

Quantifying Innovation and Resilience in Portugal: a multi-level space-based analysis

Presenter on behalf of the team: Miguel Saraiva

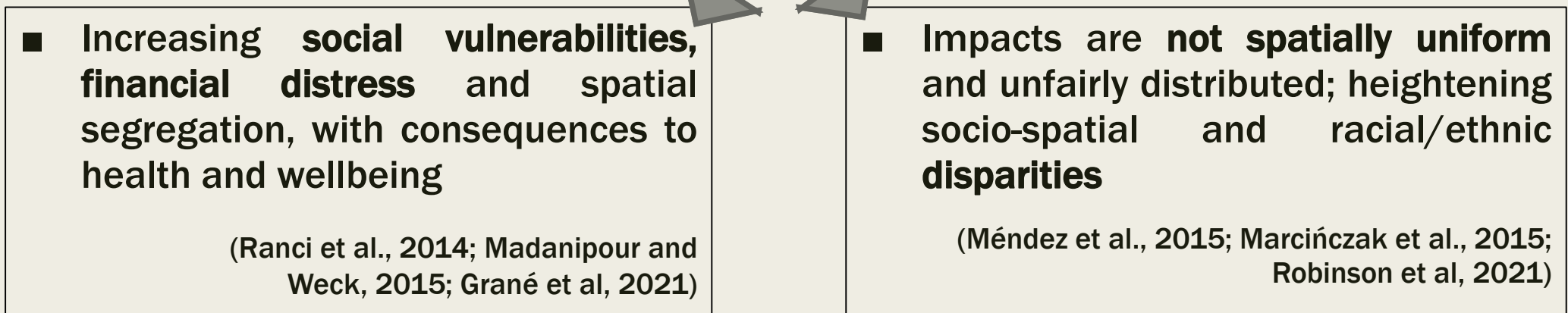
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Framework

- **The last decade started with an socio-economic crisis**
 - *(Torres, 2009; Carballo-Cruz, 2011; Bosco and Verney, 2012; Whitehead et al., 2014; Cairns et al., 2014;)*
- **And ended with a pandemic that added public health problems**
 - *(Dimian et al, 2021; Grané et al, 2021; Robinson et al, 2021; Arnault, 2021)*



Urban design for multilevel planning

Assessing territorial vulnerabilities and spatial inequalities: the case of Portugal

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Abstract: The economic crisis of the past decade has exacerbated existing vulnerability problems in Europe, particularly in the southern countries. These relate to unemployment, poverty, housing conditions, access to basic services or insecurity issues, among others, and have affected particular groups as migrant or the elderly. Although the increase in quality of life is a transversal goal to cohesion and urban policies, the effects of vulnerability have only recently begun to be documented in scientific research. Generally, comparative vulnerabilities' assessments are based on limited (often economic) indicators or, if they are more comprehensive, on a limited territorial scale. Thus, they don't perform holistic analysis at national scale, nor comprehensive regional/municipal comparisons. Consequently, this paper presents a multivariate diagnosis of vulnerabilities at national scale, considering an array of indicators of quality of life in various domains as housing, health, accessibility, education, security or employment. Each indicator was geo-referenced and represented at municipal level, leading to the creation of indexes of vulnerability for each theme. An overall index of vulnerability combining all parcels was then composed through advanced statistical analyses' techniques. More than displaying territorial differences, this approach allows discussing different geographical realities within Portugal, and provide outputs for supporting planning policies concerning integration, social cohesion, urban equity, and the development of urban systems.

Keywords: Territorial cohesion; vulnerability; multi-scalar planning; Portugal

Introduction

The economic crisis that has affected Europe in the last decade has been particularly harsh to Southern European countries (Bosco and Verney, 2012, Whitehead et al., 2014, Torres, 2009, Cairns et al., 2014, Carballo-Cruz, 2011). Existing vulnerability problems have been exacerbated, and today, even if the crisis has officially passed, they are still felt. With austerity policies in place, aimed at correcting rising fiscal and external imbalances, countries like Portugal witnessed cuts in welfare benefits, wages and pensions, and saw the increase of taxes. An immediate consequence was the slowdown of production, consumption and investment, and the rise of unemployment. With the reduction of the purchasing power, the bankruptcy of families and businesses, the increasing gap between income and consumption, and the deterioration of the social security system, poverty levels have increased and new types of poverty have emerged.

Marques, T.; Saraiva, M.; Matos, F.; Maia, C.; Ribeiro, D.; Ferreira, M.; Amante, A. (2019) Assessing territorial vulnerabilities and spatial inequalities: the case of Portugal. Book of papers AESOP 2019 – Planning for Transition. 9-13 julho. Veneza. pp. 566-576. ISBN 978-88-99243-93-7. URL: https://www.aesop2019.eu/wp-content/uploads/2020/02/AESOP_book_of_papers_2.pdf

- **Concepts are complex and multidimensional (Artelaris, 2017; Brown et al, 2017)**
- **Multidimensional approaches are conditioned by the availability of data and the need to define variables and weights (Lee, 2014; Madanipour and Weck, 2015; Di Berardino et al., 2016)**
- **Results show strong variations from region to region (Castillo et al, 2023) and that public policies should be differentiated by European regions (Grané et al, 2021)**
- **Spatial analysis now more commonly used, but how to translate European/Regional analysis to country/intra-regional planning?**

– RE-THINKING TERRITORIAL COHESION IN THE EUROPEAN PLANNING CONTEXT

TERESA SÁ MARQUES, MIGUEL SARAIVA, GONÇALO SANTINHA AND PAULA GUERRA

Abstract

The socio-economic dimensions of cohesion have long been considered an integral part of Europeanization. However, recently a third dimension has been added to the Europe 2020 cohesion policy debate: territorial cohesion. Consequently this term is as yet undeveloped, resulting in a lack of consensus on how to define and interpret it. Such ambiguity represents a theoretical and empirical challenge to regional actors needing to respond to European Union (EU) directives while operationalizing the concept within their national and/or regional agendas. This article uses Portugal as a case study to examine how the concept of territorial cohesion is being interpreted and transposed from EU-based to territorial-based instruments and policy documents. First, we conducted a qualitative content analysis (QCA) of a selection of European and regional publications to compare their intrinsic discourses. This was followed by around 60 structured qualitative interviews, conducted with leading actors who had been instrumental in writing or implementing regional policy documents. On the basis of this dual analysis we conclude that, as a whole, the writers of the Portuguese strategic documents successfully transposed this concept, although perceptible differences exist between regions, as local actors have selectively redefined it to better suit their strategic priorities. These differences are debated with the aim of contributing to the design of effective public policies that facilitate inclusion, cohesion and Europeanization.

Introduction

For the past 30 years, the influence of European Union (EU) policy guidelines in the processes of national and regional planning of its member states has been steadily increasing. This phenomenon is described in the literature as the ‘Europe effect’, or Europeanization, and is deemed to have had a significant impact on the shaping of concepts, guidelines and strategic orientations of member states’ public policies (Ladrech, 1994; Börzel and Risse, 2000; Cowles and Caporaso, 2001; Featherstone and Radaelli, 2003; Vink, 2003; Radaelli, 2004; Dühr *et al.*, 2007; Clark and Jones, 2008; Ladrech, 2010; Rovnyi and Bachmann, 2012; Luukkonen, 2015).

However, because Europeanization is depicted in various ways depending on the disciplinary perspective (Clark and Jones, 2008) and because the European Commission (EC) does not possess any formal instruments to regulate territorial planning at the respective national levels (Evers, 2008; Luukkonen, 2015), the perceived impact of Europeanization has not been entirely uniform (Bulmer and Radaelli, 2004). Some types of policies, such as sectorial policies in the areas of environment, transport or regional and rural development, have been more open to Europeanization than others (Ravesteijn and Evers, 2004; Dühr *et al.*, 2007). Furthermore, Europeanization has expressed itself unevenly across geographical and territorial scales. The spaces of Europeanization, as Clark and Jones (2008) define them, are heterogeneous, as they form a symbiotic relationship with each place and each policy framework therein.

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*. 42(4), 547-572. doi:10.1111/1468-2427.12608. URL: <https://onlinelibrary.wiley.com/doi/abs/10.1111/1468-2427.12608>

Territorial
Governance

Territorial
Organization

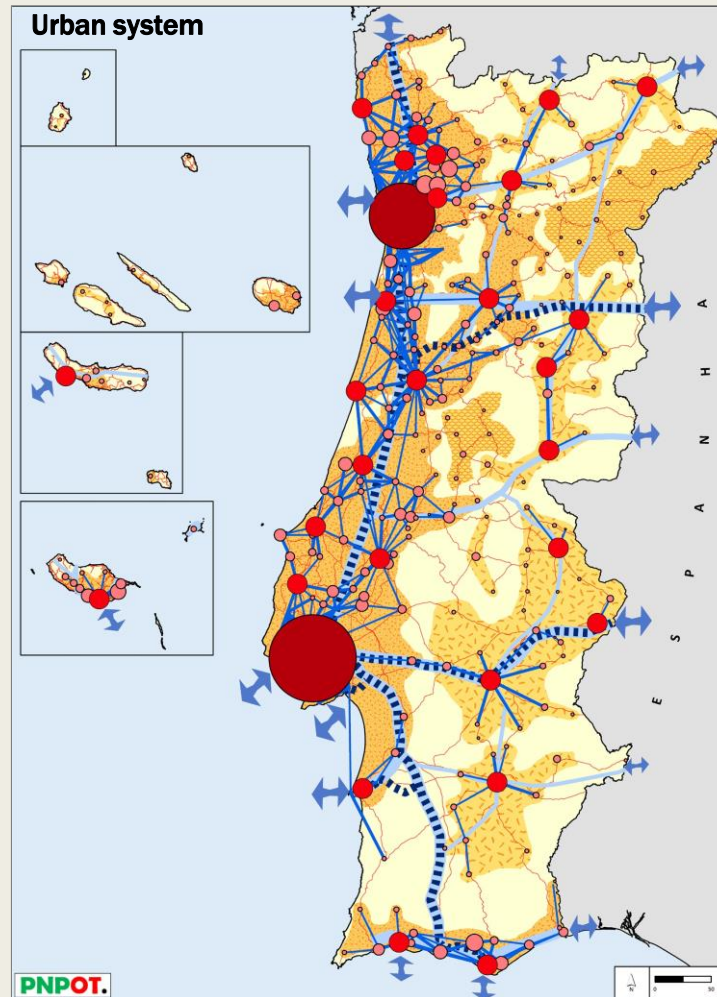
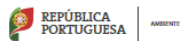
Diversity and
Specificity of
Public Policies

Solidarity and
social and
territorial equity

PNPOT



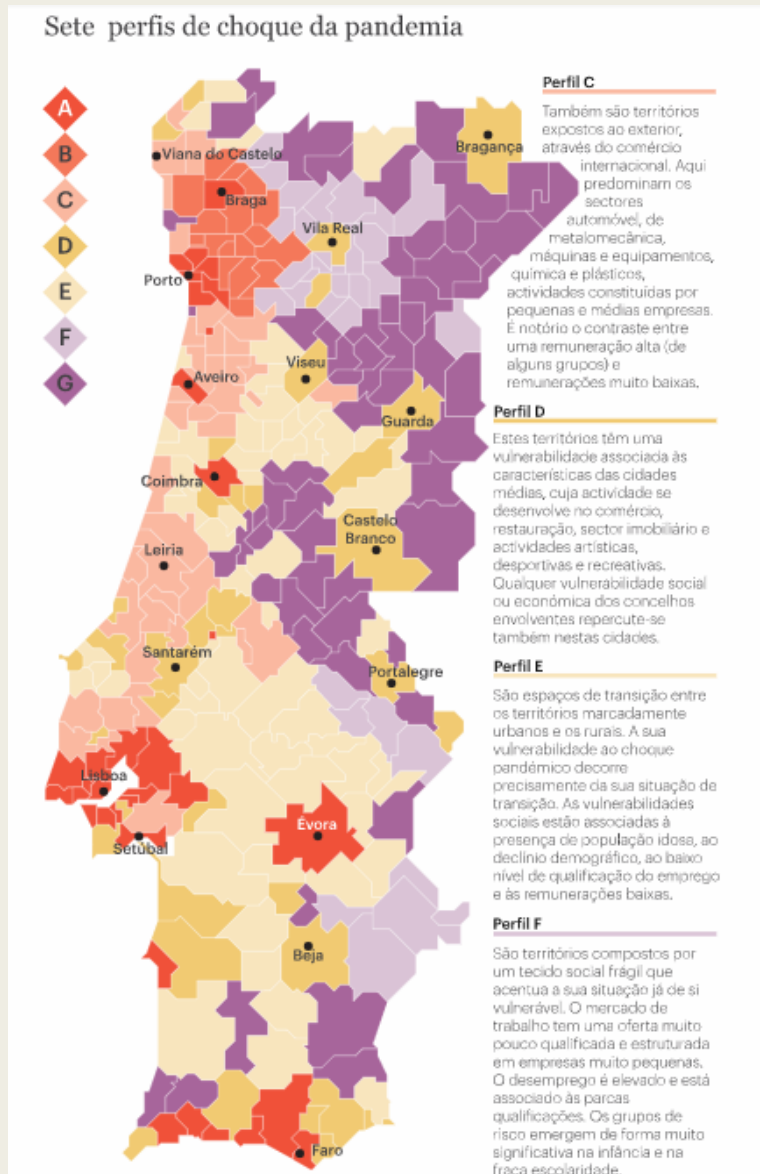
PNPOT | Alteração
**Uma Agenda
para o Território**
(Programa de Ação)
20 julho 2018



Fonte: CEGOT.UP; fonte dos dados: INE, Censos da população (2011)

- Promote the territorial dimension of the public policies at various scales, by reinforcing the contribute of the urban structure and the improvement of quality of life.
- Develop mechanisms to regulate territorial inequalities that include multilevel integration of actors and instruments and the construction of qualitative and analytical diagnosis.
- Explore the relationships between geographies of vulnerability and the spatialization of planning policies

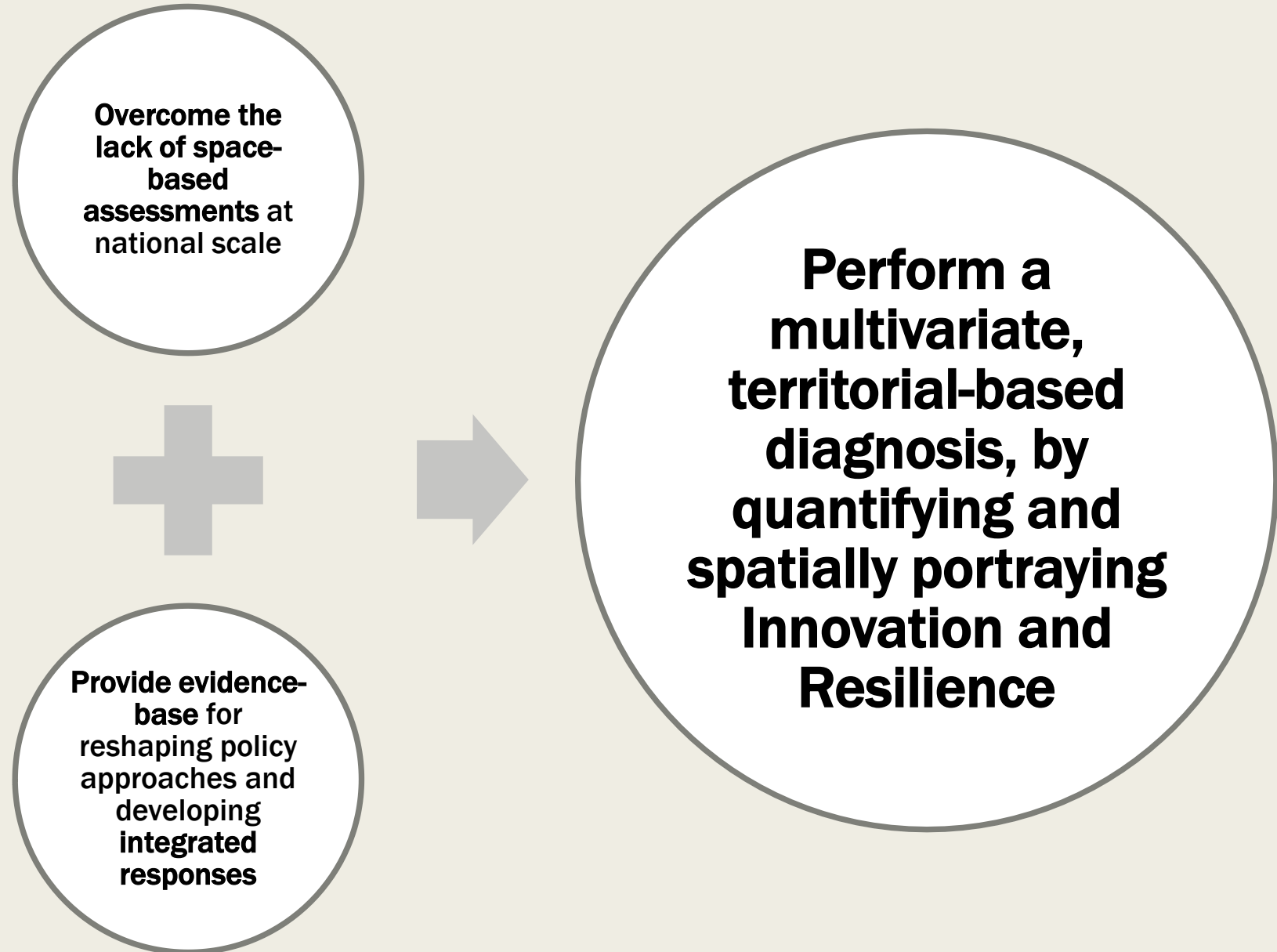
The pandemic – another shock wave



<https://www.publico.pt/2020/06/12/sociedade/noticia/marcas-pandemia-afectam-pais-fragil-robusto-1920257>

- The pandemic, the energetic crisis, climate change, and the European war have put **territories under increased pressure and accelerated vulnerability**
- **Major changes in the processes of production, how we consume and how we behave**
- It is no longer just a question of analyzing how territories are vulnerable; and not even of pondering which policies make territories more resilient -> it is about **how to prepare innovation and a prosperous society with more sustainable behaviors**

Rationale



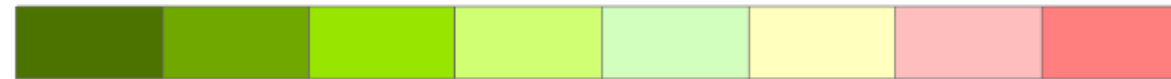
How do we measure if a territory is Prosperous and Innovative, and simultaneously Resilient and not Vulnerable?

Innovation

Prosperity

Resilient

Not
vulnerable



+ ← Innovation → -

+ ← Prosperity → -

+ ← Resilience → -

- ← Vulnerability → +

Concepts:

■ Innovation

- Can be **incremental** (improving existing situations), **anticipatory** (transformative changes, exploring the new) or **disruptive** (bottom-up, challenging existing models) (OPSI, OCDE, 2018).
- Investments in technological, ecological and institutional transitions.
- An adaptive and pondered process of **collective learning**, involving a large array of actors.
- Complex activities tend to be concentrated mainly in large urban areas because their development requires a deep division of knowledge, distributed among many actors. (Balland et al., 2020).

■ Prosperity

- Distributed development and “place-specific distributed development policies” (Iammarino, Rodriguez-Pose, Storper, Journal of Economic Geography, 2018; Storper, 2023)
- Prosperity means **opportunities** and conditions to fulfill aspirations and ambitions, and the **satisfaction of basic needs and wellbeing**. Equitable access to services of general interest.
- The new European policy aims at a smarter, more inclusive and sustainable economy (Asheim, 2019).
- **Balanced and harmonious development**, in a just environment (UN-Habit; ONU).

Concepts

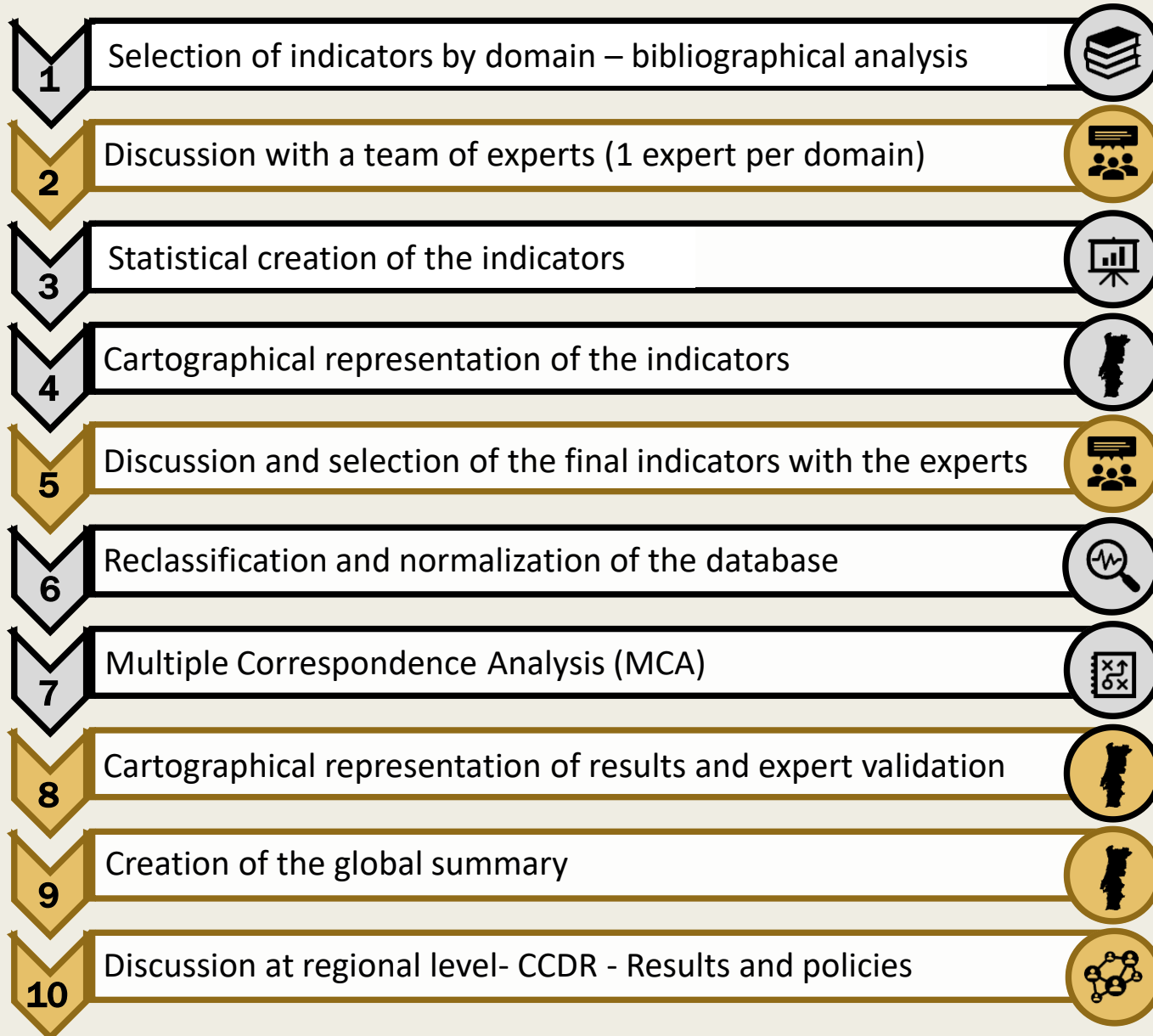
■ Resilience

- *Necessity to **diminishing vulnerability**, by **guaranteeing essential health, housing, education and social services**; a solid economy that creates jobs and income; and mobility and communications.*
- *A **proper answer to shocks and crisis** through an integrated system of planning, leadership and capable institutions (OECD, 2018).*
- *A **resilient region is one that has the capacity to resist, adapt and/or transform itself in the face of shocks or stresses** (Martin et al, 2020).*
- *Concept based on six SDG (ONU): SDG 1 (resilience of the poor and most vulnerable); SDG 2 (sustainable systems of food production); SDG 9 (resilient infrastructures); SDG 11 (inclusive and sustainable communities); SDG 13 (adaptation to climate risks); SDG 14 (sustainable management of ecosystems).*

■ Vulnerability

- *Persistent poverty, economic decline and lack of opportunity underlie considerable discontent in declining territories (Rodríguez-Pose, 2017).*
- *The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards (OCDE, 2018).*
- *Shows the **fragility or collapse of a system**, but is not the opposite of resilience, because territories can be resilient in a sector and vulnerable in another.*

Methodology overview



The team involves

- researchers from different disciplinary backgrounds
- and different scientific institutions.

Measuring Indicators

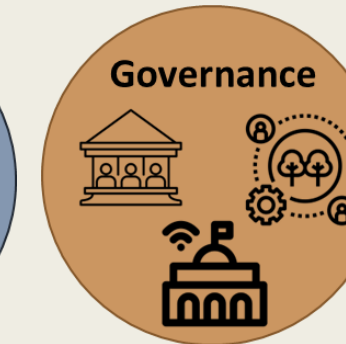
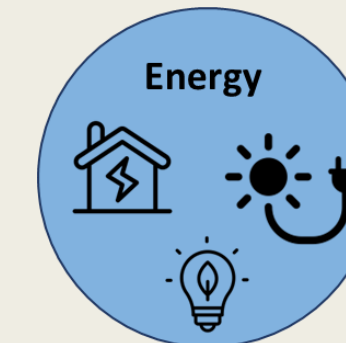
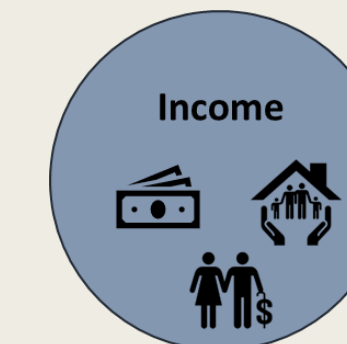
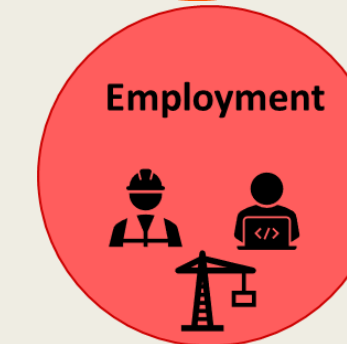
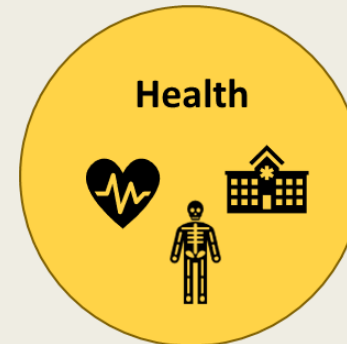
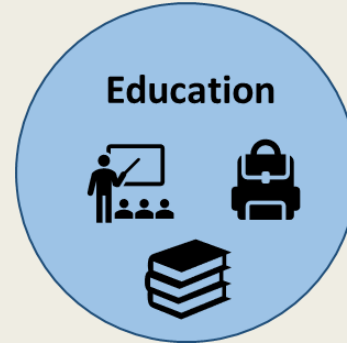
Selection of indicators



Aggregation into analytical domains
($\bar{x} = 7$)



13 Domains
90 analytical dimensions
250 indicators





Creating analytical dimensions

Innovation in housing

Energy Efficiency

Good internet access

Housing quality

Year of (re)construction

Homes without needs of repair

Adequate number of rooms considering household size

Access to housing

Average number of years to acquire a home

Percentage of rents / installments on household income

Housing vulnerability

Derelict buildings

Overcrowded dwellings or without basic infrastructure

Families that can't meet energy expenses

Families that need a new home



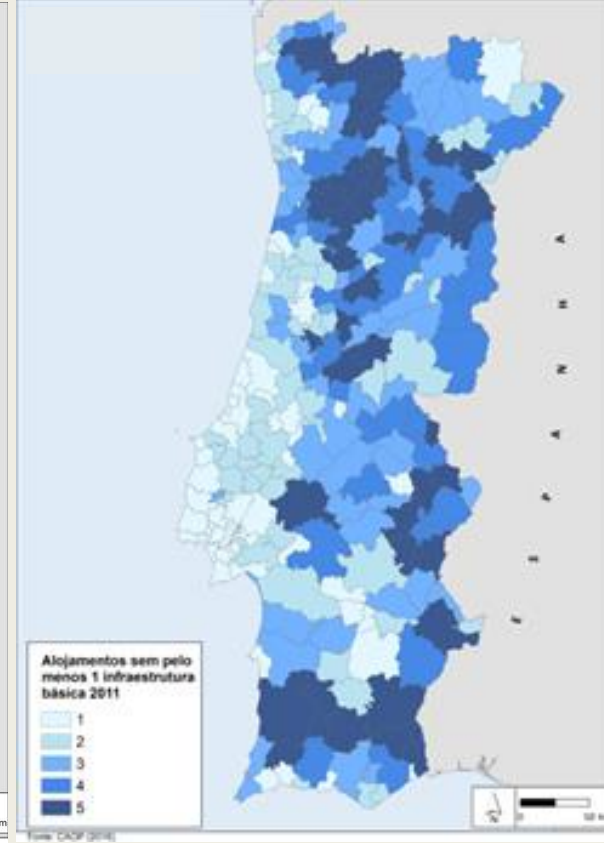
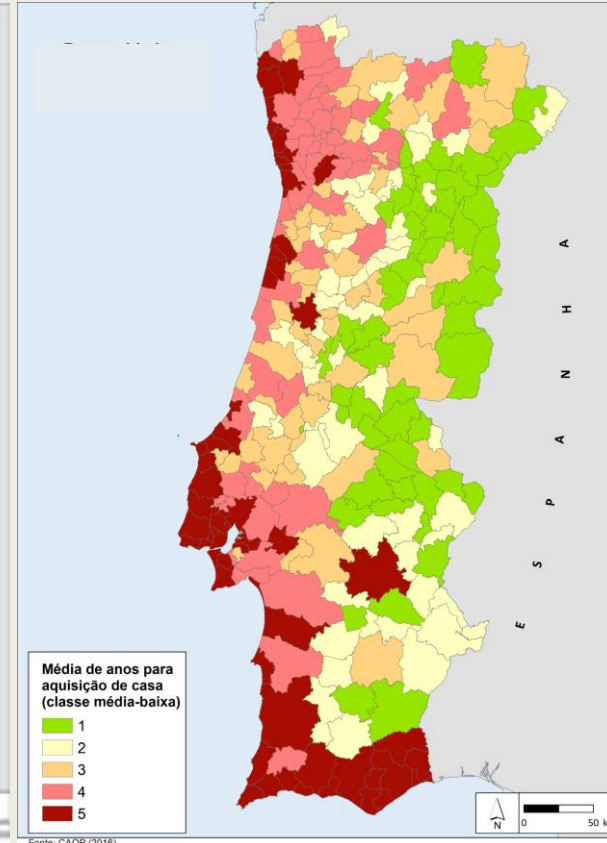
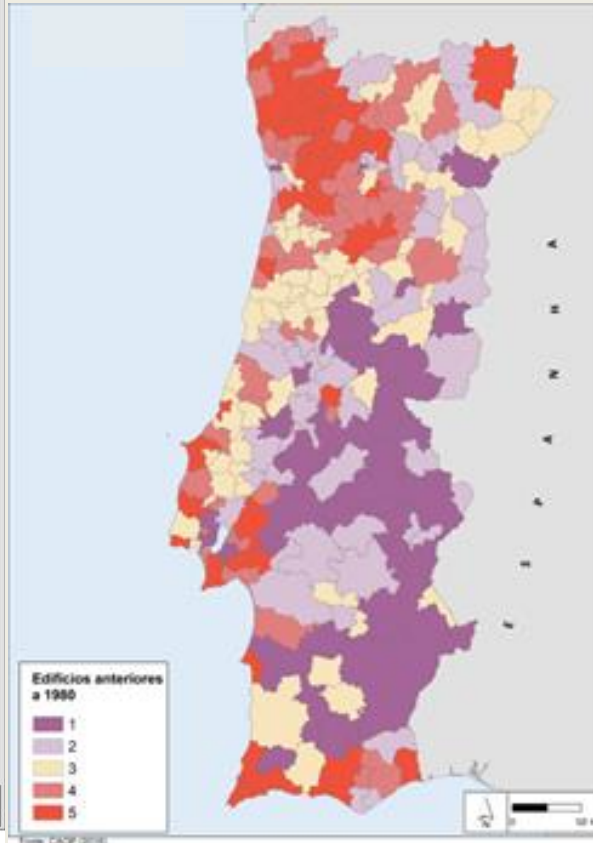
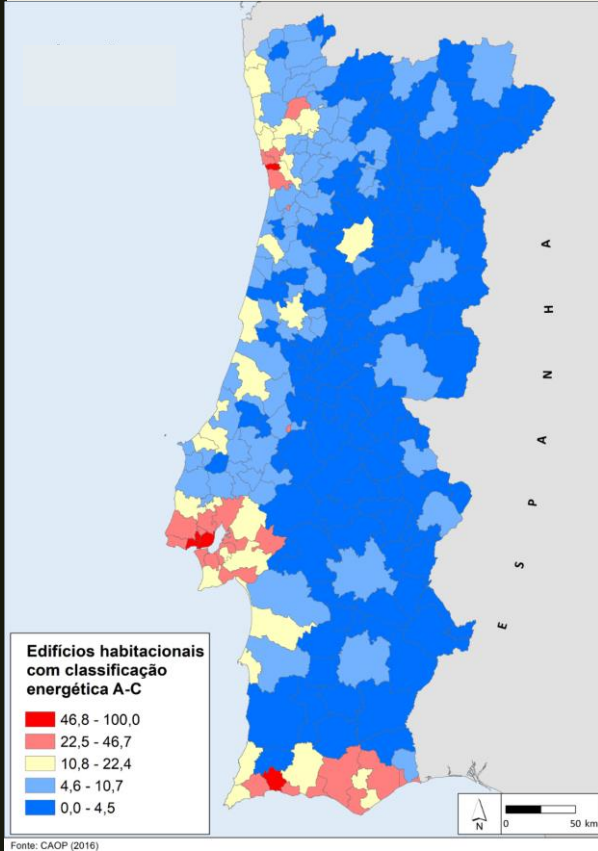
Spatial-statistical analysis of individual indicators

S
M
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■ Residential buildings with energetic classification A-C

■ Year of construction (before 1980)

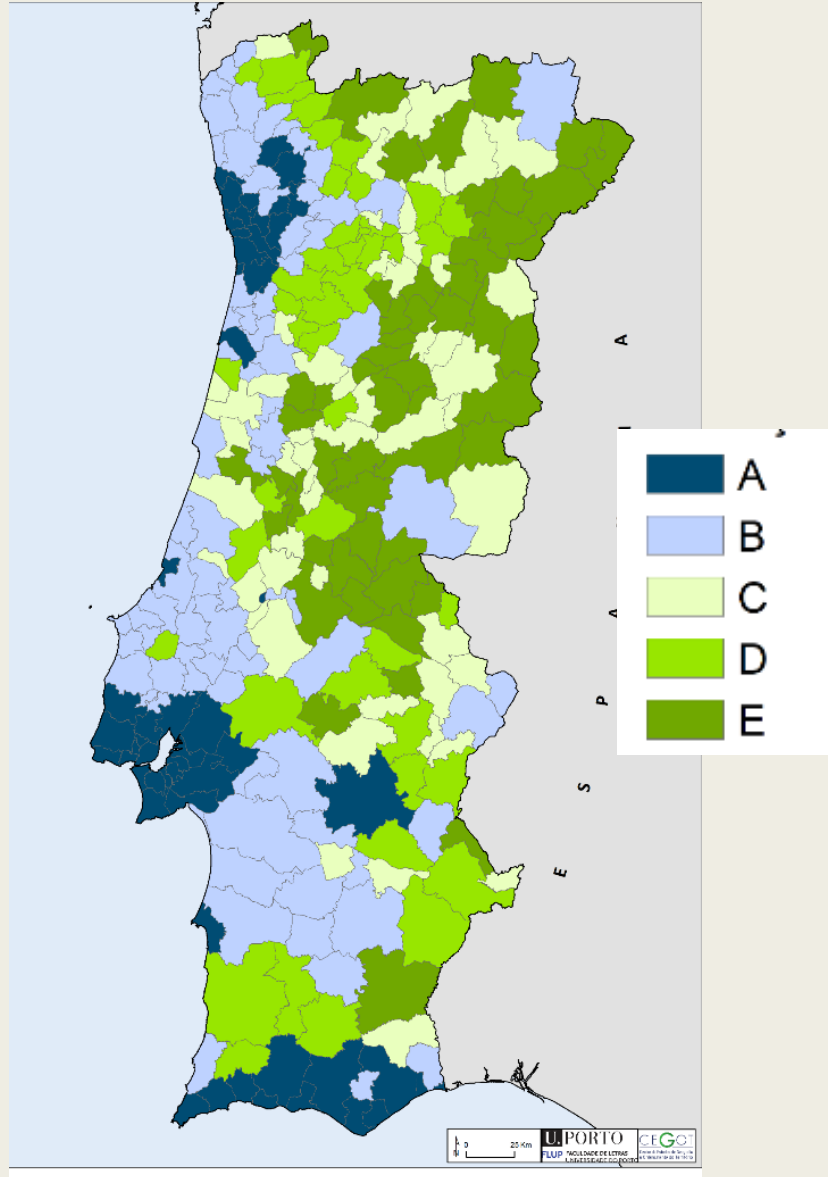
■ Average number of years to acquire a home (middle-lower class)

■ Without some basic infrastructure

Producing a thematic synthesis

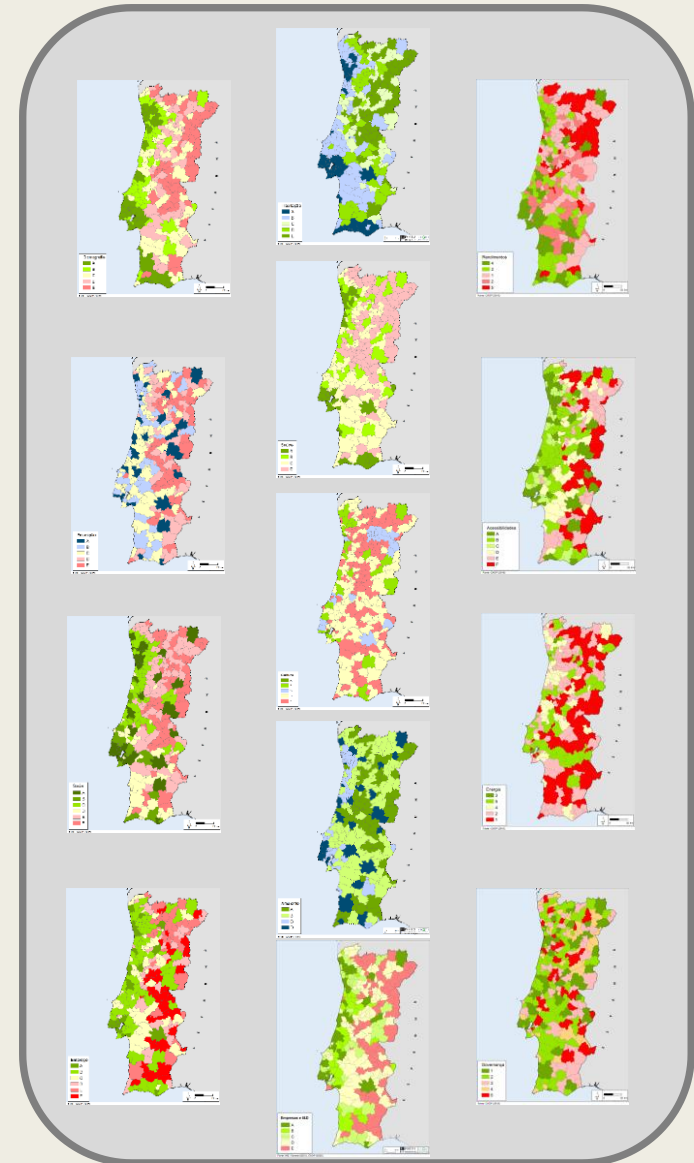
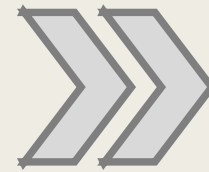
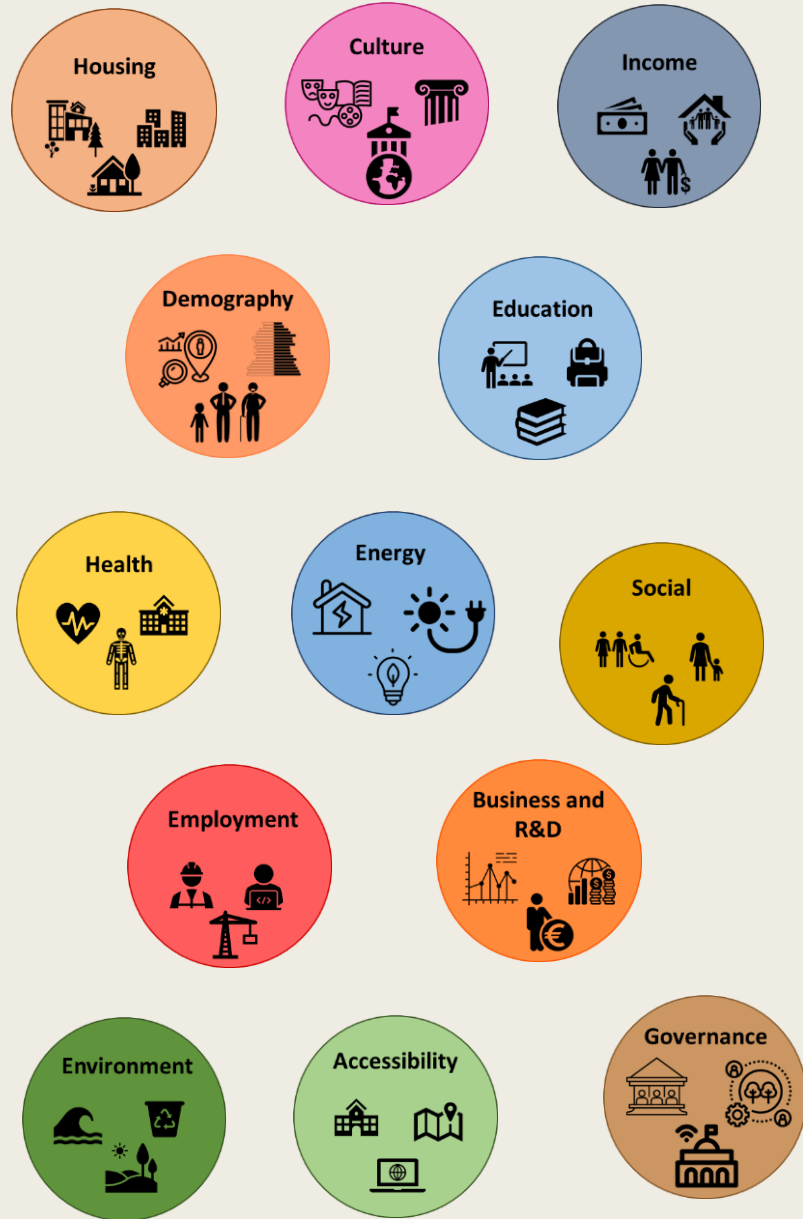


Different spatial problems

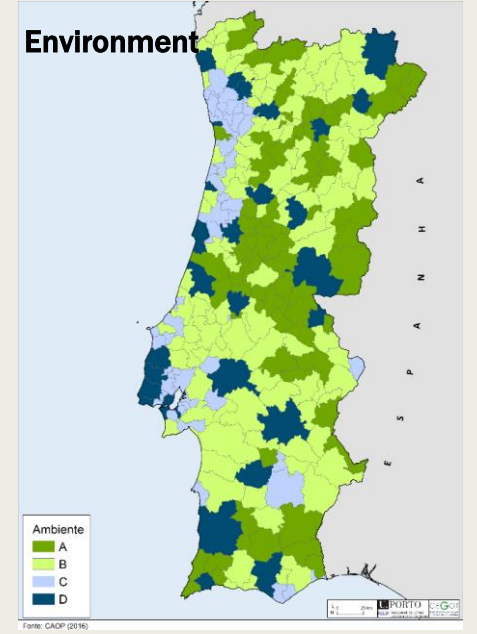
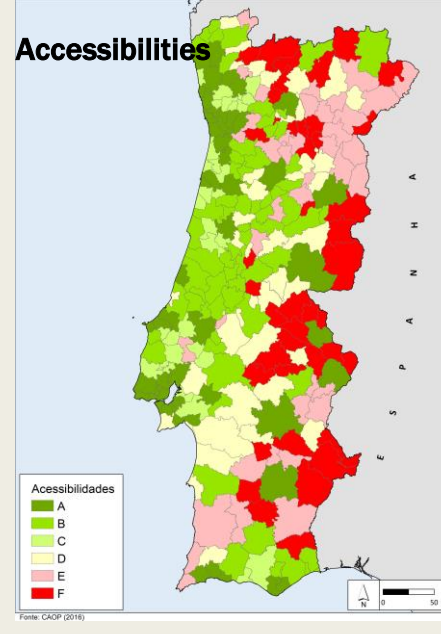
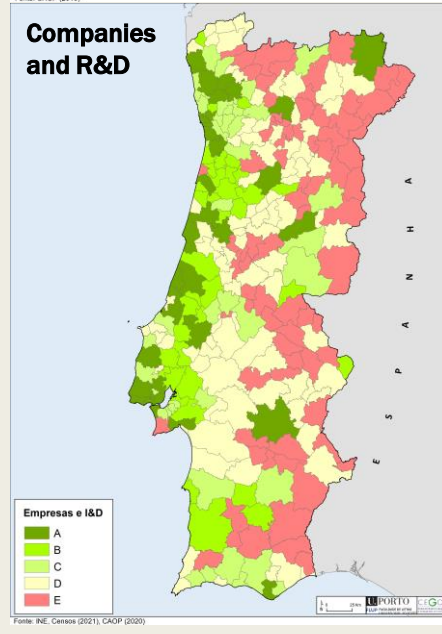
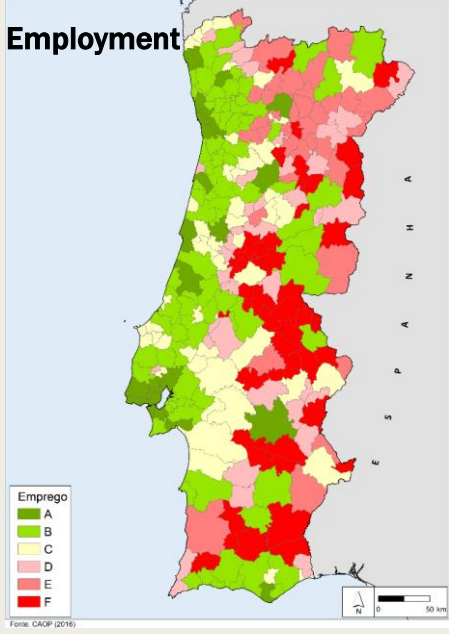
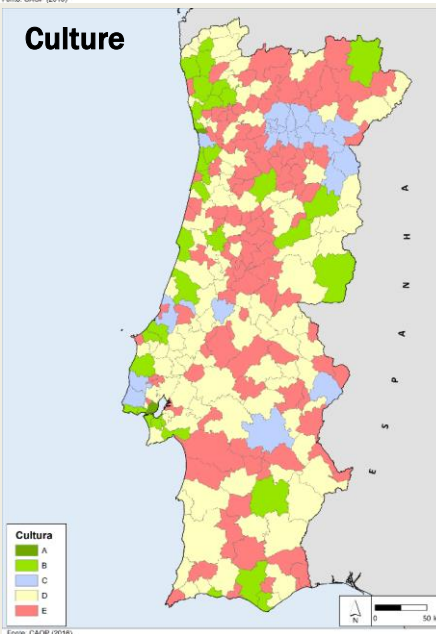
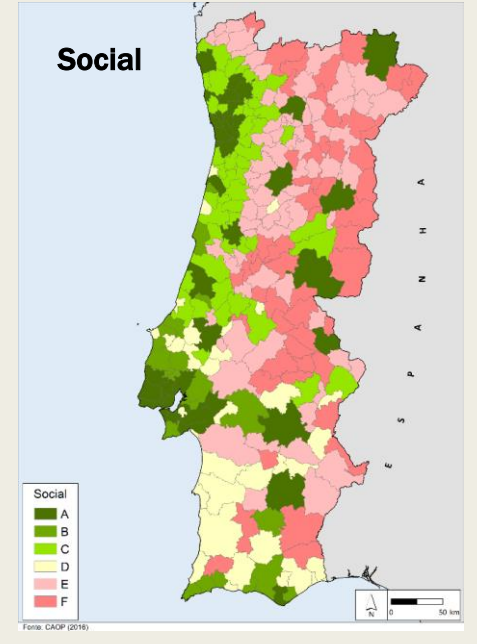
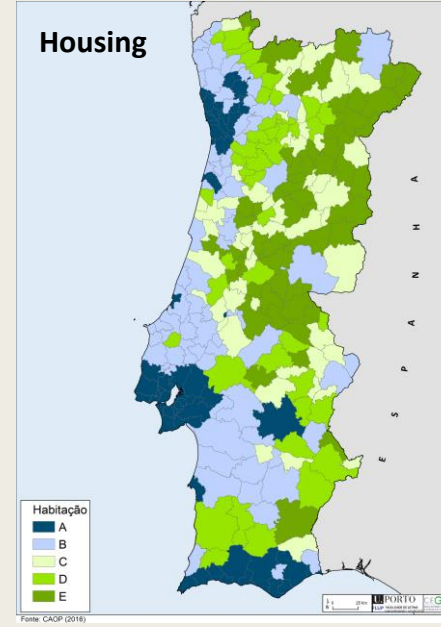
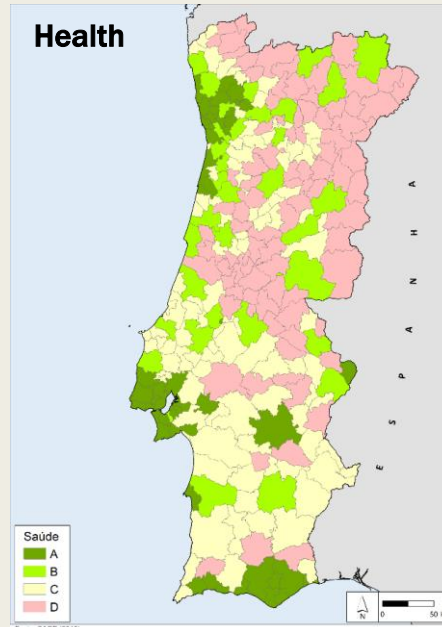
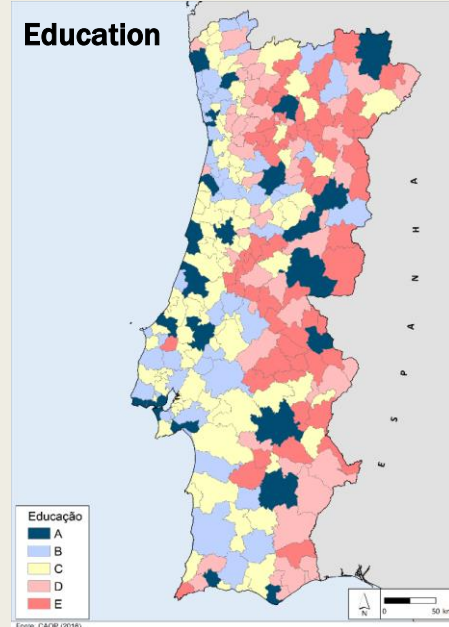
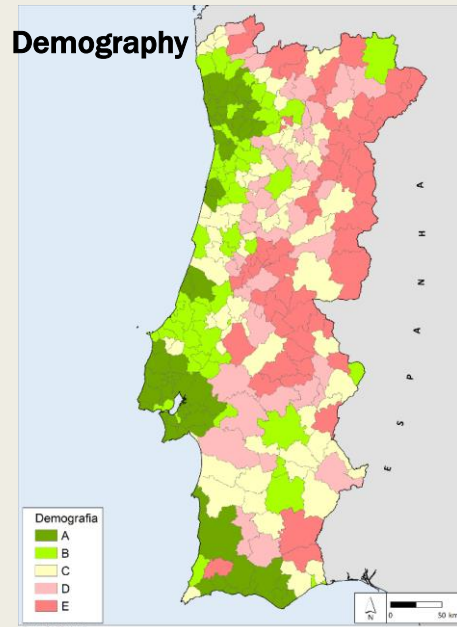


- **A – Territories with very difficult access to housing**
 - *Recent (re)construction, better prepared in terms of digital accessibility and with higher number of projects of energetic efficiency.*
 - *Variable housing conditions, and persistency of housing precariousness*
- **B – Territories with difficulty in access to housing**
 - *Digital accessibility and energetic efficiency comparatively good*
 - *Younger buildings and good housing conditions*
 - *Occasional housing problems*
- **C – Territories with reasonable access to housing**
 - *Situations of low energetic efficiency*
 - *Good housing conditions*
 - *Reasonable digital accessibility*
- **D - Territories with good access to housing (not expensive)**
 - *Occasionally poor housing conditions*
 - *Bad digital accessibility, and low energetic efficiency*
- **E – Territories with good access to housing (not expensive), but...**
 - *Older buildings, occasionally empty*
 - *Owners without debt, small houses, sometimes bad housing conditions*
 - *Bad digital accessibility, and low energetic efficiency*

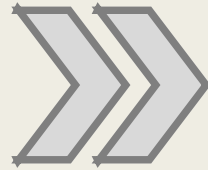
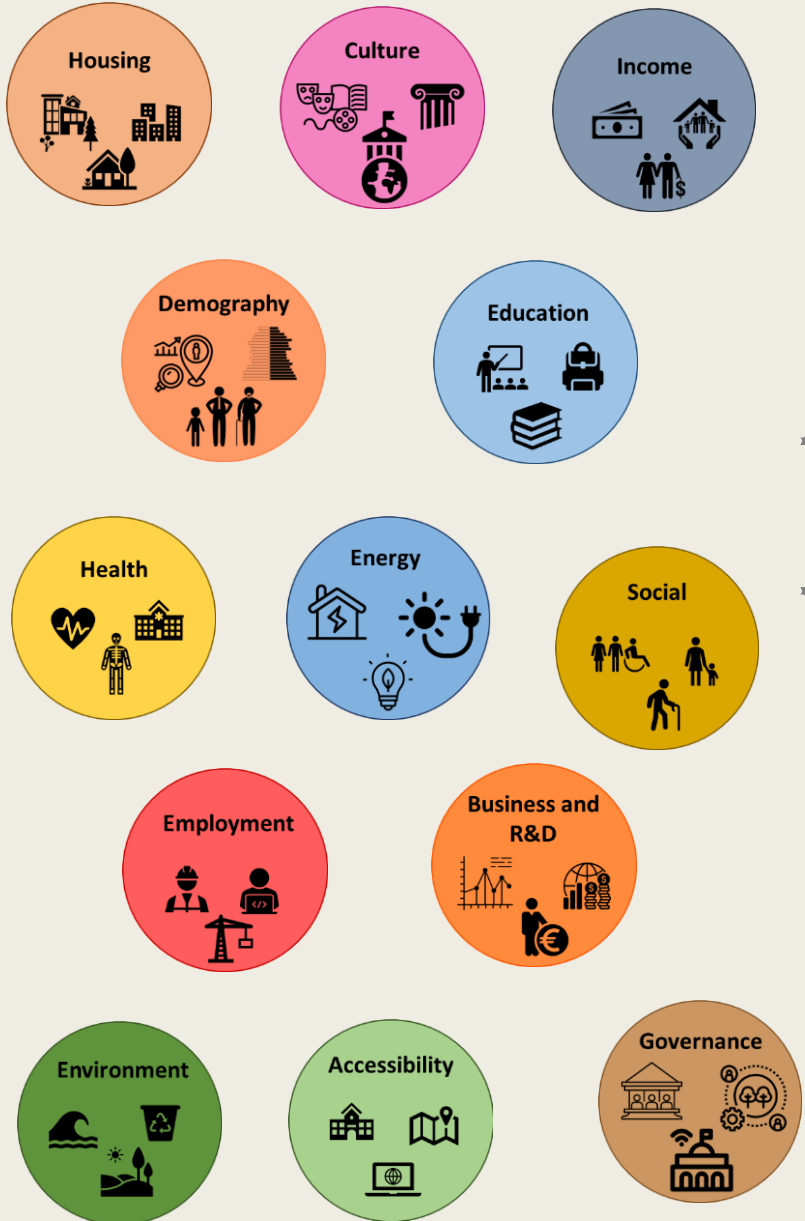
Creating a global summary



Domains

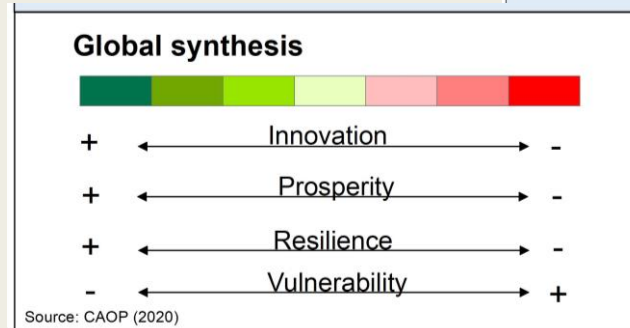
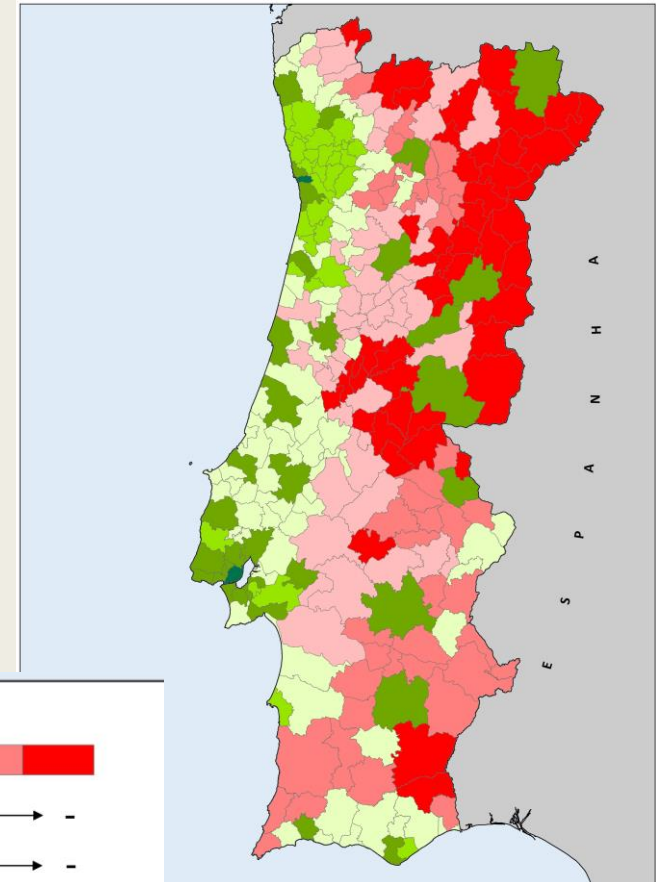


Creating a global summary



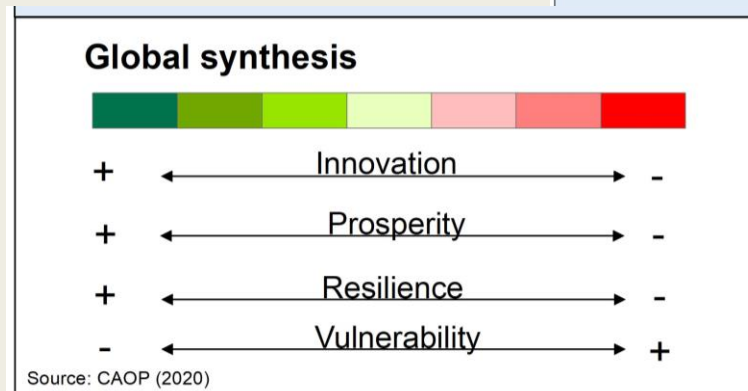
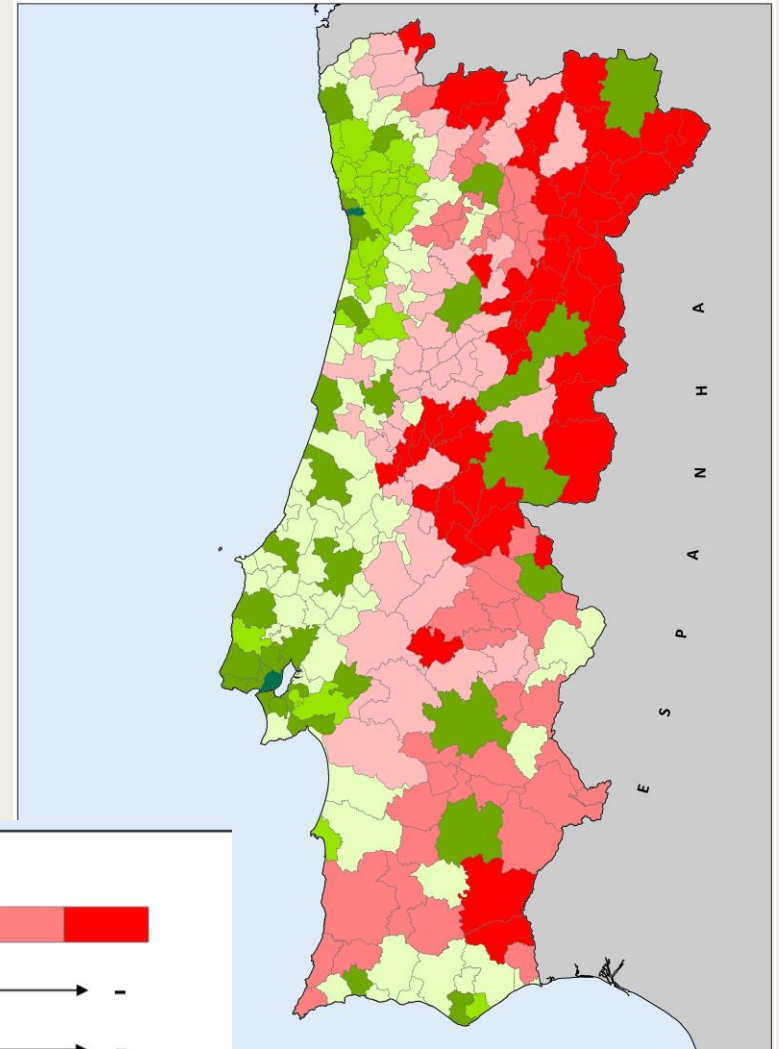
90
dimensions

Global summary



Global summary

- Identification, at municipal level, of territories more innovative and prosperous, and those less resilient and with higher levels of vulnerability
- A west-east, seaside to interior orientation, from innovation to vulnerability
- The north is more vulnerable than the south of the country
- The Cities are more innovative and prosperous:
 - 1° Porto and Lisbon
 - 2° Mid-Sized Cities



Lessons learned

- It is possible to look at the global summary, but the methodology, by spatializing variables to appropriate geographical scales, allows the understanding and development of
 - *Place-based policy measures, considering the necessities of each territory*
 - *A multi-level approach, from the country to the region and to the municipality*
 - *A sectorial approach (housing, education, health and so on...)*
- National level orientation can thus be **multi-scalar**, following major guidelines around strategic pillars, but then each territory at a regional and local scale can ponder its own shortcomings and develop place-based strategies
- Greater conscience of the challenges of each territory!

Integrating knowledge into decision-making

- Team involved in the development of
 - *Regional Plans (PROT-N; PROT-C)*
 - *Intermunicipal Plans (AMP; Alto Minho; Viseu Dão Lafões)*
 - *Sectorial Plans (Housing; Health;)*
- National Meetings, for example, with the Agency for Development and Cohesion and the General Direction of the Territory (DGT).
- **Goals:** Make spatial knowledge more available to stakeholders and communities; and accept the multi-dimensionality of problems and, consequently, the need to integrate policies

2023 RSA Annual Conference

Transforming Regions: Policies and Planning for People and Places

SMARTER Stream by JRC

Thank you for your attention!

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