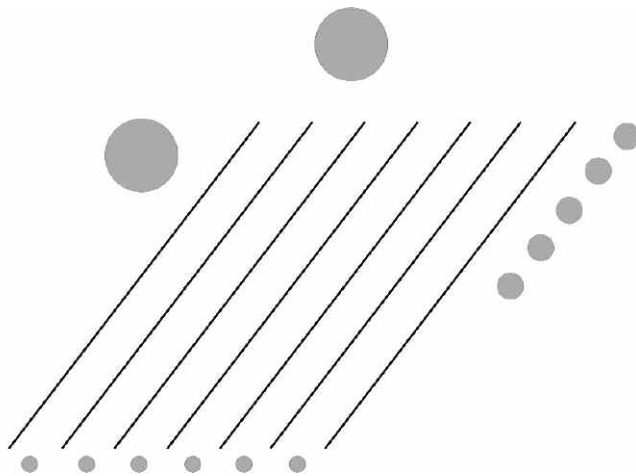


EU, Spatial Differences and Territorial Dynamics: The Project of “Convergence Territories” in Portugal



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Highlights:

1. EU Cohesion policy and funding is essential for spatial planning and development.
2. Territorial cohesion is a process of designing a more cohesive and balanced territory.
3. There are no clear gains of territorial cohesion in Portugal over the last decades.
4. The analysis of territorial systems/dynamics should clearly inform the development strategies.

Abstract: The world is changing at an accelerating pace with relevant consequences to sustainability, territorial cohesion and the relation between territories. Over the past decades, the EU Cohesion Policy is supporting regulations, programs that ensure a harmonious development by reducing the differences existing between the various regions and strengthening of its economic, social, and territorial cohesion. In Portugal, different programs and measures addressed this issue, with a strong focus on identifying the inland/low-density municipalities that should be favoured by the EU Cohesion policy funds. However, there are no clear gains of territorial cohesion and most of the municipalities outside the two metropolitan areas or major regional urban centres are demanding more attention, a correct distribution of funding and a map of inland/low-density areas that translate the territorial dynamics. In this paper we analyse territorial cohesion in Portugal, presenting a new proposal – developed by some Portuguese municipalities – that establishes the criteria for identification of the low-density/inland areas that should be targeted with specific programs and investments.

Keywords: Territorial cohesion; EU Cohesion Policy; funding; inland/low-density territories.

UE, diferencias espaciales y dinámicas territoriales: el proyecto de “Territorios de Convergencia” en Portugal

Ideas clave:

1. La política y la financiación de la cohesión son esenciales para la ordenación y el desarrollo del territorio.
2. La cohesión territorial es un proceso de diseño de un territorio más cohesionado y equilibrado.
3. No hay avances claros de cohesión territorial en Portugal en las últimas décadas.
4. El análisis de los sistemas/dinámicas territoriales debe informar claramente las estrategias de desarrollo.

Resumen: El mundo está cambiando a un ritmo acelerado con consecuencias relevantes para la sostenibilidad, la cohesión territorial y la relación entre territorios. En las últimas décadas, la Política de Cohesión de la UE está apoyando regulaciones y programas que aseguran un desarrollo armonioso al reducir las diferencias existentes entre las diversas regiones y fortalecer su cohesión económica, social y territorial.

En Portugal, diferentes programas y medidas abordaron este problema, con un fuerte enfoque en la identificación de los municipios interiores / de baja densidad que deberían ser favorecidos por los fondos de la política de cohesión de la UE. Sin embargo, no hay ganancias claras de cohesión territorial y la mayoría de los municipios fuera de las dos áreas metropolitanas o grandes centros urbanos regionales están demandando más atención, una correcta distribución de la financiación y un mapa de áreas interiores / baja densidad que traduzca la dinámica territorial. En este trabajo analizamos la cohesión territorial en Portugal, presentando una nueva propuesta, desarrollada por algunos municipios portugueses, que establece los criterios para la identificación de las áreas de baja densidad/interior que deben ser dirigidas con programas e inversiones específicas.

Palabras clave: Cohesión territorial; la política de cohesión de la UE; financiación; territorios continentales/de baja densidad.

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1. Introduction and justification

The way in which the urbanization process has taken place in Europe over the last decades, significantly transforming both the relations between city and countryside and the characteristics of each place, can be seen from very different perspectives. A possible way of synthesizing a necessarily complex process that acquires different nuances according to the scale and place from which we see it, is to consider a demographic view as essential to the process of development, in its economic, environmental and social spheres.

Looking at the flows that animate the urbanization process, it is possible to observe a long-term rural exodus, in which, as for more than a century, the younger and skilled seek the places of greater connectivity in the world economy, which will: i) provide better potential conditions for economic innovation, ii) have a greater capacity to produce wealth, and iii) offer more and better job opportunities. In this movement, cause and consequence of the fixation of public and private institutions of greater political, social, economic and cultural scope in large cities, there is a very significant attraction of those who come from the peripheries, in a process of increasing the size and complexity of the largest urban spaces (Hall, 1996; Ascher, 2002; Hall, 2014; Sassen, 2006).

In this context, it is also verified that the landscape diversity and the economic basis of low-density territories have produced very different territorialities. In Europe, and in Portugal, it is very clear the distinction between the most dynamic places, with high productivity resulting from the Common Agricultural Policy (fostered by the large size of the parcels, specialization of production, motorization and business capacity) and others that have been accumulating several development problems. The increase in asymmetries has led to a growing attention to economic, social and territorial cohesion.

Despite its widespread and relevance in the context of European policy and spatial planning, the concept of territorial cohesion is still contested, non-consensual and has several differences from its conceptualization to its practical implementation. In Portugal these issues are particularly relevant, as the last decades witness a progressive metropolization of the country, emphasizing the tendency towards depopulation, aging and impoverishment of the regions of the inland areas, which represent about 2/3 of the national territory. The loss of territorial and social cohesion in these territories has been worsening and has motivated the urgent search for solutions that contradict an unsustainable trajectory.

After several legislative trials, support programs and public investments, the National Program for Territorial Cohesion has assumed the valorisation of the territories of the interior as a priority. Changing the criteria for identifying the most problematic territories, the Mission Unit for the Valorisation of the Inland Areas (first) and the Ministry of Territorial Cohesion (later) sought to develop and implement specific and sectoral measures, to promote and enhance endogenous resources, to identify and stimulate structuring projects, align skills and investments, to focus on smart economic development and strengthen networked activities, in the country and between Portugal and Spain, thus creating the environment and conditions favourable to the setting of people, and ensuring a new vitality and sustainable prosperity in the inland regions.

However, internal imbalances persist and in some cases are aggravated, either by unsuitable policy options or because the identification of the priority investment territories considers criteria that are not adjusted to territorial dynamics. In fact, between 1985 and 1999 the Portuguese economy grew on an annual average between 3 % and 4 % (INE, 2022), which allowed financing the redistribution and territorial cohesion policies, and regional convergence rates increased compared to the European average. Between 2000 and 2020, however, the Portuguese economy grew on an annual average between 0 % and 1 % (INE, 2022), public debt grew substantially and the country was the subject of an economic and financial

adjustment program by the Troika between 2011 and 2014. During this period, the causal link between competitiveness and cohesion worked negatively and regional convergence indices for the European average worsened again. The evidence shows that the structural weaknesses of the Portuguese economy are not resolved and that below 3 % of real GDP growth the economy does not generate sufficient means to permanently feed the policy of territorial cohesion.

In this context, territorial imbalances follow a well-known pattern. On the one hand, metropolitan, suburban and peri urban areas kept accumulating increasing external costs of a social and environmental nature, on the other, devitalized and depopulated urban and rural areas and unable to generate enough network and agglomeration economies to reverse the so-called low-density vicious circle (Silva et al., 2010; UMVI, 2015).

Our research aims to analyse territorial cohesion in Portugal, focusing on the criteria that establishes the low-density/inland areas that should be targeted with specific programs and investments. Looking at the recent experiences in Portugal, we analyse and provide answers for two major questions:

1. How has the Portuguese political agenda addressed the issue of territorial cohesion, considering the EU policy and the national asymmetries and territorial problems?
2. How can the low-density/inland areas be identified using the territorial dynamics instead of overvaluing the population density?

This paper is structured as follows. After this introduction, in section two we analyse, shortly, the evolution of the EU Cohesion Policy and the establishment of territorial cohesion as a priority within the EU agenda. In section three we present the methodological aspects of the research. In section four we discuss the Portuguese experience, considering the design of programs, its implementation and the criteria for identifying the most disadvantaged territories. In section five we present evidence from a case study on Portugal, with a new criteria and map of convergence territories. In section six we present the major conclusions.

2. Conceptual background: cohesion as an objective and as a policy instrument in the European Union

Economic and social contexts and dynamics are quite different worldwide. These differences, asymmetries and contrasts have a strong territorial basis and are manifested in various domains and areas of political intervention. Territorial asymmetries are expressed through the unequal distribution of the population, income levels, gross domestic product growth rates, unemployment rates, transport and mobility offer, the concentration of more qualified professionals, the availability of natural resources, the infrastructures of the territory and several other areas, which translates into different opportunities for personal and collective achievements, different levels of development and very different quality of life patterns (Davoudi, 2004; Faludi, 2005; Luukkonen, 2015; Fernandes et al., 2020; Chamusca, 2021).

In the context of the European Union, these disparity challenges between regions are highly felt. The causes of regional disparities are linked to the geographical location of regions and to economic, social and demographic structural conditions that characterize some of these regions, although inefficient use of natural resources is quite common as well (Marques et al., 2018).

These concerns are somehow the basis for the construction of a regional policy within the EU, and in particular a cohesion policy, anchored in (financial) support mechanisms for the development of the regions with the greatest disadvantages, the so-called convergence regions (all with a GDP per capita below 75 % of the European average), namely the European Regional Development Fund, the European Social Fund and the Cohesion Fund.

Cohesion Policy is the European Union's main investment policy. It is aimed at all regions and cities in the European Union to support job creation, business competitiveness, economic growth, sustainable development and improving the quality of life of citizens (EC, 2012). The Cohesion Policy benefits all the EU regions. The level of investment reflects the development needs of the Member States. Regions are classified as more developed, transition or less developed according to their gross domestic

product (GDP). Depending on this classification, the Funds may provide between 50 % and 85 % of the total funding of a project. The remaining funding can be provided by public (national or regional) or private sources. The overall objective of the Policy is to increase the competitiveness of European regions and cities by promoting growth and job creation.

The evolution of the cohesion policy is also the result of a broad recognition of the importance of the territory for strengthening cohesion, promoting development and improving the quality of life of its residents. If, as we have seen, originally, cohesion was broadly associated with economic and social issues, the truth is that the last decades clearly mark the affirmation of the concept and objective towards territorial cohesion (Schout & Jordan, 2007; Faludi & Peirony, 2011).

The launch of the Green Paper on Territorial Cohesion (approved by the Commission in October 2008) and the Lisbon Treaty (which came in force in late 2009) are probably the more relevant milestones regarding territorial cohesion. But references to the territorial dimension are common to several European documents, showing that the concept has been changing, despite not always being associated to a clear definition. Different authors (COR, 2003; Faludi, 2007; Faludi, 2009; Faludi, 2013; Luukkonen, 2010; Luukkonen, & Moilanen, 2012; Medeiros, 2016; Medeiros & Rauhut, 2020; Ranci, 2011; Robinson, 2005; Van Well, 2012) and policy documents (Green Paper on Territorial Cohesion, Cohesion Reports, Lisbon Treaty, Strategy 2020 documents) analyse this evolution and explain the major constructions related to territorial cohesion. Some issues are particularly relevant for a clear definition of territorial cohesion and for understanding its importance.

1. 1957 – The Preamble of the Treaty of Rome states that the European Economic Community must "*ensure their harmonious development by reducing the differences existing between the various regions and the backwardness of the less favoured regions*" (EC, 1957, p.11), which is the first explicit reference to regional asymmetries.
2. 1958 – The European Social Fund is created. It would establish ad the Europe's main instrument for supporting jobs, helping people get better jobs and ensuring fairer job opportunities for all EU citizens. It works by investing in Europe's human capital – its workers, its young people and all those seeking a job.
3. 1975 – The European Regional Development Fund (ERDF) is created. It is one of the main financial instruments of the EU's cohesion policy. Its purpose is to contribute to reducing disparities between the levels of development of

- European regions and to improve living standards in the least-favoured regions.
4. 1986 – The Single European Act lays out the legal basis of European regional policy. It guided Community policies to strengthen economic and social cohesion, an objective which at an early stage resulted in the search for the reduction of regional asymmetries based on the equitable distribution of funds, but which proved to be ineffective.
 5. 1987 – To assure a full integration of Greece (1981), Spain and Portugal (1986) in the EU, the structural funds are integrated into a cohesion policy. The focus of this cohesion policy moves to strengthen economic and social cohesion of less developed regions.
 6. 1993 – The Maastricht Treaty introduces the Cohesion Fund, the Committee of the Regions and the subsidiarity principle.
 7. 1994 – The Cohesion Fund provides funding for environmental and trans-European network projects in the Member States whose gross national income per capita is less than 90 % of the EU average. The Cohesion Fund was established for the purpose of strengthening the economic, social and territorial cohesion of the European Union in the interests of promoting sustainable development.
 8. 1994-1999 – The structural funds resources are doubled and represent 33 % of the EU overall budget. Low population density regions of Finland and Sweden are supported by a special program.
 9. 2000-2006 – The Lisbon Strategy reorients the EU priorities toward economic growth, employment and innovation. The countries waiting for EU integration are supported with knowledge and funding, and after ten new countries join EU in 2004 (rising population in 20 % but PIB in only 5 %) specific budget is dedicated to these new member states.
 - 10.2004 – The European Commission defines that "*the concept of territorial cohesion extends beyond the notion of economic and social cohesion (...) by reducing existing disparities, preventing territorial imbalances and by making sectoral policies (...) more coherent*" (EC, 2004, p.27).
 - 11.2007-2013 – 30 % of the Cohesion Policy budget is dedicated to environmental infrastructures and to address climate changes and 25 % oriented to research and innovation.

- 12.2008 – The Green Paper on Territorial Cohesion provides an institutional definition, stating that territorial cohesion is about ensuring a balanced and sustainable development of the EU, strengthening its economic competitiveness and capacity for growth, while respecting its natural assets and ensuring social cohesion (EC, 2008).
- 13.2009 – The territorial dimension was only officially added as the third pillar of the cohesion in the Lisbon Treaty (article 3 - 2009), stating that "*in order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion*".
- 14.2010 – The importance of the territory is enshrined in the document "Territory matters to make Europe 2020 a success", thus assuming territorialization on the EU's development agenda.
- 15.2014-2020 – The EU's strategy (Europe 2020) reinforced the territorial cohesion dimension, assuming that "*the Funds shall contribute to developing and pursuing the actions of the Union leading to strengthening of its economic, social, and territorial cohesion*" (EC, 2010, p.63).
- 16.2021-2027 – The Cohesion policy provides support to investment in the environment, trans-European networks in transport infrastructure and sustainable development projects, namely those addressing issues such as energy efficiency, renewable energy and rail transport, inland waterway transport, sea transport, intermodal transport systems and their interoperability, management of road, maritime and air traffic, clean urban transport and public transport.

Within this process, two concepts are central: those of territorial cohesion and territorial innovation. Territorial cohesion, conceptualized as a process of designing a more cohesive and balanced territory, seeking to overcome the deficits of strategic articulation, administrative constraints and existing development asymmetries. It is oriented towards the promotion of sustainable development and a more balanced, integrated and well-governed territorial organization. It values diversity, complementarity and territorial articulation, as well as social and spatial justice as structuring elements of decision-making. It assumes that territorial specificities (natural and economic diversity) should be valued, enabling citizens to make the most of inherent features of these territories (Chamusca et al., 2022).

Territorial-based innovation is understood as a transformative process of interaction between agents, in which the creation of economic and social value is anchored in the existence of endogenous resources (Lundvall & Johnson, 1994; Jensen et al.; 2007; Lundvall, 2010). These resources become territorial assets, playing a decisive role in promoting local and regional development. Innovation ecosystems (Boschma, 2005; Amoroso et al., 2018) are based on networks of knowledge production and innovation, which involve diverse actors and various territorial scales. These networks represent links associated with processes of creation, production and transfer of knowledge and innovation, and may trigger co-specialization and related variety among the different actors located in the regions.

3. *Methodology*

In the context of this research, literature review and policy document analysis were used to understand recent dynamics and policy options at the EU and Portuguese scales. To analyse the demographic, social, economic and territorial dynamics different indicators were collected, using the National Statistics Institute (INE), General Directorate of Territory (DGT), The Water and Waste Services Regulation Authority (ERSAR) and the municipalities webpages and official reports as the data sources. Some of this information was analysed using ArcMap, a GIS software from ESRI.

The practical research and proposal were developed along with Portuguese municipalities with political coordination from the Mayor of the Cinfães Municipality, Armando Mourisco. This research assumes that the map of the low-density/inland territories in force does not represent clearly the main territorial asymmetries existing in Portugal, since the selection and weighting of indicators proves to be misadjusted from the understanding of the dynamics (of a diverse nature) that justify these asymmetries. This statement is based on the fact that a criterion (population density) is overvalued and that others that have reduced importance in individual or collective behaviours and dynamics are included. The definition of new criterion and indicators was made using a Delphi methodology, oriented to produce consensus on the major profiles and indicators.

As a result, the research proposal considers a multicriteria embroidery, articulating context and performance indicators, with a lower focus on population density.

Five analysis profiles are proposed, each evaluated with four indicators. The methodology used assumes an identical weighting for all indicators, based on a methodology of indicators' normalization.

Normalization methods allow the transformation of any element of an equivalence class of shapes under a group of geometric transforms into a specific one, fixed once for all in each class. The transformation of the data assures that the final algorithm (classification of convergence territories) is not biased to the variables with the highest order of magnitude. The option was based on normalization and not standardization, since the distribution of the values is not Gaussian and standardizing the variables would result in an average equal to 0 and a standard deviation equal to 1, whereas the exercise of normalizing aims to place the variables within the range of 0 and 1, and if it has negative results between -1 and 1.

The formula used for data normalization uses the minimum and maximum values of each indicator, considering that the final value is calculated as follows: $x = (x-x_{min}) / (x_{max}-x_{min})$.

The results made it possible to identify convergence territories, based on demographic, social, economic, accessibility and territorial/settlement dynamics, hierarchized at 3 levels: high priority (< 75 % of the national average); medium priority (75-85 % of the national average); low priority (85-100 % of the national average).

4. Results: interior, low-density and the search for territorial balance and development in Portugal

4.1. Identifying the less developed regions and municipalities

The Portuguese context is marked by deep territorial asymmetries, often classified or categorized in a duality between the countryside and the city, the urban and the rural, or the coastal and inland areas. This classification results from the finding of the weight and importance of the two metropolitan areas (Lisbon and Porto) – as well as the coastal line between them – in terms of population and business concentration.

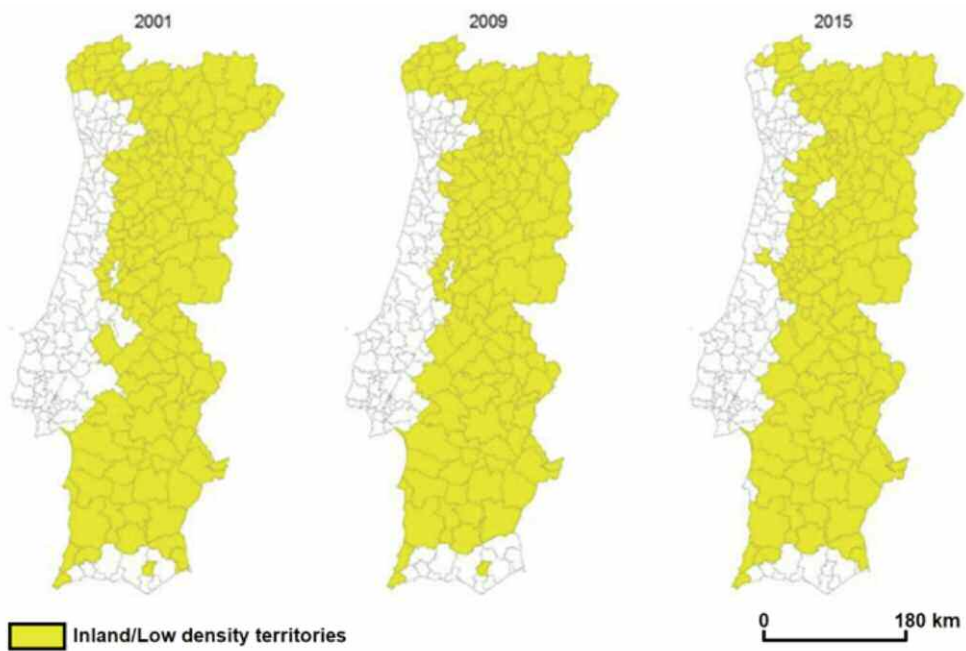
The insufficiency of these classifications – in the discourse and practical application of programs or projects that reduce these asymmetries – motivated the constitution of several working groups and the emergence of low-density metrics. However, the change in the concept (from rural/inland to low-density) maintained the same basic problems: the consideration essentially of issues associated with population density, forgetting that the essential thing is to understand the various dynamics of the territory, regardless of its geographical position.

The long journey of regulating territorial management and supporting the most disadvantaged regions begins in 1999, through Law No. 171/99. This law defines a set of measures to support the most problematic regions, which would be identified and regulated by Ordinance nr. 1467-A/2001. These measures include combating depopulation and encouraging the accelerated recovery of inland areas, namely through infrastructure creation, investment in productive activities, stimulating stable job creation and incentives for setting up businesses and setting up young people. The areas benefiting from positive discrimination measures are delimited according to criteria that consider the low population density, the compensation index or tax deficiency and the inequality of social, economic and cultural opportunities (167 municipalities and 23 parishes of Algarve municipalities).

Following several legislative changes, with emphasis on the regulation of intraregional entities in 2008 (metropolitan areas and intermunicipal communities), Ordinance No. 1117/2009 established new criteria for identifying the most disadvantaged regions, promoting an update of the exercise carried out in 2001 (passing to 167 municipalities and 38 parishes of Algarve municipalities).

Finally, the current classification was approved in 2015 (and amended in 2018 with the introduction of some parishes of Castelo de Paiva) was developed by the Inter-ministerial Coordinating Commission (CIC) and identifies 165 municipalities and 74 low-density or inland parishes in Portugal, proposing their valorisation through the opening of specific programs, the bonus in the assessment of applications and the increase of the support rate in EU funding projects (Figure 1).

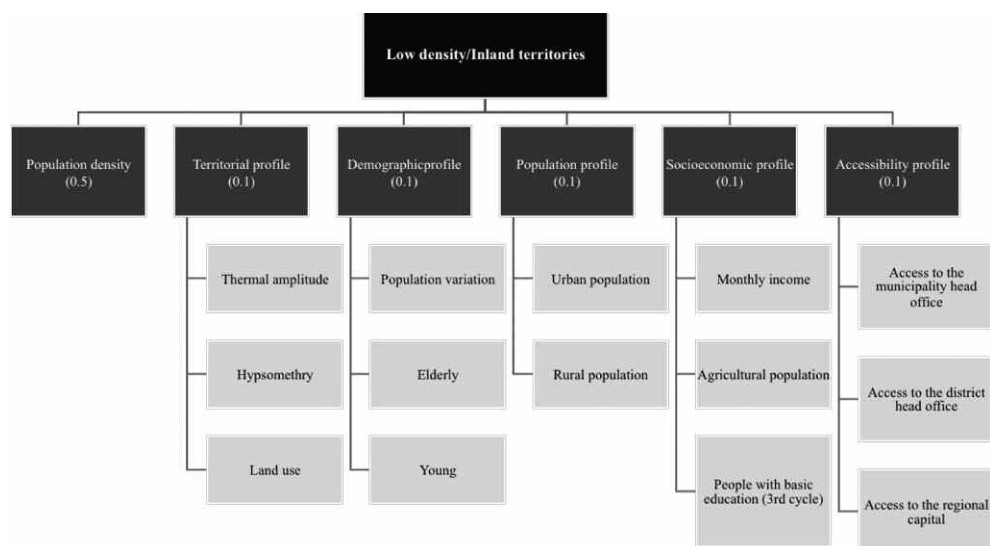
Figure 1.
Inland/Low-density municipalities resulting from the territorial delimitations (Ordinance nr. 1467-A/2001; Ordinance nr. 1117/2009; CIC Deliberation nr. 55/2015)



Source: National Program for Territorial Cohesion (adapted by the authors).

The current list of "inland territories" comes not only from demographic aspects, but also from economic (scarcity and weak diversity of economic activities, high unemployment), urban (insufficient size of most of its urban centres, even the most important), institutional (reduced range of entities with attributions and competences of proximity) and relational (weak networks of partnerships and deficient participation and participation rates of the population) aspects. Still, a weight of 50 % is attributed to the population density factor (Figure 2).

Figure 2.
CIC criteria for inland/low-density territories classification within the CIC Deliberation nr. 55/2015



Source: Inter-ministerial Coordinating Commission (2015).

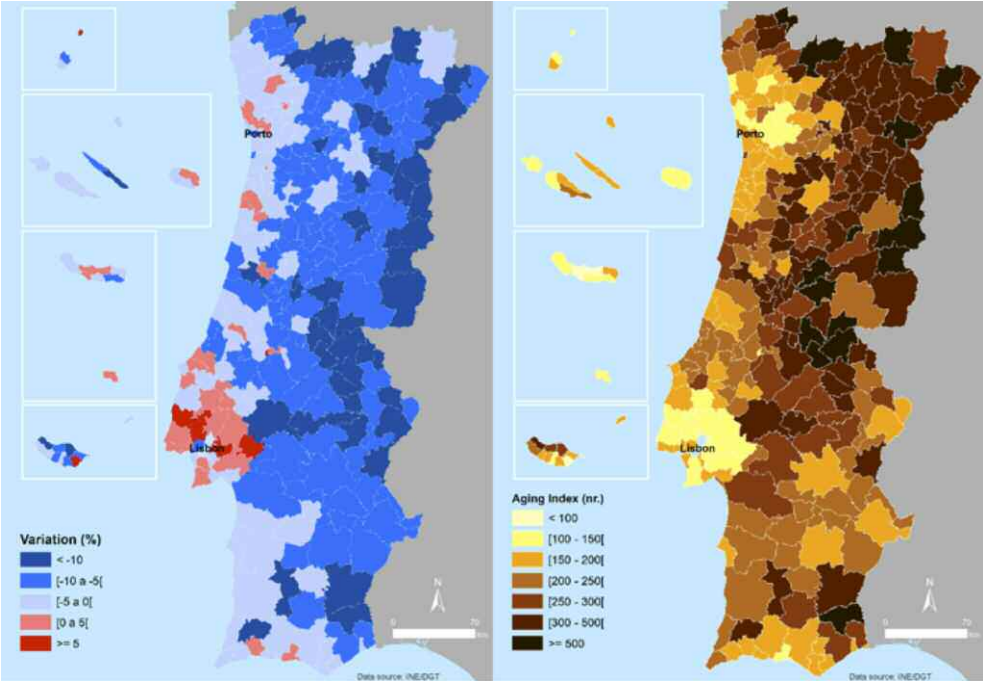
In short, we found that the methodology of identification of low-density or inland territories (more depressed territories and needing investment to strengthen Portugal's territorial cohesion) has undergone few changes over the last two decades. Nevertheless, the classifications keep changing, moving from an analysis focused exclusively on population density to the consideration of issues associated with the level of production and income, purchasing power and more recently the multicriteria analysis, although with little correspondence and consideration of the dynamics of the territory.

4.2. Trends and dynamics

Currently, two thirds of the Portuguese territory experience an accelerated process of depopulation and aging. The data on the variation of the resident population between 2011 and 2021 show us a clear trend of population loss in much of the

national territory, but with special focus on cross-border territories and located in the North and Central interior of Portugal, spaces that also have the highest rates of aging (Figure 3). At the economic level, there is a slight trend of convergence between the regions, although the differences observed in 2020 in terms of purchasing power per capita (Table 1) were still very significant, especially in the comparison of the Lisbon Metropolitan Area with the rest of the country. This trend of demographic regression and slow economic recovery entails various consequences such as: i) the abandonment of land and associated productive activities, ii) the decline in economic activities and the loss of critical mass, iii) the increase in the costs of providing infrastructure and equipment and (iv) the decrease in public services and context conditions for attracting population and investment.

Figure 3.
Population variation (2011-2021) and aging index (2021) in the Portuguese municipalities



Source: Own elaboration, using data from INE (2021).

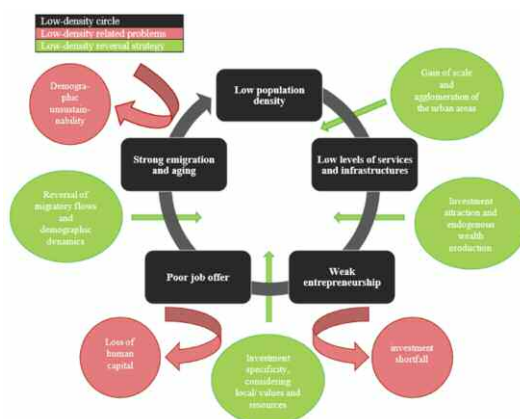
Table 1.
Purchasing power index per capita (2005-2020) in the Portuguese regions (Portugal medium value = 100)

Region	2005	2011	2015	2020
Norte	85,45	89,22	92,09	92,95
Centro	83,89	87,49	88,75	88,74
Lisbon Metropolitan Area	137,32	130,97	124,68	121,77
Alentejo	85,56	87,99	91,04	90,77
Algarve	112,98	96,74	95,17	100,84
Açores	81,66	82,35	85,5	87,96
Madeira	96,59	85,05	86,86	87,75

Source: Own elaboration, using data from INE (2021).

This downward trend is associated with a vicious circle of low-density territories (Figure 4). This vicious circle assumes that, when low population density is associated with a weak demographic and business dynamism, territorially depressing conditions are created, resulting in weak investment, loss of human capital and generational unsustainability.

Figure 4.
The circle of low-density of Portuguese territories: characteristics, related problems and possible strategic solution



Source: Own elaboration, using data from the National Program for Territorial Cohesion (UMVI, 2015).

The vicious circle of low densities recognizes Portugal's lack of territorial cohesion. However, despite this downward or low-density trend, the truth is that over the last few decades many measures have been implemented, several programs developed and several million of euros invested in low-density regions. These investments, although territorially dispersed on most occasions, have resulted in a general improvement in accessibility, in the construction of various infrastructure and equipment and in policy measures, central and local, such as the reduction of taxes and municipal taxes, incentives to create companies, supply of industrial soil at symbolic prices, or even measures to support birth-rate increase. Nevertheless, all these measures have failed to achieve their main ambition: to stop the loss of population, depopulation and the loss of services and employment.

To reverse this trend, the challenge to break the vicious circle of territorial low densities was assumed as essential, to preserve the critical mass necessary for any territorial development strategy that is not based on purely welfare logics. It is in this context that we observe the creation of a Mission Unit for the Valorisation of the Inland Areas (January 14, 2016), with the objective of creating, implementing and supervising a National Program for Territorial Cohesion. This project is based on the economic valorisation of endogenous resources (business capacities, skilled labour, financial resources, specific knowledge and skills) and a greater interaction of the economy with the territory. It proposes to break the vicious circle of low densities through demographic incentive, increased investment and agglomeration gains. In 2019, the importance and relevance of territorial cohesion would lead the elected government to create, for the first time in Portugal, a Ministry of Territorial Cohesion, with the mission of formulating, conducting, implementing and evaluating policies of territorial cohesion, European territorial cooperation, regional development and the enhancement of the interior, with a view to reducing territorial inequalities and the balanced development of the territory, taking into account the specificities of areas of the country with low population density and cross-border territories.

Table 2.

Profiles and indicators of the Convergence territories proposal

Demographic profile	Social Profile	Convergence territories		
		Economic profile	Accessibility profile	Territorial settlement profile
Population variation (rate between 2011 and 2011)	Health (Doctors per 1000 inhabitants in 2020)	Working population (working age population renewal index in 2020)	Education (average distance to a public higher education institution, in 2021 - minutes)	Population density (population density in 2021)
Aging (Aging index - average 2018/2020)	Education (population with at least 3rd cycle of basic education completed in 2021)	Productivity (average Gross Value Added per company in 2019)	Health (average distance to a public hospital, in 2021 - minutes)	Population concentration (population in places with 2000 or more inhabitants, in 2021)
Birth rate (gross birth rate - average 2018/2020)	Unemployment (unemployment rate - average 2018/2020)	Vitality (survival rate of companies in 2019)	Digital accessibility (broadband internet at a fixed location per 100 inhabitants, in 2019)	Artificialization of the the territory (artificialized territories per capita in 2018)
Migratory movement (migratory growth rate - average 2018/2020)	Income (average monthly earnings in 2019)	Skilled workers (employed population with higher education in 2018)	Work and education (average duration of commuting, in 2021)	Altimetry (altimetric range in 2021)
Exclusions:	a) Regional urban centers (or greater) b) Municipalities with purchasing power index > 100			

Source: Own elaboration.

5. Discussion: looking for the Portuguese “Convergence Municipalities”

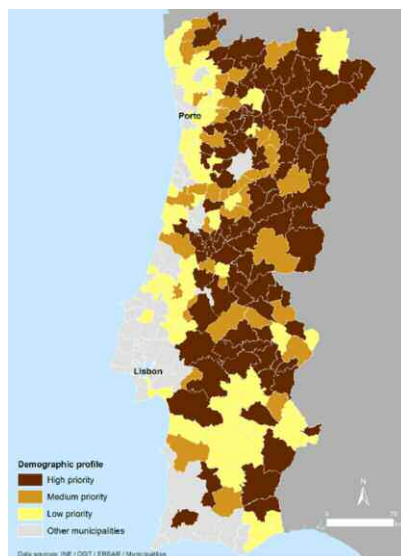
The research analysed several indicators to understand and evaluate the dynamics of each territory and the effects they have on fostering (or not) territorial development and quality of life. After the treatment and analysis of the information it was possible to identify five central profiles – demographic, social, economic, accessibility and territorial/settlement – associating four evaluation indicators to each one (Table 2). All

indicators are easy to update as they rely on open access data, made available annually by the National Institute of Statistics. Also, statistical analysis proves that all of them have a positive/negative charge which is easy to identify, translating concrete spatial dynamics and the need for intervention to promote territorial cohesion.

It is also considered the possibility of exclusion of all municipalities that meet these criteria but are classified as structuring urban centres by the national or regional spatial planning programs recently approved in Portugal, or that have a purchasing power per capita identical to or higher than the national average (PT = 100).

In the demographic profile we propose the maintenance of two indicators (population variation and aging) and the replacement of the indicator "youth weight" by analysing the recent dynamics (average to three years) of birth and migratory movements. Thus, we were able to analyse the most susceptible and vulnerable territories from a demographic point of view, analysing dynamics and behaviours with a territorial basis, without introducing any type of statistical deviation associated with the effective population (Figure 5).

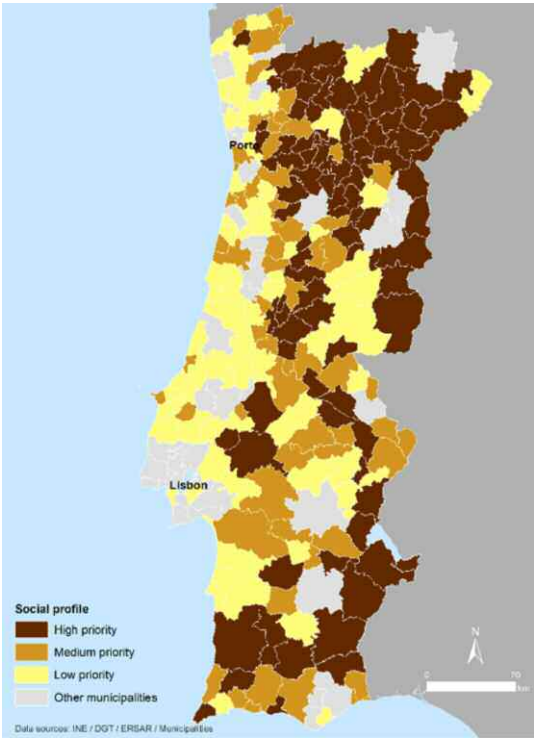
Figure 5.
Convergence territories proposal: the demographic profile



Source: Own elaboration.

The current classification does not provide for a profile exclusively dedicated to social issues, but it seems important to us to individualize this theme and understand from what point and to what extent social dynamics contribute to more vulnerable territories. The proposal is to maintain two indicators of the socio-economic profile in force (average monthly gain and population with at least the 3rd cycle of basic education completed), since they are relevant to understand the income and qualifications of the social fabric. These are added to two indicators: access to health and unemployment, because they allow to observe dynamics associated with access to essential goods and services such as health care and employment. The weight of the agricultural population is not considered, since this is not necessarily a negative condition, and may even generate more return than any other professional activity (Figure 6).

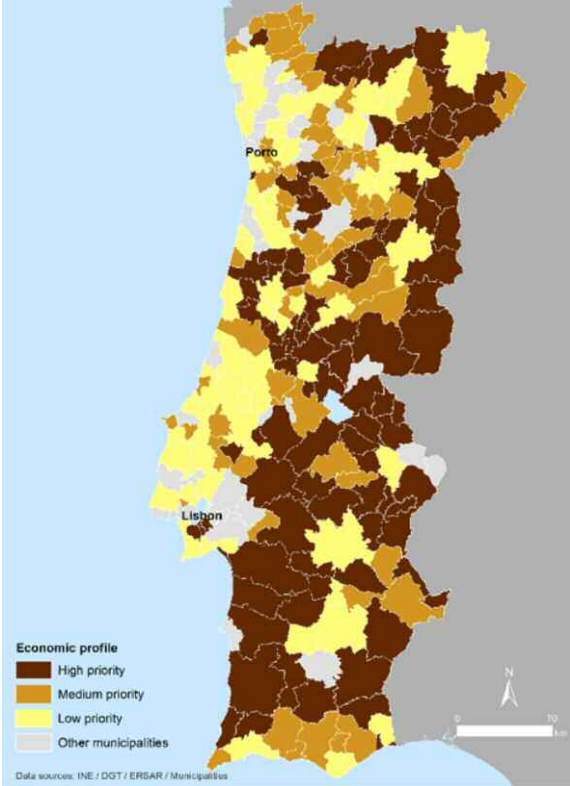
Figure 6.
Convergence territories proposal: the social profile



Source: Own elaboration.

The current classification does not provide for a profile exclusively dedicated to economic issues, and the socio-economic profile considers essentially indicators of a social nature. However, for successful strategies oriented to recovering and reversing the vicious circle of low-density, it seems essential to us that a territorial classification of this nature considers the economic dynamics installed in the territory, namely factors associated with the productivity and vitality of enterprises, capacity for the integration of skilled workers and renewal of the working-age population (Figure 7).

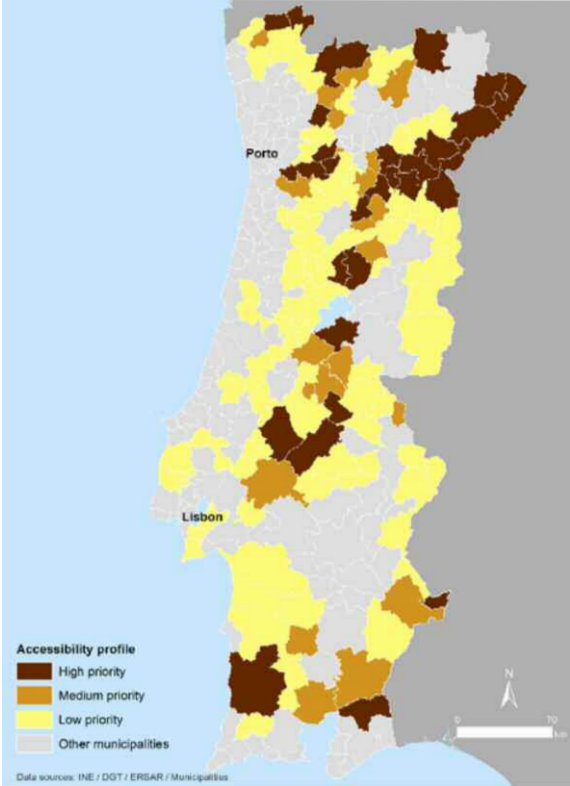
Figure 7.
Convergence territories proposal: the economic profile



Source: Own elaboration.

The accessibility profile is essential to understand territorial dynamics. However, accessibility should be measured in access to specific goods and services and not at a distance to places with which one can have a greater or lesser relationship such as "regional capital" or "district capital". That is why we propose that it be assessed based on distance (in time) to essential public goods and services such as education, health and employment, as well as on digital accessibility (Figure 8).

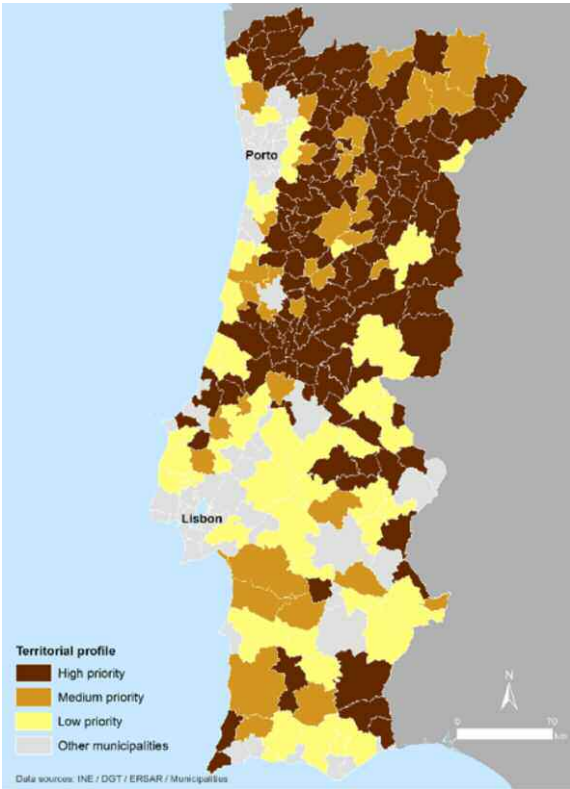
Figure 8.
Convergence territories proposal: the accessibility profile



Source: Own elaboration.

The territorial and settlement profiles are individualized in the classification in force, adding the individualization of another indicator of settlement that is population density. In this proposal we add what is identical: physical dynamics and occupation of the territory. We include here the population density (but with a score base identical to all other indicators), we maintain hypsometry, land use (although from a different perspective, evaluating the artificialization per capita, because this gives us a clear idea of the costs of infrastructure and associated management) and population concentration (urban population). We eliminate the weight of the rural population and the thermal amplitude since they are already reflected in the other indicators (Figure 9).

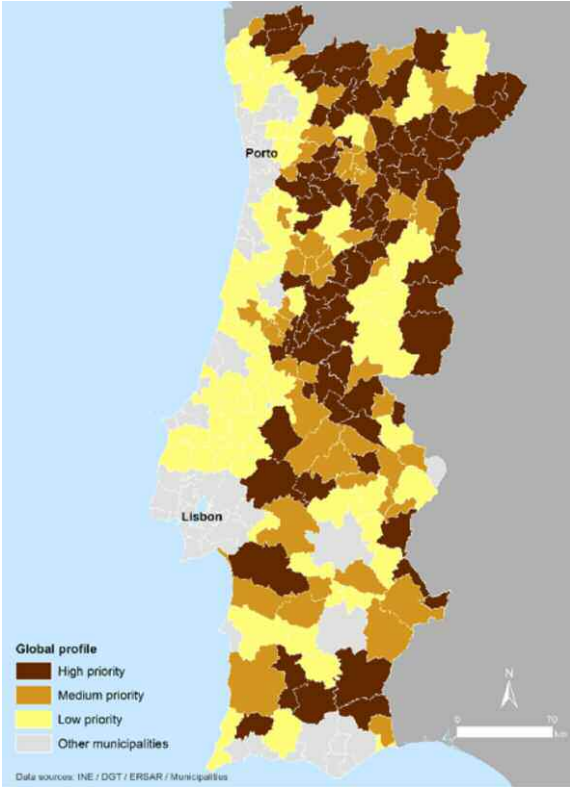
Figure 9.
Convergence territories proposal: the territorial/settlement profile



Source: Own elaboration.

The overall profile is the result of the sum of the five identified profiles, all with the same weighting. Based on this profile, three proposals for Convergence Territories are presented, corresponding to the three priority levels: high priority (< 75 % of the national average); medium priority (75-85 % of the national average); low priority (85-100 % of the national average) (Figure 10).

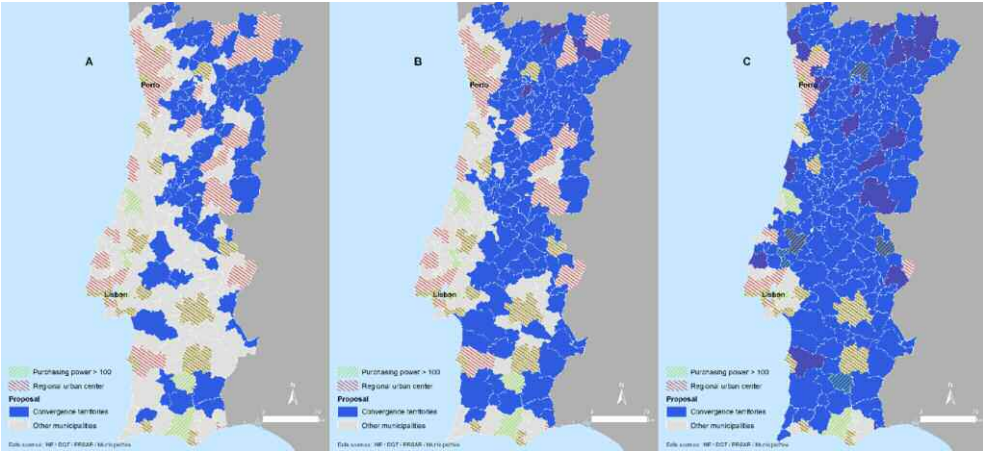
Figure 10.
Convergence territories proposal: the global profile



Source: Own elaboration.

Exclusion criteria are also tested for the three solutions, namely regional urban centres (– since they have access to specific funds for urban development – and municipalities with purchasing power higher than the national average. There are no conflicts in hypothesis one and only three are recorded in hypothesis two: Chaves, Lamego and Macedo de Cavaleiros (Figure 11).

Figure 11. Convergence territories implementation proposal: A (all municipalities \leq 75 % of national average); B (all municipalities \leq 85 % of national average); C (all municipalities \leq 100 % of national average)

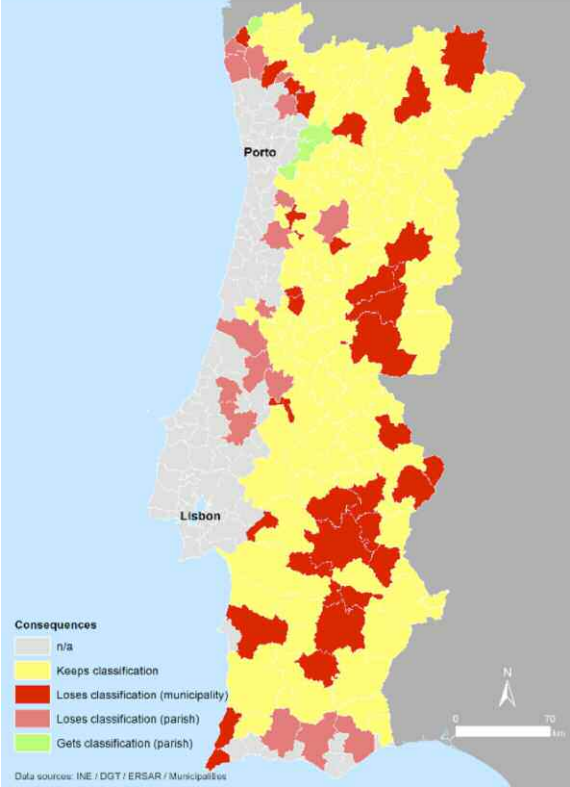


Source: Own elaboration.

Considering hypothesis B as the most sensible and appropriate, the municipality of Cadaval and the other parishes of Amarante, Castelo de Paiva, Marco de Canaveses, Pombal, Porto de Mós and Valença would become Convergence Territories (Figure 12). In the opposite direction, 52 municipalities that are currently classified (total or just a few parishes) would no longer be Convergence Territories. Through this amendment it would be possible to channel policy regulation and financing mechanisms that focus on the qualification and enhancement of the most disadvantaged municipalities and regions, assuming a greater concentration of central projects to

promote development and quality of life in the territories of inland or low-density. It is an alternative geographical proposal, which considers various indicators and territorial dynamics and does not extremely value the population density factor.

Figure 12.
Convergence territories proposal: effects to current law considering hypothesis B



Source: Own elaboration.

6. Conclusions

Over the last decades there has been a clear tendency to consolidate the metropolization processes, with reinforcement of the articulations between the main regional urban centres. However, there is also insufficient establishment of territorial networks of cooperation and complementarity, which leads to an increase in the gap between the most depressed and the more dynamic regions, while the influence of the most dynamic areas (metropolitan and regional) also expands.

At the root of the interpretation of territorial configurations is the possibility of directing local and regional development processes, shifting resources and mobilizing flows between poles and between territorial systems. This objective of development and spatial planning is part of the sphere of the cohesion policy of the European Union, seeking to articulate the goals of competitiveness inherent in the most dynamic regions, with those of social and economic cohesion, advocated for the most disadvantaged regions, in the case of inland or low-density territories.

In this sense, much of the theoretical and methodological rationale for implementing EU Cohesion Policy in Portugal is associated with the identification of the most disadvantaged territories that should be the target of a positive discrimination approach that promotes greater articulation with the main urban centres, reinforcing the territorial cohesion of the country. However, as we have seen, this conceptual framework of territorial cohesion is associated with the identification of the municipalities with low population density and not necessarily problematic spaces from the point of view of demographic, economic, social, accessibility or settlement dynamics.

The transposition of this rationale into the various spatial planning instruments structures territorial configurations that do not fully express the consolidated development dynamics. Thus, the implementation of the programmes and the mobilisation of large amounts of investment does not always enhance local and regional development, promoting an increase in the divergent trend between spaces, with losses of territorial cohesion. A good example is the concentration of low-density-oriented investment in municipalities with high purchasing power or identified by regional spatial planning plans as regional cities, regional equilibrium cities or regional urban centres, allowing them to obtain financial support simultaneously as competitiveness hubs and as inland or low-density territories. Thus,

the results of the implementation of cohesion policy in Portugal – anchored in a National Programme for Territorial Cohesion – have been counterproductive, reinforcing the low-density circle and increasing the opposition to the central government’s political options.

In this sense, in line with several reports of political orientation from the United Nations, the OECD and the European Commission, this proposal considers a lower importance of the number of inhabitants (population density) and an increased value of development dimensions associated to economic, social, environmental or governance resources. The proposal, developed in articulation with a set of municipalities headed by the Municipality of Cinfães, aims mainly to support processes of development and strengthening of territorial cohesion in Portugal. It is based on the principle that the analysis of local and regional territorial systems should clearly inform the development strategies, comprising the structural matrix of metropolitan concentration and regional hierarchy – which has been accentuated – and thus formulating principles and instruments of territorial management and investment that balance this type of dynamics.

7. *Next steps*

We are working on a new project, designed to explore the discourses, utopias and practices associated with territorial cohesion in Portugal. It takes on two central concepts: territorial cohesion and sustainability. The project is relevant in the European and Portuguese contexts. The latest cohesion report, published by the European Commission in 2022, formally recognizes some of the long-term identified problems in Portugal. It points out, objectively, that cohesion between the Member States has been increasing, but that regional asymmetries in each country have been strengthening. The project also aims to respond to growing demand from local and regional public decision-makers: 1) assess the effects of thirty years of EU cohesion policy; and 2) exploit areas with convergence potential, based on a participatory methodology and not only through quantitative population density analysis.

In this line of ideas, the project aims to identify each region's problems, specificities, and expectations, filling a void in the national cohesion strategy. To achieve

this purpose, research is structured in three dimensions of research – conceptual, empirical and prepositive – associated with three central objectives:

1. Understand territorial cohesion in Portugal, realizing its impacts on the physical, economic, social and cultural transformation of the country and the discourses and social representations associated with it.
2. To analyze the existing regional and territorial specificities, promoting participatory and collaborative methodologies to discuss problems, identify values and build strategies that induce cohesion and sustainability.
3. Support the decision-making process and territorial management, identifying priority thematic and spatial areas within the framework of the national territorial cohesion programme.

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10. References

Amoroso, S., Coad, A., & Grassano, N. (2018). European R&D networks: A snapshot from the 7th EU framework programme. *Economics of Innovation and New Technology*, (8599), 1-16.

- Ascher, F. (2002). L'émergence de la société hipertexte. *Futuribles*, (275), 37-44.
- Boschma, R. (2005). Proximity and innovation: a critical assessment. *Regional Studies*, 39(1), 61-74. doi: 10.1080/0034340052000320887
- Chamusca, P. (2021) Urban planning and policy in Portugal: an overview on the role of EU funds and guidelines. *Urban Research & Practice*. DOI: 10.1080/17535069.2021.1980607
- Chamusca, P., Marques, J. L., Moreno Pires, S., & Teles, F. (2022). Territorial cohesion: discussing the mismatch between conceptual definitions and the understanding of local and intra-regional public decision-makers. *Territory, Politics, Governance*. DOI: 10.1080/21622671.2022.2044899
- CIC (2015). CIC Deliberation nr. 55/2015. Retrieved from: [https://lisboa.portugal2020.pt/np4/%7B\\$clientServletPath%7D/?newsId=29&fileName=De libera__o_55_2015_01_07_AlteraTBD.pdf](https://lisboa.portugal2020.pt/np4/%7B$clientServletPath%7D/?newsId=29&fileName=De%20libera__o_55_2015_01_07_AlteraTBD.pdf) (28/11/2022).
- COR (2003). *Territorial Cohesion in Europe*. Committee of the Regions.
- Davoudi, S. (2004). Territorial cohesion: An agenda that is gaining momentum. *Town and Country Planning*, 73(7/8), 224-227.
- EC (1957). *Treaty of Rome*. Treaties establishing European Communities, Office for Official Publications of the European Communities.
- EC (2004). *A New Partnership for Cohesion: Convergence, Competitiveness, Cooperation*. Third Report on Economic and Social Cohesion, Office for Official Publications of the European Communities.
- EC (2008). *Green Paper on Territorial Cohesion. Turning territorial diversity into strength*. Communication from the Commission to the Council, The European Parliament, The Committee of the Regions and the European Economic and Social Committee.
- EC (2010). *EUROPE 2020: A Strategy for Smart, Sustainable and Inclusive Growth*, Luxembourg Office for Official Publications of the European Communities.
- EC (2012). *Consolidated version of the Treaty on the Functioning of the European Union*. EU. Official Journal of the European Union C 326/49.
- Faludi, A. (2005). Territorial cohesion: an unidentified political objective: introduction to the special issue. *Town Planning Review*, 76(1), 1-13.
- Faludi, A. (2007). Territorial Cohesion Policy and the European Model of Society, *European Planning Studies*, 41(4), 567-583.
- Faludi, A. (2009). *Territorial Cohesion under the Looking Glass*. Synthesis paper about the history of the concept and policy background to territorial cohesion. Retrieved from: http://ec.europa.eu/regional_policy/archive/consultation/terco/pdf/lookingglass.pdf (28/11/2022).
- Faludi, A. (2013) Territorial Cohesion and Subsidiarity under the European Union Treaties: A Critique of the 'Territorialism' Underlying. *Regional Studies*, 47(9), 1594-1606.
- Faludi, A., & Peyrony, J. (2011). Cohesion Policy Contributing to Territorial Cohesion – Future Scenarios. Refereed article No. 43, September 2011. *European Journal of Spatial Development*.

Retrieved from: http://www.nordregio.se/Global/EJSD/Refereed_articles/refereed43.pdf (28/11/2022).

- Fernandes, J. A., Teles, F., Chamusca, P., & Seixas, J. (2020). The power of the cities and the power in the cities: a multiscale perspective from Portugal. *Boletín De La Asociación De Geógrafos Españoles*, (87). <https://doi.org/10.21138/bage.2978>
- Hall, P. (2014). Creating transport corridors: refreshing the places other transport hasn't reached. *Regions and Cities. Where Policies and People Meet*, 211-219.
- Hall, T. (1996). The entrepreneurial city: new urban politics, new urban geographies. *Progress in Human Geography*, (20), 153-174.
- INE (2022). *Territorial Statistics. Several indicators and years*. Retrieved from: <https://www.ine.pt> (28/11/2022).
- Jensen, M. B., Johnson, B., Lorenz, E., & Lundvall, B.-A. (2007). Forms of knowledge and modes of innovation. *Research Policy*, (36), 680-693.
- Lundvall, B.-A. (ed.) (2010). *National System of Innovation: Toward a Theory of Innovation and Interactive Learning*. Anthem Press.
- Lundvall, B.-A., & Johnson, B. (1994). The learning economy. *Journal of Industry Studies*, 1(2), 23-42.
- Luukkonen, J. (2010). Territorial cohesion policy in the light of peripherality. *Town Planning Review*, 81(4), 445-466.
- Luukkonen, J. (2015). Planning in Europe for 'EUrope: Spatial planning as a political technology of territory. *Planning Theory*, 14(2), 174-194.
- Luukkonen, J., & H. Moilanen (2012). Territoriality in the strategies and practices of the territorial cohesion policy of the European Union: territorial challenges in implementing 'soft planning'. *European Planning Studies*, 20(3), 481-500.
- Marques, T., Saraiva, M., Santinha, G., & Guerra, P. (2018). Re-thinking territorial cohesion in the European planning context. *International Journal of Urban and Regional Research*. DOI:10.1111/1468-2427.12608. 547-572
- Medeiros, E., & D. Rauhut (2020). Territorial Cohesion Cities: a policy recipe for achieving Territorial Cohesion? *Regional Studies*, 54(1), 120-128. DOI: 10.1080/00343404.2018.1548764
- Medeiros, E. (2016). Territorial Cohesion: an EU concept. *European Journal of Spatial Development*, (60). Retrieved from: <http://www.nordregio.se/Global/EJSD/Refereedarticles/refereed60.pdf> (28/11/2022).
- Portuguese Government (2001). *Ordinance nr. 1467-A/2001*. Retrieved from: <https://dre.pt/dre/detalhe/portaria/1467-a-2001-319081> (28/11/2022).
- Portuguese Government (2009). *Ordinance nr. 1117/2009*. Retrieved from: <https://dre.pt/dre/LinkAntigo?referencia=20092695> (28/11/2022).
- Ranci, C. (2011). Competitiveness and Social Cohesion in Western European Cities. *Urban Studies*, 48(13), 2789-2804. <https://doi.org/10.1177/0042098010394688>

- Robinson, D. (2005). The Search for Community Cohesion: Key Themes and Dominant Concepts of the Public Policy Agenda. *Urban Studies*, 42(8), 1411-1427.
<https://doi.org/10.1080/00420980500150755>
- Sassen, S. (2006). *Cities in a World Economy*. Sage Publications.
- Schout, J. A., & Jordan, A. J. (2007). From Cohesion to Territorial Policy Integration (TPI): Exploring the Governance Challenges in the European Union. *European Planning Studies*, 15(6), 835-851.
- Silva, A., Lima, F., & Chamusca, P. (2010). Estratégias de eficiência colectiva em territórios de baixa densidade: reflexões a propósito do Minho-Lima e do Tâmega. *Atas do XII Colóquio Ibérico de Geografia*.
- UMVI (2015). National Program for Territorial Cohesion. Retrieved from: <https://www.portugal.gov.pt/pt/gc21/governo/programa/programa-nacional-para-a-coesao-territorial/ficheiros-coesao-territorial/programa-nacional-para-a-coesao-territorial-pdf.aspx> (28/11/2022).
- Van Well, L. (2012). Conceptualizing the Logics of Territorial Cohesion. *European Planning Studies*, 20(9), 1549-1567.

Authors' contribution

	Pedro Chamusca	Ângela Silva	Jorge Filipe Lima	Pedro Rego
Conceptualization	40 %	40 %	10 %	10 %
Data curation	100 %	0 %	0 %	0 %
Formal analysis	50 %	0 %	30 %	20 %
Funding acquisition	100 %	0 %	0 %	0 %
Investigation	40 %	20 %	20 %	20 %
Methodology	50 %	50 %	0 %	0 %
Project administration	70 %	30 %	0 %	0 %
Resources	0 %	0 %	0 %	0 %
Software	0 %	0 %	0 %	0 %
Supervision	100 %	0 %	0 %	0 %
Validation	40 %	20 %	20 %	20 %
Visualization	40 %	20 %	20 %	20 %
Writing – original draft	25 %	35 %	20 %	20 %
Writing – review & editing	60 %	40 %	0 %	0 %

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