**Appendix S1:** **Supporting Information**

**Equation 1. Contribution of demographic components to population growth**

$$r\_{i}^{t}=NG\_{i}^{t}+MI\_{i}^{t}+MA\_{i}^{t}$$

where *r* is the population growth rate, *NG* is the natural change, *MI* is the net internal migration rate, and *MA* is the net international migration rate in the year *t* and the trajectory *i.*

**Equation 2. Multinomial logistic model**

$$y\_{i}^{\*}=X\_{i} β+ε\_{i}$$

where *i* indicates the municipalities and *ε* is a random error. For a single independent variable, we can simplify the notation to:

$$y\_{i}^{\*}=α βx\_{i}+ε\_{i}$$

These equations are identical to those for the linear regression model with the important difference that the dependent variable is unobserved.

The link between the observed binary *y* and the latent *y\** is made with a simple measurement equation:

$$y\_{i}=\left\{\begin{array}{c}1 if y\_{i}^{\*}>0\\0 if y\_{i}^{\*}\leq 1\end{array}\right.$$

Cases with positive values of *y\** are observed as *y*=1, while cases with negative or zero values of *y\** are observed as *y*=0.

**Table S1. Spatial correlation analysis between trajectories**



Note: The spatial autocorrelation index was calculated as a rate between the number of neighboring municipalities divided by the expected number of neighboring municipalities (join count) from a random distribution (expected); we used order two to determine the neighboring criterion.

Source: Compiled by the authors using data from the INE.

**Table S2. Variables included in the multinomial model Line below the table**



Source: Compiled by the authors.

**Table S3. Mean and standard deviation for explanatory variables**



Source: Compiled by authors using data from the INE, IGN and SEPE.

**Figure S1. Correlation matrices between explanatory variables**



Source: Compiled by authors using data from the INE, IGN and SEPE.

**Table S4. Multinomial model (coefficients)**



Note: Growth is used as the reference category; results are reported with a 95 % confidence interval; \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

Source: Compiled by authors using data from the INE, IGN and SEPE.