an extra layer of policy implementation to supporting reindustrialization processes in Barreiro. Rather, they draw on measures aiming to requalify public spaces and as means to spark the quality of life in these deprived urban areas.

In more detail, the Barreiro SUDs have been financing the: (i) requalification of pedestrian and cycling routes, in view of reducing the use of motor vehicles in the streets; (ii) creation of new and the improvement of existing urban green spaces; (iii) implementation of eco-efficient street lighting, and (iv) rehabilitation of decaying edifices. In the end, these integrated territorial interventions expect to enhance the possibilities for these requalified spaces to attract new economic activities, mostly related to

the tertiary sector. The implemented social measures are done together with local social entities (CATICA, Associação NÓS, and RUMO), and with close coordination with the Cabinet for Professional Insertion (Gabinete de Inserção profissional - GIP in Portuguese), in the ‘Cidade Sol’ SUD strategy, with the goal to support employment creation, as well as the promotion and dissemination of training and employment opportunities for vulnerable communities. For the deprived neighbourhood of the ‘Bairro das Palmeiras’, a specific project has been supported, entitled ‘Network Emigrant Project’ (Projeto Emigrante em Rede - in Portuguese), supported by the city, the RUMOS association and the Emigrant Municipality Association, all with the main goal to counteract poverty trends in this city area. The following Table (2) presents concrete programmed interventions for the Barreiro city SUD strategies.

**Table 2 - Barreiro SUD Strategies scheduled interventions. Investments and Promotor (€)**

Operation	Total Investment	Endowment Fund to be Contracted	Promotor
Rehabilitation of the several streets and spaces of public use of the ‘Alves Redol’ Neighbourhood	501,210	250,605	Barreiro Municipality
Urban rehabilitation of ‘Largo 3 de Maio’	550,000	275,000	Barreiro Municipality
Urban requalification of ‘Dr. Manuel Pacheco Nobre’ Street, ‘Street 28 de Setembro de 1974’ ‘Street 28 de Setembro de 1974’ and ‘Movimento das Forças Armadas Avenue’	550,000	275,000	Barreiro Municipality
Recovery and valorisation of green spaces and infrastructures	105,200	52,600	Barreiro Municipality
Rehabilitation of diverse real estate, of public and private character - Financial Instrument	200,000	100,000	Business associations, agencies and public entities, non-profit private entities, Higher Education Institutes, private owners, traders
Information, dissemination, awareness-raising and publicity campaigns	20,000	10,000	Barreiro Municipality
PAICD (PI 09.08)	1,926,410	963,205	

Source: CMB (2015) - Author free translation and elaboration

To better appreciate these SUD interventions, in the end, they are expected to rehabilitate, by 2023, 25,000 m<sup>2</sup> of the city area, and 25 houses. Confronted with these numbers, interviewed stakeholders point to the lack of other important realizations, and namely to the need to identify concrete targets for expected new job

positions and companies. To some extent, the economic domain is not directly affected by the Barreiro SUD interventions. Even so, positive economic outcomes are expected to occur following the urban requalification measures. And here, the industrial activity is crucially irrelevant.

In view of the above, we can conclude that the Barreiro city can be included in the group of post-industrial cities which experienced an industrial meltdown (extreme losses in industrial employment and production). Indeed, from 1960 until 2011, Barreiro city lost more than 40% of the working force in the industrial sector. Moreover, the creation of the Industrial Park, which intended to mitigate this trend, has been progressively seen the reduction of industrial activities (from around 40% in 2000 to around 5.5% in 2015). Even so, the city of Barreiro continues to stand out, within the Lisbon Metropolitan Area, for its specialization in the transforming industry, which, by 2012, represented 10,4% of working force, 3,9% of companies, and 16,9% of the gross value-added in Portugal (CEDRU, 2016).

From a city development strategy point of view, there is not a clear indication of a concrete economic domain in which the Barreiro city should be specialized. Conversely, existing plans point out to the intension to urbanise parts of the old industrial area, and to promoting a multi-economic activities. There is, however, a specific goal to make the city a main national container terminal hub, in the coming years. If this becomes a reality, some industrial activities could gain, once again, some significance in this city. Until then, the services sector will continue to dominate this post-industrial city landscape, as well as the construction of new urbanised spaces, as Barreiro has transformed itself in one of many sub-urban Lisbon dormitories, endowed with vast supplies of labour force.

## 5. CONCLUSION

Industrial capacity and employment are highly unevenly distributed across territories. Even today, Europe still has some of the most important industrial regions, but only a few of them are located in Iberian Peninsula. As presented along the article, one of the most visible effects in more developed economies, namely since the first oil crisis (1973), was a deindustrialization trend, reflected in the loss of manufacturing jobs. Curiously, by the time we write this paper (2018), the American presidency is proactively engaged in a commercial war with the rest of the world, and mostly with China - as it has become to be known as the factory of the world - with the goal to protect the manufacturing production within its borders. This signifies that the negative impacts of the deindus-

trialization process in many parts of the world are still visible, as is the case of post-industrial regions and cities in Iberia Peninsula.

Inevitably, however, many post-industrial regions and cities were forced to reinvent themselves from an economic perspective, by defining development strategies which could mitigate the negative impacts of deindustrialization. In Iberia Peninsula, both national governments financially supported industrial fomenting plans since the beginning of the XX century, to counteract the limited industrial production vis-à-vis the most industrialized European countries. Likewise, when the deindustrialization process began (mid-1970s), several programmes, mostly financed by EU funding, were implemented to rehabilitate/renovate industrial decaying regions (brownfields).

As a concrete example, we presented the case of the first modern industrial area of Portugal: the Barreiro city. Here, the employment in the manufacturing sector rose up to 60% in the 1960s, and started to decline in the mid-1970s. Faced with this new deindustrialization reality, the Barreiro municipality authorities created an industrial park in the declined industrial area, now littered with closed factories. This plan attracted more than 300 small businesses, mostly associated with the tertiary sector, at one point in time. But soon, this number declined (200 companies presently), and the activities related with the secondary sector represent less than 6% of the total employment in this park. Moreover, the presence of vast unused spaces in the old industrial area led to a municipality planning decision to allocate many of these spaces to residential areas.

In this context, in which the Barreiro city authorities realized they lost the battle to counteract the deindustrialization process, the recent urban integrated development programmes, mostly financed with EU funding (POLIS and SUDS), were mainly focused in rehabilitating deprived neighborhoods within the Barreiro municipality, and in creating new green spaces, as a means to improve the citizens' quality of life. Indeed, no specific measures were defined to supporting concrete economic activities within the city. There is, however, a clear plan to activate a container port-terminal in the industrial zone in the nearby future, which could

create positive impacts in attractive a few industrial activities once again to this post-industrial city.

Finally, and based on all collected evidence, we can conclude that the Barreiro post-industrial city is a clear example of an industrial melt-down area, due to an excessive decline in manufactory jobs since the mid-1970s. Moreover, this process was mainly driven by market forces, and despite the mitigating effects to counteract the deindustrialization process from the creation of an industrial park, the desired results are far from the initial goal of maintaining

Barreiro as an industrial icon. In this context, Barreiro is now just another typical peripheral residential area which supplies workforce to the capital city of Lisbon, located on the other side of the river Tagus margin. Its memory of an ancient major industrial city, however, will remain forever very much alive in the memories of senior citizens, and on the city skyline, still marked with a few tall industrial chimneys, as a testimony of the chemical industries which brought both economic vitality and environmental negative impacts as a mirror image of the industrialization process.

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