



## PAPER

### **Understanding Population Decline Trajectories in Spain: A Sequence Analysis Approach**

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**Subject area:** Demography, Population Geography, population decline.

**Abstract:** Population decline is a key contemporary demography challenge. Previous work has measured the national extent of population decline, and we thus know that population decline is more acute in Japan and Eastern European countries and is set to accelerate across many industrialised countries in the coming decades. Yet, little is known about the population trajectories leading to current trends of population decline and their underpinning demographic and contextual factors. To address this gap, we aim to identify and characterise the different trajectories of depopulation in Spain over a 20-year period 2000-2020 at the small area level using sequence analysis, decomposition techniques and multinomial logistic modelling. We show that while Spain recorded an overall 17.2% national population growth between 2000 and 2020, 63% of local municipalities experienced population decline. We identified six distinctive trajectories of population change that underpinned these trends of decline. These trajectories include mostly rural municipalities, but also certain small and medium sized cities experiencing increasing rates of depopulation. Natural decline comprises the main demographic component underpinning differences in the extent of depopulation across trajectories, and international migration plays an important role in explaining transitions from population growth and stability to decline since the global financial crisis of 2008. Small and older populations, and, to a lesser extent, remoteness from cities are key features characterising areas of high population decline. The findings can help to design the announced COVID-19 recovery plan to mitigate depopulation. Areas with trajectories of constant and high intensities of decline are unlikely to respond to policy measures, though trajectories of low intensity and temporary population decline have the potential to mitigate depopulation.

**Keywords:** Depopulation trajectories, demographic factors, territorial factors, sequence analysis, multinomial logistic modelling, Spain.

**JEL codes:** J11, R23, C32.

