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Rural depopulation, social resilience and context costs in the border municipalities of central Portugal. Dichotomies of social reorganization vs absence of public policies

Gonçalo Poeta Fernandes^a

ABSTRACT: The border territories of the central region of Portugal with Castilla y Leon and Extremadura in Spain have been experiencing, during the last decades, depopulation dynamics and socioeconomic re-organizations that transformed the forms of work, the models of social organization and occupation and land use. The aim is to analyze and reflect on the demographic trajectories and their territorial implications, tackling depopulation with sustainability strategies. The local government initiatives have been unable to reverse trends of depopulation and the progressive abandonment of the settlements, agriculture and traditional industries, resulting in the loss of identit.

KEYWORDS: Depopulation, Resilience, Borders, Governance and Sustainability.

Despoblación rural, resiliencia social y costos de contexto en los municipios fronterizos del centro de Portugal. Dicotomías de reorganización social frente a la ausencia de políticas públicas

RESUMEN: Los territorios fronterizos de la región central de Portugal con Castilla y León y Extremadura en España han experimentando, durante las últimas décadas, dinámicas de despoblación y reorganizaciones socioeconómicas que transformaron las formas de trabajo, los modelos de organización social, ocupación y uso de la tierra. El objetivo es analizar y reflexionar sobre las trayectorias demográficas y sus implicaciones territoriales, tratando la despoblación con estrategias de sostenibilidad. Las iniciativas del gobierno local no han podido revertir las tendencias de despoblación y el abandono progresivo de los asentamientos, de la agricultura y las industrias, originando la pérdida de su identidad.

PALABRAS CLAVE: Despoblación, Resiliencia, fronteras, gobernanza y sostenibilidad.

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1. Introduction

Cross-border territories between Portugal and Spain generally have lower levels of development and economic progress than other territories as a result of the “border effect”. These border areas are far from the main centres of economic and political activity in the states to which they belong, being predominantly rural and of low population density. Border areas have a multidimensional reality, as they involve a plethora of interrelated aspects, such as all sorts of natural and artificial barriers, as well as cultural, social, economic and political interactions (Medeiros, 2018).

Territories with low population densities, and particularly those located within the border of Portugal, have seen the departure of large contingents of population and abandonment of productive activities. These migratory flows, which have continued since the end of the 1950s, are almost exclusively composed of young people and adults of working age, leading to an aging population in these territories and a cycle from which it is difficult to escape, causing a disintegration of the economic and social structure and prompting initiatives to revitalize these territories.

These rural areas with low demographic density, located on the border between the central region of Portugal and Castilla y León and Extremadura in Spain, are characterized, among other aspects, by having an aging population, weak economies of agglomeration, a rural development of polycentric settlement and the progressive abandonment of traditional activities (Cabero Dieguez & Caramelo, 2001; Cavaco, 1996; Fernandes *et al.*, 2012; Trigal, 2005). Generally, these territories have a scarcity of entrepreneurial resources, of human and relational capital, and of population, and thus possess a weak institutional density and are faced with difficulties in the construction of partnerships.

The concern about the development of the Portuguese-Spanish border was identified more accurately with the accession of the two Iberian countries to the European Community through the functional reconfigurations, intrinsic weaknesses of cross-border spaces and removal of economic activity and political decision-making to major centres (Calderón, 2017; Caramelo, 2002; Lange, 2011; Pires & Lange, 2016). This framework has promoted social and economic deregulation, however the development strategies undertaken have not found the desired effectiveness. These regions have been marginalized, exacerbating their socio-economic situation and neglecting the cohesion of these territories.

While recognizing the specificity of the social, economic and territorial problems of these regions and the need to create more socially and territorially equitable interventions for their cohesion, there have been no effective policies or investments to change these trends (ESPON, 2007; Lange, 2011; Medeiros, 2010). Although in recent years there has been a dynamic of “nullifying the border effect” by means of new infrastructures, joint valorisation of resources, the interest of communities and encouragement of cooperation between border regions, the reality shows continuing depopulation, aging and dependence on state support and the weakening of the economy.

It should be noted that cross-border cooperation has not achieved the main objectives it has set itself, and there are some difficulties stemming from the constraints caused by the strong role played by the States (countries), the large differences and asymmetries, administrative and fiscal factors and also its own historical inertia, which continues to feed fears on either side of the border. In this context, an analysis of the socio-economic indicators of the border area of central Portugal reveals the existing weaknesses the depopulation trajectories, the conditions that currently structure the behaviour of the communities and their relationship with the territory and its resources (Caramelo, 2002; Fernandes *et al.*, 2014).

The aim of this study is to analyse demographic behaviour in the first border counties of central Portugal – Almeida, Figueira de Castelo Rodrigo, Sabugal, Penamacor and Idanha-a-Velha, the factors that historically contribute to the vulnerability of these territories and the effects that are projected in the communities and in the present forms of occupation and use of these territories. For this purpose, a demographic analysis was adopted, based on the evolution of the population (developing projections) and the economic behaviour of these communities, in order to identify the critical dimension of the sustainability of these municipalities faced with national governance contexts of low investment and no specific public policies.

The constraints on these territories, resulting from the costs of contexts, low investment and the continued loss of population, lead to continued economic and social decline, that the European programmes have failed to overcome (De Miguel Hidalgo *et al.*, 2014; Medeiros, 2011; 2018). Although the proactive initiatives of municipalities have little influence in terms of decision making and governance skills, local actors are not able to initiate policies or promote the necessary resources to counter demographic and economic decline.

2. The border territories of central Portugal: Characteristics, meanings and cooperation

The border region of Portugal and Spain is described as disadvantaged and depressed, constituting a peripheral territory distant from the main centres of economic activity and political decision making, which has promoted the socio-economic deregulation of these spaces, and related development strategies that have not found effectiveness (Cabero Diéguez *et al.*, 1995; Caramelo, 2002; Fernandes *et al.*, 2014; Medeiros, 2010; Trigal, 2005). With economic, social and technological changes, and the growing interdependence of economies as a result of the integration process, the traditional role of the border has changed, with cooperation and support to mitigate the effects caused by these changes and management of cross-border areas (Medeiros, 2016). However, there is still a lack of development and integration in governance, Border regions are multi-peripheral in terms of their geographic positioning, their relationship with decision-making centres, their ability to mobilize and valorise resources, effective territorial integration and investments, thus presenting structural disadvantages.

These regions, which for decades were marginalized in the face of decision-making centres and limited by a real and legislative barrier (the frontier), exacerbated their condition in such a way that in the 1960s the Raia Ibérica became known as the “frontier of underdevelopment” (Cabero Diéguez & Caramelo, 2001; Lange, 2011, 2012).

Cross-border areas are remote and isolated from the main centres of economic and political activity in the States to which they belong. Moreover, they are located on the periphery of the Member States, which results in less provision of communication infrastructure than the regions in the centre. They are also predominantly rural regions with low levels of population density (CPC, 2014, pág. 7).

According to some authors Reigado (2002); Faludi (2010); Medeiros (2010); Pires & Lange (2016), although the legal boundaries were abolished, other levels of boundaries have endured, which have hampered the development of cooperation between Portugal and Spain: such as psychological borders and opposition parties; economic and social frontiers; institutional boundaries; cultural boundaries and language barriers; and budgetary obstacles.

In the face of these trends, the vast majority of these territories will face the threat of being completely “emptied” of their inhabitants, although this situation is difficult to scale across whole regions (Azevedo, 2010), producing levels of social and economic maladjustment that will be difficult to reverse. The reversal of this phenomenon requires concerted policy measures (public and private) in several areas in order to create conditions for the revitalization of these areas and add value retention (Cabero Dieguez & Caramelo, 2001; CPC, 2014; Fernandes *et al.*, 2014).

Several studies (Azevedo, 2010; Caramelo, 2002; ESPON, 2007, 2017a; Martínez-Fernandez *et al.*, 2012; Castro *et al.*, 2013; Macías *et al.*, 2014; Natário *et al.*, 2015; Fernandes *et al.*, 2012) have sought to analyse recent developments and demographic challenges for the coming decades in order to identify demographic trends across Europe and at the same time to highlight trends in rural areas. In general, demographic change has consequences for regional and local development, and these processes have an effect on investment, as well as the renewal and expansion of the local or regional economy (Azevedo, 2010; Castro, 2013; ESPON, 2017a; UE, 2013).

Over the last few years, there has been a dynamic in favour of “nullifying the border effects” of the territories (Salgado, 2010), which is reflected in new structures and the many initiatives that have emerged, and which have sought to stimulate cooperation between the border regions. Lange (2012) studied different types of cross-border cooperation, although in a more “macro” context, namely the creation of macro-regions, the Euro-regions, considered as platforms where a number of cooperative structures such as Working Communities act as the promoters of a more generalized cooperation along their respective borders.

Early in the Spanish-Portuguese border’s formation, the desire of the emerging realms of Portugal and Castile to establish clear borders (and areas of influence) was evident (Calderón, 2015). In the case of Portugal, the establishment of borders presupposed the state’s consolidation as a sovereign political entity relative to its powerful and aggressive Castilian neighbour. Thus, the border materialized as a deci-

sive vehicle for the construction of Portuguese national identity as an instrument that would guarantee the country's security and territorial integrity. The establishment of the Portuguese-Castilian border formed distinct areas of influence in areas of culture, linguistics and identity, differentiating each border zone's characteristic language, "culture" and "identity" as opposed to that across the border.

The socio-institutional innovations discussed above provoked a significant change to life within the Strip/border, introducing in 1992 a new phase of cooperation and approximation between "neighbours" who had not traditionally interacted (Bontje & Musterd, 2012; Medeiros, 2016). This change in climate gradually translated into an attitude more favourable to promoting understanding and interaction.

Cross-border cooperation (CBC) has been an important instrument for achieving the goals of the European Spatial Development Perspective (ESDP), as well as implementing the aims of the Lisbon and Rotterdam processes to attain sustainable growth and territorial cohesion in Europe. Particularly in achieving the goal of cross-border cooperation (ESPON, 2007; Medeiros, 2018).

These relations promoted more fluid cross-border relations between the Portuguese and Spanish governments and between regional and local administrations along the Spanish-Portuguese border (although the latter have always been interested in cross-border issues) from 1996 onward, spurring numerous cross-border cooperation initiatives (Caramelo, 2002; CPC, 2014; Medeiros, 2010). These initiatives addressed a broad spectrum of entrepreneurial, cultural, linguistic, touristic, administrative and environmental topics and issues of border territory management and cooperation.

Between 1990 and 1993, the INTERREG I Initiative provided strong funding to the border regions of Spain and Portugal for the purpose of countering the frontier effect on cross-border territories. INTERREG II (1994-1999) and INTERREG III (2000-2006) initiatives followed, with territorial cooperation becoming one of the three objectives of European regional policy in the 2007-2013 programming period. All this led to a process of cooperation and collaboration between the governments of Spain and Portugal as well as the regions and local entities on both sides of the border. The cooperation programme Interreg V-A Spain-Portugal (POCTEP) addresses the most important cross-border challenges linked to the implementation of the Europe 2020 strategy in the Spanish – Portuguese border region.

However, CBC processes at the Iberian level, despite their undeniable dynamism, are not progressing and developing as fast as in other regions of Europe. The undoubtedly improvements created by the programmes in terms of infrastructures and equipment, formal and informal approaches between entities and agencies and the funds available, have led to significant improvements in cooperation and cohesion. These developments have effects on a national scale, with border regions continuing to experience problems of depopulation and economic inertia (Calderón, 2017), thus maintaining border effects and associated context costs. The data presented in this research make it possible to highlight the problems of demographic loss and economic decline, which critically affect these territories and their social and economic sustainability.

3. Methodologies, models and research data analysis

The study was developed combining an analysis of the territorial specificities of the border region of Centro Portugal with Castile and Leon and Extremadura in Spain, with the evolution of the population and the development of demographic projections. A qualitative and quantitative analysis was carried out on the socio-economic dynamics, supported by demographic and developmental variables. The evolution of employment, companies and building permits was studied in order to collect data related to depopulation and disintegration of the productive structure of border municipalities. In this context we proceeded to the development of methodologies, able to promote the collection of data and contributions to an analysis that was guided by the following approaches:

- a. From the theoretical point of view, we seek to frame the Iberian border regions and their specificities, the administrative and economic contexts, the depopulation and inactions in the development policies and strategies for the revitalization of these territories.
- b. From the empirical point of view, we intend to contribute to the understanding of the border territories, in particular the implications on the evolution of population and productive activities.
- c. From a methodological point of view, we try to design a research, using qualitative and quantitative analysis, generating projections of population evolution and equating actions and strategies to reverse depopulation and the loss of economic dynamism.

In terms of methodology, three complementary phases were established, in order to achieve data information to enable consistent analysis, description of problems and challenges, as well as supporting the definition of actions to foster demographic attraction, encourage investment and promote territorial cohesion. Thus, the following stages were followed: Phase I – *Literature review* on the characteristics of the border areas, their representations and meanings and the peculiarities of the “hispanolusa raya”; Phase II – *Statistical analysis of the demographic and economic activity*, in statistical terms several variables were worked in an evolutionary way in the five municipalities analysed (population, employment, business, building permits) in order to scan trends and promote ratings supported in development and sustainability parameters; Phase III – *Establishment of action proposals*, on the basis of the work carried out, existing reports and data processed and the works promoted by the Centre of Analysis and Territorial Prospective – CAPT – BIN-SAL, problems were systematized and proposals were made on economic, social and territorial cohesion.

4. Socio-economic depopulation and reorganization: numbers and trends for the municipalities bordering Beira Interior

The last decades have been marked by substantial structural changes in low population-density regions (Braga *et al.*, 2013; ESPON, 2017b; Martinez-Fernandez *et al.*, 2012; UE, 2008) and in particular in rural areas (ESPON, 2017a; Fuller-Love *et al.*, 2006; Marsden *et al.*, 1990; Silveira *et al.*, 2013). Low population density territories are marked by weak economies of agglomeration, low density sector and insufficient size of their urban centres (DPP, 2008; Domingos, 2009; Fernandes *et al.*, 2012). In general, these territories have scarcity of business resources, human capital, relational capital, population and urban dimension, thus having a weak institutional and relational density and encountering difficulties in building partnerships (DPP, 2008). *“Shrinking regions suffer from precarious financial problems and have restricted budgets due to the growing needs of an ageing society in tandem with a reduced tax base, making them extremely reliant on external funding sources. This produces a perverse effect, since it often promotes a dependence culture and an aversion to policy innovation”* (ESPON, 2017a, pág. 11).

Rural and border territories of Beira Interior, in addition to the above limitations, have been witnessing the departure of their young and working-age populations, the growing aging and the abandonment of productive activities, causing disintegration of the economic and social structure, calling, in stark form, for revitalization efforts in these territories. The progressive abandonment of agriculture, the small size of the industrial sector, the social fragility of the population, as well as the lack of investment in the primary and secondary sectors, along with political-administrative centralism and reduced public investment have negative consequences on the opportunities for employment, leading to the progressive depopulation of these areas (Aliste *et al.*, 2013; Braga *et al.*, 2013; Caramelo, 2002; Macías *et al.*, 2014; Natário *et al.*, 2018).

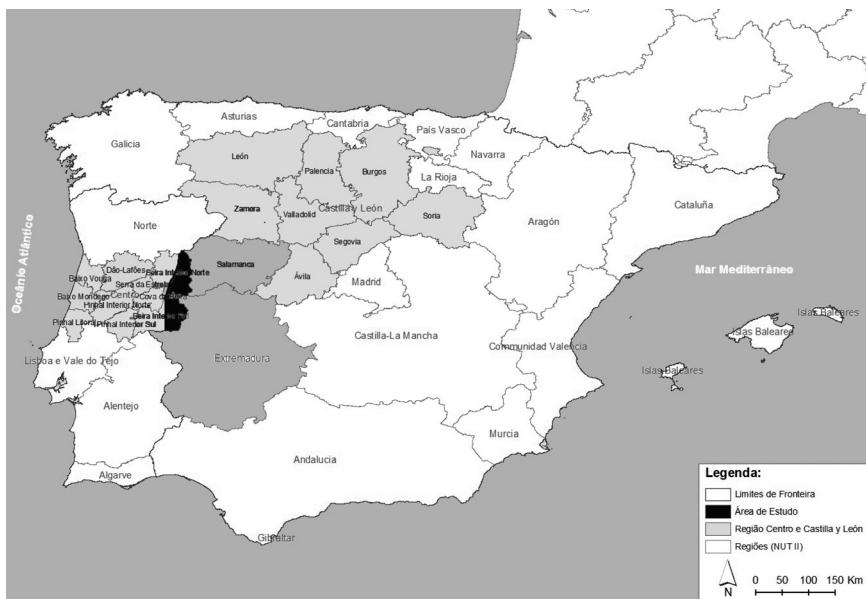
Europe's rural areas are experiencing structural change, particularly in industries based on natural resources and supporting these economies, affecting in particular the countries of southern Europe (ESPON, 2017b; Fath & Hunya, 2001; Martinez-Fernandez *et al.*, 2012; UE, 2013). These changes have contributed to a decrease in production and consequently to the reduction of jobs in rural communities and to the emigration of its residents seeking new opportunities elsewhere, especially in larger urban areas. Consequently, governments, local communities, associations and other organizations have sought solutions through small businesses and entrepreneurship, to maintain the populations in rural areas, create jobs and provide sustainability to these communities (ESPON, 2017b; Fernandes *et al.*, 2016; Natario *et al.*, 2018; Siemens, 2010; Skuras *et al.*, 2005; UE, 2013).

Since the middle of the last century, the low density municipalities located in the interior of Portugal have witnessed the departure of large population groups and the abandonment of productive activities. This gave rise to significant economic and environmental demographic changes, which originated a deregulatory trajectory of

these communities, compromising the continuity of the livelihoods and economic activities that sustained them (Daniel *et al.*, 2014; Silveira *et al.*, 2013).

In peripheral border regions, depopulation and loss of social and economic dynamism are a worrying trend, and in the first border municipalities of the central region in Portugal (limited geographically between the Douro River and the Tejo River) show a trajectory of extreme demographic loss, making it difficult to initiate value strategies for the attractiveness and development of these municipalities. The depopulation of the rural areas in these municipalities assumes a greater meaning, given the context costs they show, the lack of investment (public and private) and the absence of public policies capable of reversing these trends.

MAP 1
Location of first-line municipalities bordering the central region



Source: Own elaboration.

We are in a critical moment of sustainability, considering the demographic indicators and the resilience developed in the last decades by the local communities and administrative entities, in stimulating initiatives and in the effort to continue to guarantee basic services for their communities. In terms of ranking the population loss, in the period 1950-2011, the five most affected municipalities in Portugal were Mértola, Alcoutim, Sabugal, Idanha-a-Nova and Penamacor, all with values over 70 % and with characteristics of the border territories.

In an analysis of the evolution of the resident population in these five frontier counties, we can see the marked loss of population since the 1950s (when these counties reached their maximum population), which according to the data of 2015 represents a reduction of more than 70 %, and in counties such as Sabugal and Idanha-a-Nova exceeding 73 %. It should be noted that in the last 15 years, that is, in this decade and a half at the beginning of the century, the losses exceeded 22 %, with municipalities with Penamacor and Figueira surpassing 24 %, which means that in 15 years they lost $\frac{1}{4}$ of population.

TABLE 1
Change of the Resident Population and its variations between 1950 and 2015

Resident Population by Municipality	1950	1991	2001	2011	2015	Var.	Var.	Var.
						1950-15	91-15	01-15
						%		
Almeida	17480	9928	8378	7228	6323	-63,83	-36,31	-16,82
Fig. de Castelo Rodrigo	14912	8067	7115	6260	5918	-60,31	-26,64	-24,53
Sabugal	43513	16798	14772	12544	11489	-73,60	-31,60	-22,22
Idanha-a-Nova	33439	13517	11547	9716	8712	-73,95	-35,55	-22,17
Penamacor	18860	8047	6573	5680	5116	-72,87	-36,42	-24,55
Total	128204	56357	48385	41428	37558	-70,70	-33,36	-22,38

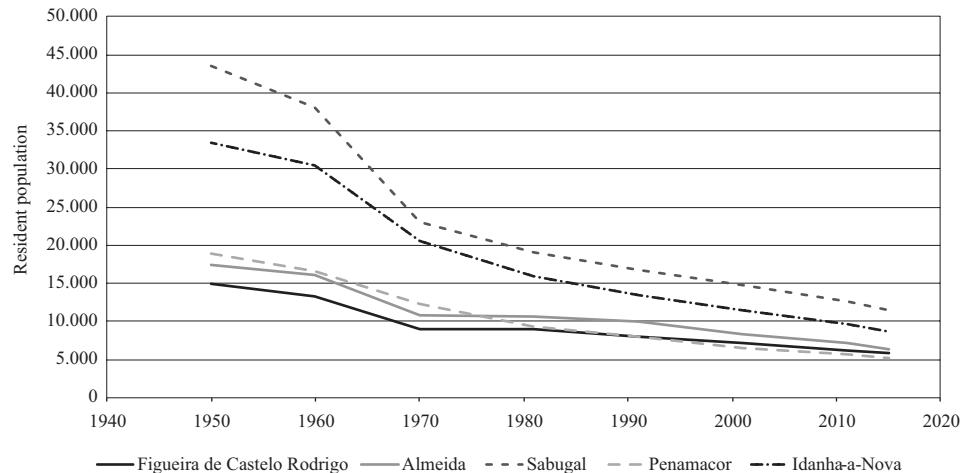
Source: Instituto Nacional de Estatísticas (INE – Portugal).

The demographic trajectories supported by the analysis of the resident population show a critical scenario for these territories, with severe implications for the continuity of services to the population, drastic reduction of economic vitality, abandonment of landscapes and the expansion of uncultivated areas. At the same time, there is degradation to the built environment, loss of cultural heritage and the self-esteem of its communities. If during the three decades from 1960 to 1990, emigration had a decisive influence on the abandonment and decline of these territories, from the 1990s the effects of depopulation were generated mainly by the attraction of urban areas of greater economic dynamism at national level (Cavaco, 1996; Daniel *et al.*, 2014). These flows are directed to the coastal areas, especially Lisbon and Porto, or to the nearby cities where Guarda, Covilhã and Castelo Branco exert the greatest polarization, due to the supply of employment outside the primary sector and the levels of services and equipment, perceived as of value for improving well-being.

The exodus of young people and skilled workers leads to the even more difficult economic performance of rural areas. The crisis of traditional systems of self-sufficient family agriculture explains the aging and shrinking population that characterizes the whole territory. Again, this trend supports a downward spiral that reduces the overall attractiveness of these rural regions and compromises their future.

FIGURE 1

**Evolution of the resident population in border municipalities
of the Beira Interior**



Source: Instituto Nacional de Estadísticas (INE – Portugal).

These demographic trends place these municipalities in a framework of unsustainability, given low population values and continuing trends. We are faced with scenarios that will be difficult to turn around, considering the net values of the population (size and market scale) and its increased aging. If we promote a prospective analysis to determine demographic projections¹, we can observe, for different periods, the continuation of the demographic decline and a critical scenario, with 2040 revealing a reduction of more than 60 % from the beginning of the 21st century

¹ Among the different prediction models, we have opted for non-causal or extrapolatory quantitative models. The purpose of these models is to identify the behavior pattern of a series, and to extrapolate this behavior to the future. The Naive 1 and Naive 2 models are the simplest, among the non-causal forecast models. The first uses the value of the current period as a forecast for the next period, and in the model Naive 2 the value of the variable in a given period is equal to the value recorded in the previous period weighted by the growth rate over that period.

The Naive 1 model uses the value of the current period as the forecast for the following period:

$$\hat{Y}_{t+1} = Y_t \quad [1]$$

where Y_t represents the value of the current period.

In the model Naive 2, the value of the variable in a given period is equal to the value recorded in the previous period, multiplied by the growth rate of that period, that is:

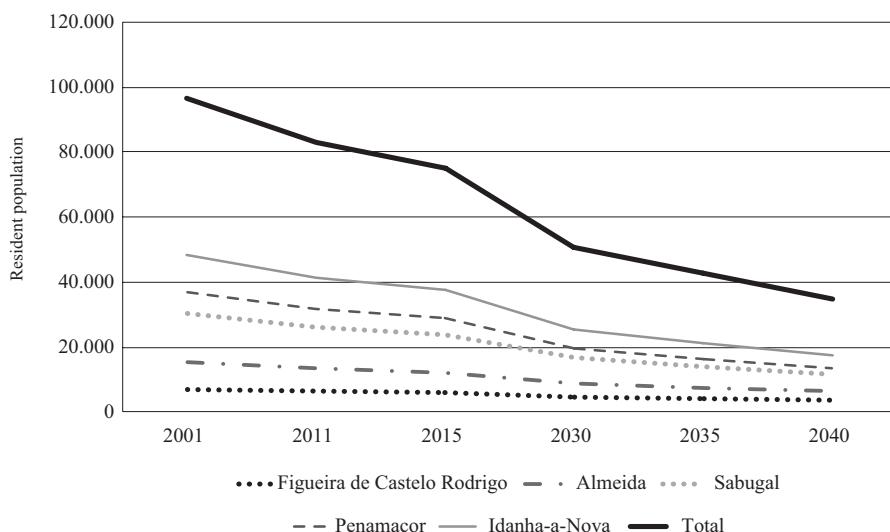
$$\hat{Y}_{t+1} = Y_t \left(1 + \frac{Y_t - Y_{t-1}}{Y_{t-1}}\right) \Leftrightarrow \hat{Y}_{t+1} = Y_t + Y_t \left(\frac{Y_t - Y_{t-1}}{Y_{t-1}}\right) \quad [2]$$

where Y_t represents the value of the current period and Y_{t-1} is the value of the previous period.

(2001-2040). On the basis of the historical population observed since 1950, we can see that we will have at 2040 a population volume of only 13 % of the 50s levels, turning this spaces into uninhabited regions.

FIGURE 2

**Population Projections for Border Municipalities
of the Central Region for 2040**



Source: Instituto Nacional de Estadísticas (INE – Portugal).

Knowing that declining regions are one of the concerns of the European Union (EU) as can be seen in previous studies (ESPON, 2017a, 2017b; UE., 2008, 2013; among others) and those of European agencies (Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) from Germany, 2013), we seek support in the developed studies to evaluate the trajectory of depopulation and verify the implications in these municipalities.

Taking into account the indicators defined by the BBSR (2013) for the classification of regions in decline and growth in Europe, the indicators in Table 1 were defined for low population density Portuguese municipalities and according to the indicator (1 of 4) of the Demographic Development – Evolution of Population over 20 years (1991-2011) (in %) and municipalities were classified as growing, stable, declining, strongly declining and critically declining.

Thus, the municipalities were analysed and indicators of their demographic and socio-economic evolution (in terms of growth) were interpreted. The trends of low population density municipalities can be observed by analysing the cross-referencing

of indicators that reflect demographic structures (Population Evolution over 20 years (1991-2011) (in %)) and labour market evolution through the study of the unemployment rate and the trend for the number of unemployed people in the last 20 years (Tables 2 and 3 and Figure 3). They can also be complemented by a cross-section of indicators that reflect the demographic structures (Population Evolution over 20 years and the evolution of unemployment) and the economic aspects, reflected by the purchasing power of families and their tendency.

The municipalities studied fall into the last two groups classified as strongly declining and critically declining (Table 2 and Figure 3) and are those that give rise to greater concern for the values of low population density and the conditions for reversing this situation appear to be very critical or almost impossible to achieve, leading to their unsustainability and consequent disappearance, if effective public policies with positive discrimination are not promoted. It is necessary to point out that numerous small places have already been completely abandoned or are only occupied by some dozens of elderly people, which will turn into empty places in the short term.

These municipalities showed a strong decline in population (-10 % to -20 %) over the last 20 years, accompanied by a strong decrease in the number of employed persons (17 %), the highest unemployment rate (average) of the last 20 years and by a significant increase in the number of unemployed people of more than 100 %.

enced high population losses, more than -25 %, high losses of employed persons, accompanied by a high unemployment rate (above 10 %). Although there have been improvements in terms of the number of unemployed people in the last 20 years, this has been as a result of the active population abandoning these municipalities.

TABLE 2
Key Data of Low Density Portuguese Municipalities in Decline and Growth according with: BBRs - Federal Institute for Research on Building (2013)

Indicator	Growth	Stability	Decline	Strongly in Decline	Critically in Decline
Demographic Development - Population Evolution 20 years (1991-2011) (in %)	> 5	De 0 a 5	-9.9 at -0.1	-10 at -20	> - 20
Development of people employed in 20 years (1991-2011) (em %)	37.5	8.50	-4.10	-16,50	-24
Average Unemployment Rate 20 years (1991-2011)	7.70	9,00	9,00	9.30	9
Unemployment Development 20 years 1991-2011 (in%)	215.10	143.50	96	101.40	70

Source: Instituto Nacional de Estatísticas (INE, Portugal).

TABLE 3
Demographic and socio-economic indicators by municipality

Indicators	Population Development 20 years (1991-2011) growth rate	Population Development 20 years (1991-2011) people	Net migration (average of 20 years 1991-2011)	Migration balance (variation of 20 years 1991-2011)	Unemployment rate 2011	Unemployment development 20 years 1991-2011 (rate)	Purchasing power per capita in 2011	Development of purchasing power per capita (1991-2011) 20 years - absolute change
Almeida	-27,2	-2700	-55	-1322	10.13	99.2	74.8	24.54
Figueira de Castelo Rodrigo	-22,4	-1807	-17	-342	13.4	120.4	61.9	19.98
Sabugal	-25,3	-4254	21	-1952	9.5	131.5	59.8	31.64
Idanha-a-Nova	-28.1	-3801	-6	-690	11.9	49.1	61.3	29.32
Penamacor	-29.4	-2367	-12	-570	10.99	7.4	54.5	21.40
Vila Velha de Ródão	-28.4	-1398	11	-373	8.27	-24.2	68.9	34.19

Source: Instituto Nacional de Estatísticas (INE, Portugal).

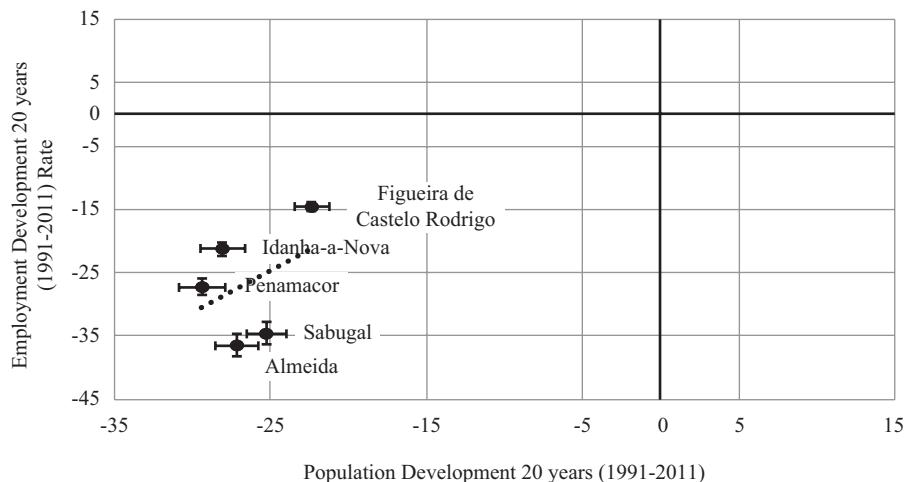
In the last 20 years, municipalities classified as critically declining have experienced a reduction in the birth rate and the number of students enrolled in education, the realities are of relevant concern here, due to the future impact on social organization and the sustainability of the territory.

There is a continuing reduction in the birth rate, following an irregular pattern, which since 2002 shows a decreasing trend, with the average rate of all municipalities remaining at 4.8 % in the period 2000-2015 (Figure 4).

The school population is falling (Figure 5) along with the provision of services and facilities related to childhood and adolescence, such as the provision of school and academic staff, youth activities and the activities of recreational groups, clubs and associations, sports and leisure services, and the diversity of commercial activities and personal services.

FIGURE 3

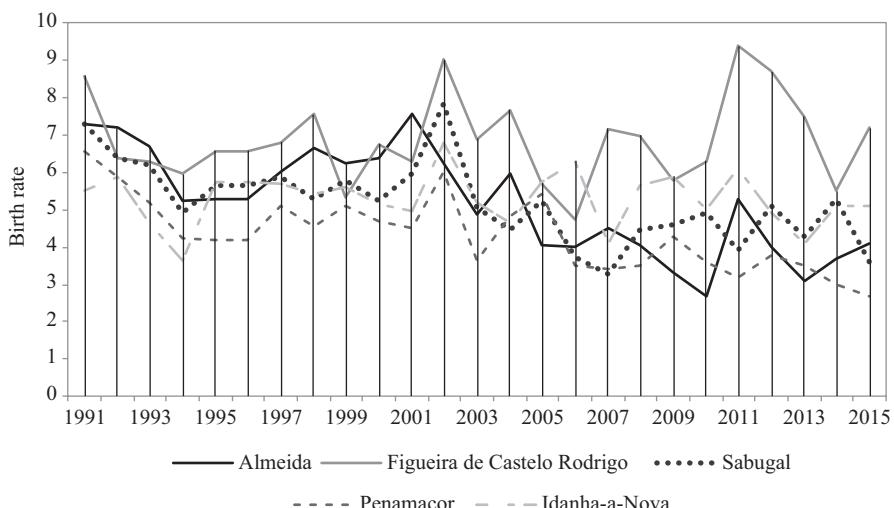
Positioning of municipalities according to the relationship between the growth rate of the population and unemployment



Source: Instituto Nacional de Estatísticas (INE, Portugal).

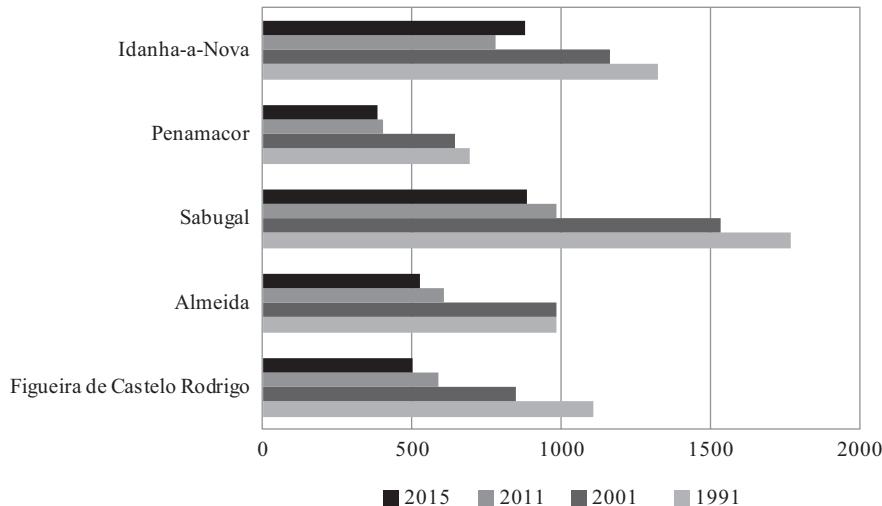
FIGURE 4

Evolution de Birth Rate for Municipality between 1991-2015



Source: Instituto Nacional de Estatísticas (INE, Portugal).

FIGURE 5
Number of students enrolled by Municipality between 1991-2015



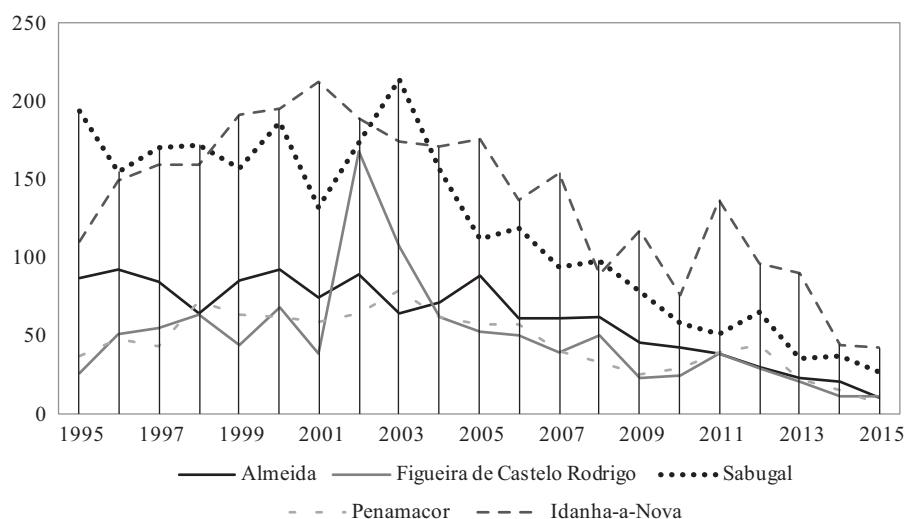
Source: Instituto Nacional de Estatísticas (INE, Portugal).

In the last 25 years, municipalities lost an average of 46 % of their school population, and from the beginning of this century (2001-2015) the loss exceeded 38 %. The municipalities most penalized in relative terms are Almeida and Sabugal with values of decrease above 42 % in the last fifteen years. This continued loss has concrete repercussions on the future of the county and on the immediate loss of assets linked to the services of training and trade in primary goods. This has led to the closure of more than 60 % of primary schools and with them the loss of dynamism and socio-organizational value that the school represents for small rural communities. In terms of real estate investment dynamics, considering the registered building permits, the tendency is unequivocal for the reduction and monitoring of the depopulation trajectory. There is a progressive decrease in applications to the municipalities for licenses, implying a reduction of dynamism (employment, sales, taxes ...) in associated economic activities. These developments have direct repercussions on the economy, in terms of associated goods and services and whose regression implies a consequent decrease in activity and closure (Figures 6 and 7 evidence these behaviours).

At the level of headquartered companies, the trend is also a continuous reduction, evidencing the consequent effect on economic activity and its business dynamism. In this sense and based on a five-year analysis of the information, it was found that in 2000 the municipalities reached their maximum number of companies, with a total of 4,888 companies in all municipalities, with Sabugal and Idanha-a-Nova with the largest numbers, 1,379 and 1,212 companies respectively and Penamacor presenting

the smallest number with 564 companies. Since the beginning of this century (2000-2015), all the border municipalities in the central region have lost a quarter of their headquarters, in Almeida and Idanha-a-Nova, where the highest rates of business losses are recorded. The reduction of companies generates not only unemployment, but also the abandonment of buildings or commercial / industrial spaces, with side effects in the social organization of these communities, increasing the exit of their populations and reducing the capacity to attract new investments.

FIGURE 6
Number of building permits for Municipality between 1995-2015

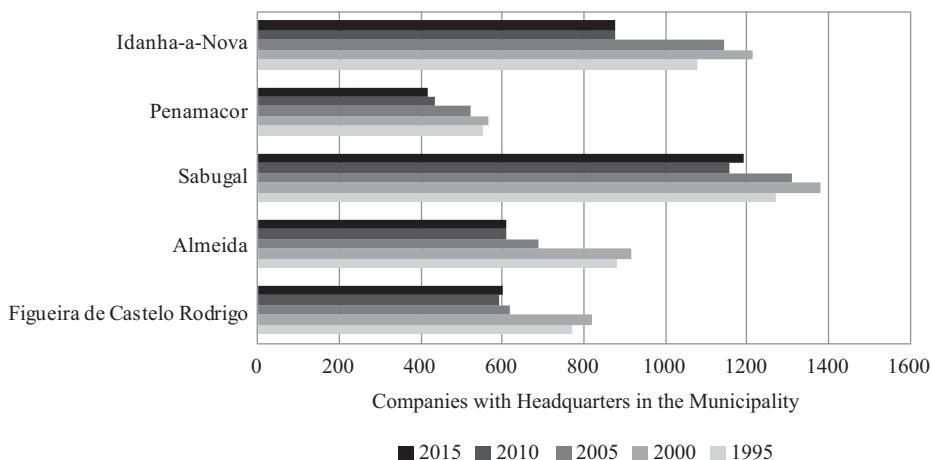


Source: Instituto Nacional de Estatísticas (INE – Portugal).

Economic factors play a crucial role in these depopulation processes: the areas affected by them are usually economically depressed, backward and barely dynamic in relation to other areas of the same country. Attracting young people will be indispensable to resurrect these regions and therefore, it is essential to find the right approach so urban-rural migration becomes a solution for both parties. Depopulated areas need entrepreneurs to stimulate the economy and, to achieve this, there are several starting points to foster profitable businesses. The clearest example is the promotion of the natural and cultural heritage of these regions in order to increase tourism and add value to local products. To develop creative and innovative activities in areas of great tranquillity; to promote agriculture, pastoralism and agro-industries; stimulate consulting services supported by ICT; to promote the social economy; the valorisation of endogenous resources; with new uses for health and well-being, leisure and tourism; to promote local gastronomy and cultural industries; develop the

social economy and recover products with local identity. In this way, rural areas can become places of opportunity, but making the transition requires major investment, cooperation and territorial cohesion policies.

FIGURE 7
**Evolution the Companies with headquarates in the Municipality
 between 1995-2015**



Source: Instituto Nacional de Estatísticas (INE – Portugal).

5. Governance and territorial resilience: Challenges and models for cooperation and development in rural and peripheral municipalities

The border does not disappear with the removal of administrative separation, nor with the suppression of customs control, but it can acquire new meanings for those who live there every day or establish labour relations or social experiences across the border (Calderón, 2017; Lange, 2011; Pires & Lange, 2016; Salgado, 2010). According to Sahlins (1996); Caramelo (2002); Lange (2012) and Macías *et al.* (2014), the populations of the border regions should participate fully in the construction and redefinition of the meaning of the border and, consequently, in increasing their capacity to incorporate the international dimension and the joint realization of projects under conditions of administrative differentiation. Today, to interconnect territories and create social and economic sustainability requires more than ensuring good physical connections, there should be adequate access to health, education, culture and infrastructure that ensure true social equity (broadband internet, reliable energy networks, among others), and to establish good connections between companies and

research centres, enhancing the valorisation of resources and strategies of action, given the special needs of territories that are disadvantaged by their specific characteristics (ESPON, 2017a; UE, 2008).

The greatest challenges encountered by rural regions – limited access to public services, low accessibility, lack of competitiveness and economic innovation and poor governance – are in fact both the causes and symptoms of demographic decline (ESPON, 2017a). These challenges are interdependent: each trend is correlated with another and can trigger a vicious circle of population decline, turning rural territories into *empty peripheries*.

Of all the factors associated with change processes, those promoting territorial dynamics are especially important being able to the overcome common problems that rural areas face (Sánchez-Zamora *et al.*, 2016).

Good access to social and economic services, leveraged with good digital networks, is a factor of great importance and contributes to the quality of life in all territories, with greater sensitivity in depopulated rural areas. However, sparsely populated areas often suffer from poor and insufficient access to public services. Demographic changes may, in fact, cause a deterioration in the quality and diversity of available services; a weak local market results in underutilization, poor maintenance and, finally, the disappearance / closure of services, resulting in loss of social equity.

The lack of basic social public services further erodes the appeal of shrinking regions and a downward spiral of decline begins which is characterized by the exodus of young workers without professional opportunities and potential and entrepreneurs and of parents seeking better education facilities. Consequently, fertility rates fall and the remaining population ages, which removes competitiveness from the territories and increases the need for social support (ESPON, 2017b; García-Cabrera *et al.*, 2015; Jayawarna, 2011).

The study by Kalantaridis & Bika (2011) emphasizes that rural territories have many limitations in terms of innovative activities of entrepreneurs. The relatively small size of the local market and infrastructures are the two main challenges faced by entrepreneurs, in addition to the reduced network dynamics, the insufficient availability of resources and the critical mass of businesses/services, capable of supporting or leveraging these activities and the consequent maintenance and generation of employment. However, labour market issues do not seem to have a negative impact on entrepreneurs, because if location imposes some restrictions, it also confers some advantages for the rural development of innovative companies (Fuller-Love *et al.*, 2006; García-Cabrera *et al.*, 2015).

The study also highlights the considerable diversity in the configuration of business innovation systems and that the incidence of innovation is greater for entrepreneurs who have spent at least part of their lives elsewhere compared to those born locally. New entrepreneurs in the territory are more likely to present something commercially new and useful (Malecki, 1994; Kibler, 2013; Von Friedrichs & Boter, 2009). These data provide guidelines to enable the territories to attract external investments or for the creation of instruments / programmes capable of creating the

conditions and supports for social and economic investment, thus, enhancing the conditions for welcoming business initiatives and people in a satisfactory way (Fath & Hunya, 2001; Policarpo & Mogollón, 2015; Kelley *et al.*, 2016).

Structural backwardness in the Portuguese-Spanish border regions led to the creation of the Operational Programme for the Development of the Border Regions (INTERREG) Portugal / Spain, with the Community objective of moving towards greater economic and social integration and convergence in the European Community. It was only with the creation of the INTERREG initiative that the Community very clearly assumed the need to develop border areas and to stimulate cross-border cooperation between neighbouring populations that have been separated for centuries (Lange, 2012; Oliveira, 2005; Policarpo & Mogollón, 2015, Trigal, 2013). *“The effort of approximation and joint cooperation between Portugal and Spain begins with the establishment of democratic regimes in the 1970s and above all with the joint admission to the EEC in 1986 which definitively marks the end of a long tense and conflicting relationship”* (Lange, 2011; pág. 1575).

The success of the first generation of the INTERREG programme (1990-1993) meant that this initiative was renewed in the period 1994-1999 and 2000-2006 and more recently in 2007-2013 in the context of the Spain-Portugal Operational Programme for Cross-Border Cooperation (POCTEP) (Lange, 2012). INTERREG 2014-2020 frames a set of five goals directed at: strengthening research, technological development and innovation; improving the competitiveness of small and medium-sized enterprises; promoting adaptation to climate change, protecting the environment and promoting resource efficiency.

However, cross-border cooperation has not achieved its main objectives, and there are some difficulties derived from the limitations caused by the strong role played by the States (countries), the great differences and asymmetries that exist, and also their own historical inertia, which continues to feed resistance and fears on either side of the border (Fernandes *et al.*, 2016; Salgado, 2010).

In this context, in which the legal frontiers between Portugal and Spain were abolished, and cooperation sought between border regions (cross-border), a new dynamic of convergence would have been triggered or, on the contrary, in the most advanced regions, leading to an economic reorganization of the territory to the detriment of the poorest regions, as previously asked by Reigado (2002) and Cabero & Caramelo (2001). It should be noted that local government initiatives have been made, but have so far been unable to counteract aging trends and the progressive abandonment of population clusters (particularly small ones), agricultural activities and traditional industrial activities.

We are facing a profound crisis of the rural world, which in low population density and border municipalities cannot overcome the costs of contexts and the inertia of public policy, leading to their decline and loss of identity. They are territories of effective resilience, promoting efforts for their sustainability, but with few results, considering the confirmed demographic and socioeconomic trajectories.

The term resilience refers to the process of learning to adapt to certain changes and uncertainty, maintaining diversity for reorganization and renewal, combining various kinds of knowledge and creating opportunities for self-organization (Berkes & Ross, 2013). Resilience is also considered a system that can be created when other subsystems and variables support the system. In the context of a territorial system, its different actors, interests and regression contexts are important as relationship determines the resilience of the system itself (Danar & Pushpalal, 2014).

Community resilience is the ability to anticipate risks, limit impacts, and rise again through survival, adaptation, evolution and growth in the face of changes (Community & Regional Resilience Institute, 2013). In these territories, the difficulty is to activate mechanisms, mobilize investments and proactivity to be able to reverse the known tendencies. Resilient communities have a variety of employment opportunities, various sources of income, as well as a variety of financial services from financial and social institutions; and they are able to manage their natural assets and resources in addition to having the ability to protect, enhance, maintain and mobilize natural and community resources (Community & Regional Resilience Institute, 2013). In border regions, management is more complex in the face of political, administrative, economic and social contexts, so that Interreg support and effective cooperation between administrative entities is fundamental to the sustainability of these territories. *“The permanent capacity of a territory to devise and deploy new resources and capacities that allow them to anticipate, prepare, respond and adapt favourably to the dynamics of transformation driven by this changing environment is called territorial resilience”* (Sánchez-Zamora *et al.*, 2016, pág. 109). People and companies present in a given territory, as well as their ability to take full advantage of all the resources therein, influence the competitiveness and prosperity, and consequently its economic cohesion. Territorial cooperation and integration, as a tool for the development of the regions, imply proactive, strategic policies and investments, which promote the increase of services and the profitability of existing infrastructure, stimulate the productive sector and the valorisation of production, promote tourism and activities supported by eco-cultural heritage, requalify buildings and uses, foster entrepreneurship and investment incentives (Fernandes *et al.*, 2016; Macias *et al.*, 2014) (Table 4).

The increase in social spending and the harmful effects of an aging population are critical factors for the development of the region. Demographic decline compromises sustainability and the capacity to generate and attract investment. It is crucial to find strategies of action supported in social entrepreneurship, cooperation in the areas of health training and the environment, in the generation of positive discrimination that promotes mobility and the establishment of companies and work. Attracting the young and qualified population is decisive, so the empowerment of the territories in digital infrastructures, the conversion of buildings and access to financing for investors is decisive (Aliste *et al.*, 2013; Arencibia & González, 2013; Macias *et al.*, 2014) (Table 5).

TABLE 4
Economic Cohesion: Problems and Proposals

Economic cohesion	
Problems	Proposals
<ul style="list-style-type: none"> • Reduction of active population conditioning business initiatives and investment. • Loss of business and employment in the three sectors of economic activity, promoting an increase in unemployment and the reduction of purchasing power. • Corporate structure dominated by micro and small companies, with a significant reduction of the industries activities in the last two decades. 	<ul style="list-style-type: none"> • Stimulate agroforestry activities based on the development of manufacturing industries, simultaneously creating qualified channels and distribution networks for markets that value local productions. • Strengthen the link between companies, associations and R & D, in order to boost innovation and the valorization of products. • Create attractiveness conditions of business by promoting the qualification of deactivated industrial buildings and the incorporation of information and communication technologies. • Encourage the development of tourism and leisure activities, promoting the offer of heritage, services, accommodation and restoration.

Source: Castro *et al.* (2013) and Fernandes & Natário (2014).

TABLE 5
Social Cohesion: Problems and Proposals

Economic cohesion	
Problems	Proposals
<ul style="list-style-type: none"> • Critical demographic devitalisation, particularly in rural agglomerations, of active and young adults, compromising the sustainability of these territories. • Increased expenses and social support, through the aging and need to support services to the population. • Underutilization of investment in social, cultural and sports equipment, with potential for use by other communities. • Qualification of the population and their fixation in the rural areas. 	<ul style="list-style-type: none"> • Strengthen social entrepreneurship by promoting the development of proximity services in articulation with the disseminated settlement structure. • Foster collaboration and cooperation between companies and institutions in the areas of health, environment, training and culture, enhancing the profitability of the installed capacities on both sides of the border. • Stimulate the establishment of population, promoting work mobility with cooperation projects aimed at companies, enhancement of digital accessibility and reconversion of real estate. • Promote training plans in critical areas for the development of the region, in particular in the valorization of products and entrepreneurship.

Source: Castro *et al.* (2013) and Fernandes & Natário (2014).

The improvement of territorial cohesion involves an increase in the functionality of coordination between sectoral and territorial policies and a greater coherence of territorial interventions in border regions. These should recognize the characteristics and weaknesses of population structure and demographic dynamics, as well as the lack of integration between states through the effect of administrative separation. Mobility and the permeability of the territories with the adjacent areas must be boosted by technological capacities, allowing to compensate the geographical effects by digital means and the value of the natural and cultural resources retained, ensuring work opportunities and greater investments (Aliste *et al.*, 2013; Castro, 2013; ESPON, 2017a).

TABLE 6
Territorial Cohesion: Problems and proposals for development

Territorial cohesion	
Problems	Proposals
<ul style="list-style-type: none"> - Structure of polycentric settlement generating higher costs of management and qualification, due to the loss of the advantages of agglomeration and sharing of infrastructures - Reduction of population density and aging, undermining the functional sustainability of territories and their functions. - Poor cross-border mobility in terms of work and business cooperation. - Mobility enhancements that guarantee good border permeability and connectivity between municipalities, currently undermined in Portugal by the application of tolls in SCUTs. - Lack of joint territorial management instruments and concerted sectoral policies. 	<ul style="list-style-type: none"> Promote the development of common territorial management instruments that can strengthen the articulation between existing spaces, communities and functions. Consider the territorial specificity of frontiers in public policies, so as to compensate for the existing structural weaknesses and greater support for the fixation of people and investments. Encourage the participation of communities, institutions and companies in building a common development model for border territories, based on the synergies resulting from effective and supported cooperation in digital technologies.

Source: Castro *et al.* (2013) and Fernandes & Natário (2014)

The most important challenge is to maintain the sustainability of the territorial development of these border regions, promoting their economic competitiveness and potential for growth, while respecting the need to preserve their natural resources and social cohesion. For this, it is essential to consider the territorial specificity of the border, promote the development of territorial management instruments and encourage effective cooperation between companies, institutions and the community. The ability to attract young people, the provision of technological infrastructures, innovation in products and the enhancement of eco-cultural resources is a determining factor for new job opportunities and the establishment of populations.

6. Conclusions

There are still some important administrative, logistical and regulatory obstacles that hinder the complete removal of the border effect on the Iberian Peninsula. These barriers (costs) in conjunction with the location, far from the more dynamic urban areas, the devaluation of agropastoral activities and entrepreneurial inertia, have contributed to the continued depopulation and economic breakdown.

The combination of demographic and functional indicators allows to appreciate the territorial dynamics of these border municipalities, with similar geographic, economic and demographic profiles, making it possible to assess a regressive demographic mapping, rendering these territories depopulated and aging, and whose socio-economic sustainability becomes difficult.

The lack of recognition of the territorial specificity of the border in Portugal, together with the absence of its own public policies, makes these regions peripheral and depressed, while their subsequent abandonment generates troubling problems of environmental management, loss of heritage and reveals a lack of concern for communities and rural ways of life.

The analysis and statistical interpretation of the demographic component and its productive relations are fundamental, since they represent the catalysing element to solving many of the current problems taking advantage of the potentialities and the economic and social revitalization of the territories, especially of those that are undergoing a fall in population and structural changes in their production base. It confirms the continued loss of population, aging and corporate regression over the last two decades in these municipalities. The efforts of local authorities and European funds have not been enough to reverse this demographic decline, despite improvements in terms of accessibility, infrastructure and the creation of entities to support their development. The data collected and developed analysis are decisive for the public authorities to be able to draw up policies that are appropriately shaped to the specificities of each territory, allowing a reversal of the negative trends and reducing imbalances in territorial cohesion. The information produced, the systematized problems and the proposals outlined give warning that if there is no change in the public policies directed at these territories, some municipalities will tend to disappear demographically in the short term and others will become unsustainable given the current population.

Lastly, from an economic sustainability point of view, it is of great importance to diversify the local economy to creatively mobilize endogenous resources and comparative territorial advantages (e.g. natural capital, local heritage, renewable energy, tourism, cultural activities, agriculture, etc.); and to increase resilience and adaptive capacity by selectively downsizing infrastructure and rightsizing the local economy. Simultaneously, it requires strengthening to improve environmental sustainability and ensuring access to public databases, healthcare, social and welfare services, education and even to the political process (online consultation, for instance). These capabilities should be leveraged by more general digitalization, basic services and infrastructure in order to improve liveability and the quality of life.

The cooperation programmes and the institutions have played a fundamental role in the channelling of financial resources to these territories. However, data on the evolution of population and employment show that the infrastructure, equipment and institutions created have not been able to stabilize the population and attract investment to these territories. Cooperation is “fragile”, given its almost extreme dependence on Structural Funds. The old border is still there, present and alive in the mind of the vast majority of its inhabitants through their cultural, linguistic, emotional, and identity dimensions and in the feeling of belonging to a national community that is distinct and different from others.

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