The Identification and Formation of Clusters of Northeastern United States Farms Participating in Multifunctional Activities

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Introduction

The research seeks to understand factors influencing farm's decision to engage in multifunctional activities, with a focus on determining the spatial location of farms and their characteristics. By analyzing these factors, one can identify optimal regions for promoting farm diversification and reducing risk through diversification activities.

Sample population: All farms operate within the U.S. Department of Agriculture (USDA) census of agriculture. Population characteristics: Farm identification and farm level variables. Geographical characteristics: County and state level variables. Key variables: Spatial distribution of farms, multifunctional activities, and farm characteristics including economic, social, and environmental factors.

Results: Cluster analysis identifies significant differences in farm characteristics among clusters. The first cluster exhibits higher participation in multifunctional activities, indicating a potential for increased diversification.

Methodology:

Methodology: Regression analysis and spatial econometrics

Spatial Econometrics Model: Spatial lag (Spatial lag of a variable is the sum of the values of all neighboring variables)

Spatial Autocorrelation Model: Spatial weight matrix (A matrix that assigns weights to neighboring observations)

Spatial Arrangement Map: Spatial distribution of farms

Results: High spatial autocorrelation indicates that farms in similar locations are more likely to participate in multifunctional activities.

Relevant zip-code and county-level variables

Cardinal point for the possible effect on the spatial distribution of farms participating in MFA

Further Research

- Further analysis of the spatial distribution and endogeneity of MFA participation
- Examination of the impact of policy interventions on multifunctional activities
- Integration of social and environmental factors in the analysis

References