Identifying spatial interaction in the adoption of organic farming in Norway

Language: English

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Background:

It is often observed that adoption of organic farming practices agglomerate in specific areas SCHMIDTNER et al., 2012; SCHMIDTNER et al., 2015; BJØRKHAUG and BLEKESAUNE, 2013; LAPPLE and KELLEY, 2015. One explanation for this is that farmers learn from each other such that the adoption of one farmer might influence other farmers. Hence, the decision spills over from one farm to the other resulting in the observed spatial agglomeration. These effects are known as peer group behavior or knowledge spillovers ROGERS, 1995. However, identifying actual spatial interactions empirically and separating them from common behavior due to spatially correlated unobservable characteristics is challenging LEWIS et al., 2011. Most studies rely on the spatial autoregressive model (SAR) which often suffers from identification problems that are not appropriately address in empirical application GIBBONS and OVERMAN, 2012.

Objective: The objective of the thesis is to analyse the role of neighboring spatial interactions in the adoption of organic farming practices in Norway. Particular attention should be paid to the problem of separating actual interaction between farms from the effects of spatial correlated unobserved factors.

Approach and specific requirements: The analysis should be based on a spatial regression approach that considered the identification problem arising from spatial correlated unobserved factors. On approach would be to follow LEWIS et al. 2011 using a random-effects panel approach with a "Mundlak-Chamberlain device" as an identification strategy. For the analysis farm level data from Norway from 2003 to 2015 is available providing information about the location of farm and the time of adoption of organic farming practices.

The thesis is best suited for a student who likes empirical work and is willing to dig into the application of spatial econometrics technique. Participation of the course "Advanced Applied Econometrics" is a prerequisite.

References

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