

## Geographies of Entrepreneurial Ecosystems across Portuguese Regions

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### Abstract

This study examines how entrepreneurial ecosystem conditions influence productive entrepreneurship across mainland Portuguese NUTS III regions between 2011 and 2023. The analysis adopts the NUTS III scale because it captures intermediate regional systems, inter-municipal dynamics, labour-market relations, and policy-relevant territorial structures. Drawing on the entrepreneurial ecosystem literature, the study distinguishes between framework conditions, including entrepreneurial culture and networks, and systemic conditions, including support infrastructure, demand, finance, talent, knowledge, and support services. Productive entrepreneurship is measured through indicators related to technology intensive firm creation, high-growth firms, entrepreneurial database presence, and firm survival. Methodologically, the study combines panel data techniques with spatial econometric models to assess whether regional entrepreneurial outcomes are mainly explained by internal ecosystem conditions or by spatial relationships with neighbouring regions. Population density is included to capture territorial context and potential differences between more urbanised and less densely populated regions. The findings suggest that productive entrepreneurship is unevenly distributed across mainland Portugal and strongly place-based. Talent, demand, finance, and support services appear particularly relevant, while entrepreneurial culture and networks are more context-dependent. Spatial effects seem limited once internal regional characteristics are considered, indicating that similar regional outcomes may reflect shared structural conditions rather than direct spillover effects.

### Keywords

Entrepreneurial ecosystems, NUTS III, Productive entrepreneurship, Regional development, Spatial econometrics, Portugal.