

Regional differences in the adoption of organic farming

Marc Chautems, Supervised by R. Finger and R. Hubert

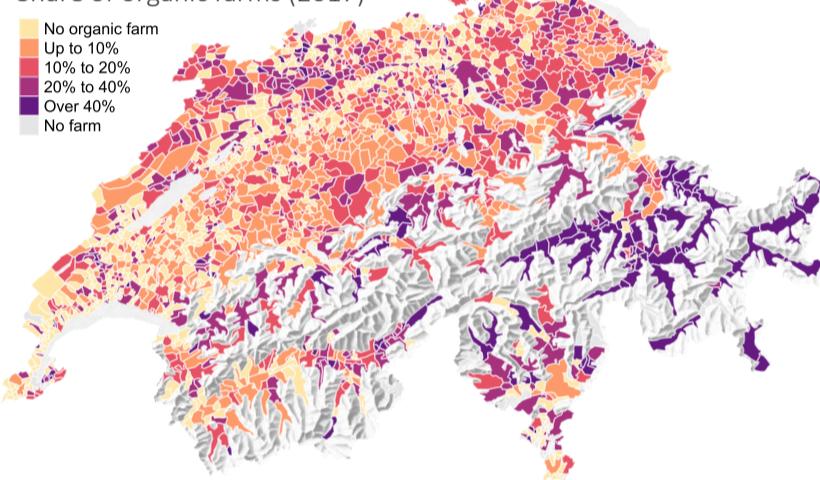
Context

Avanti 2025 initiative:



+10%
compared to 2018

Share of organic farms (2017)



Organic farms are not evenly distributed, why?

Two hypothesis



My region is great for organic farming!

- The climate is good
- The cultures that grow here are easy to convert
- I am close to a city and could sell my products there
- ...

 This is called "Spatial heterogeneity"

My neighbours run successful organic farms and this motivates me to convert!

- I can learn from my neighbours
- We could share machinery and organize a organic market
- ...

 This is called "Spatial dependence"



Data and methods

Spatial lag of X regression model on the decision to convert in the last 18 years, for all Swiss farms

$$Y = \alpha + \underbrace{X_{hetero}\beta}_{\text{Biosuisse}} + \underbrace{W_{loc}X_{org}\theta_{loc}}_{\text{Role of spatial heterogeneity and control variables}} + \underbrace{W_{reg}X_{org}\theta_{reg}}_{\text{Role of spatial dependence (neighbours) and control for unobserved spatially heterogeneous variables}} + \varepsilon$$

Decision to convert to organic

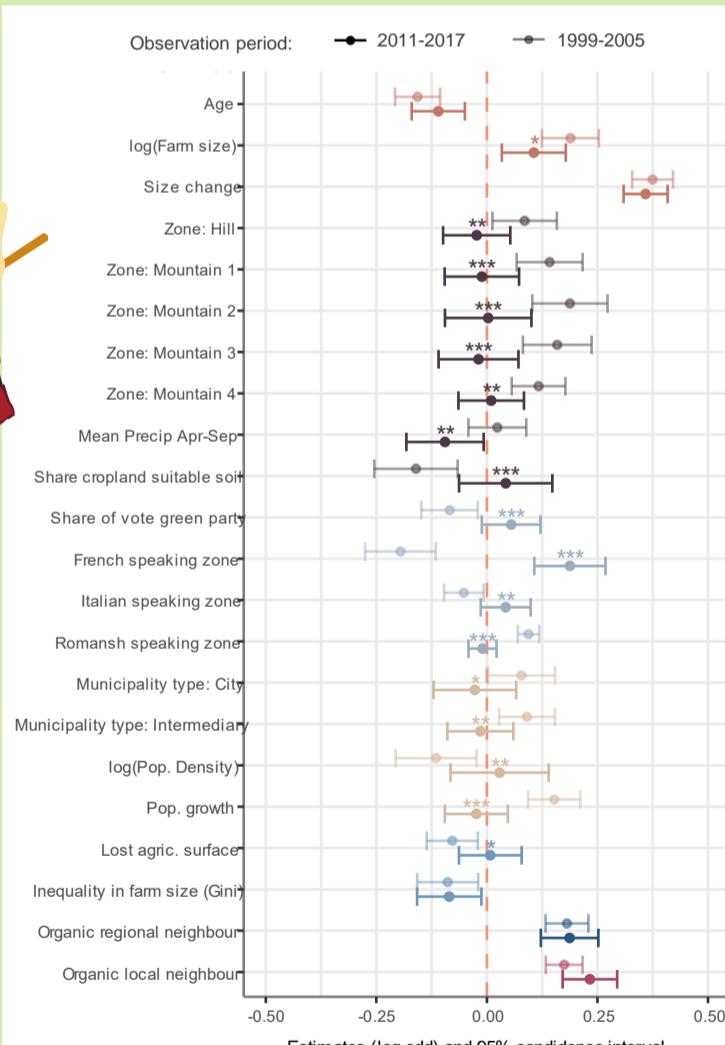
Role of spatial heterogeneity and control variables



Role of spatial dependence (neighbours) and control for unobserved spatially heterogeneous variables

Results

Regression model for 2 different periods



How to read the figure:

The effect of a variable is significant if the error bar does not cross the 0 line (red dashed). The stars indicate if the change between both periods is significant. The farm type was used as a further control variable but is not shown here. Coefficients are standardized.

Effect on the decision to convert to organic

	1999-2005	2011-2017
Spatial heterogeneity		
GRÜNE		
FR		
Spatial dependence		
Organic regional neighbour		
Organic local neighbour		

The role of spatial heterogeneity decreases, the role of spatial dependence remains!

