

# Analysing Regional Firm Startup Activity Using Geographically Weighted Regression: The case of Austria

*Robert Breitenecker, robert.breitenecker@uni-klu.ac.at*

Klagenfurt University  
Department of Innovation Management and Entrepreneurship  
Universitätsstrasse 65-67, 9020 Klagenfurt, Austria.

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## Abstract

One subject in entrepreneurship research is to find factors which explain regional variations in firm startup activity. Reviewing the entrepreneurship literature points out that in most studies classical linear models are used to identify influencing factors on regional founding rates and that the spatial component of data is mostly disregarded. Estimating a global model assumes that the influence of the independent variables are constant over the whole study region. I will test in this paper if the global linear model is appropriate to estimate the founding activity. Therefor global and local indicators for spatial autocorrelation (Moran I, [1]) are calculated first, to show the spatial dependence in regional firm startup rates and additional regional data on the level of 93 counties of Austria. Further a geographically weighted regression (GWR) model is estimated to test whether a constant relationship between the founding rate and dependent variables exists over the whole study region [2]. The test of spatial dependence results in significant positive autocorrelation for all regional variables. The local parameter values of the GWR model indicate significant regional variations which indicates that a global linear model is not appropriate to explain the startup activity in Austria.

## References

- [1] Anselin, L. (1995). *Local Indicators of Spatial Association-LISA*. Geographical Analysis, 27(2), 93–115.
- [2] Fotheringham, S. A., Brunsdon, C., und Charlton, M. (2002). *Geographically Weighted Regression: The Analysis of Spatially Varying Relationships*. Wiley, Chichester.