

Alternative Perspectives on the Territorial Delineation of Industrial Clusters

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1 Spatial Delineation of Industrial Clusters

- ❖ Growing acceptance of cluster-based economic development strategies has resulted in much research on this topic.
- ❖ Alternative methods have been proposed to delineate geographic footprints of clusters.
- ❖ Bathelt (2005) observed that one should consider spatial proximity, economic interactions, and social relations in the delineation of a cluster.

2 Purpose

- ❖ To illustrate and compare the use of various methods of delineating the spatial footprint of industrial clusters.
- ❖ To comment on the utility of those methods.
- ❖ Use data from Maumee Valley Growers greenhouse cluster as a case study.

3 Maumee Valley Growers

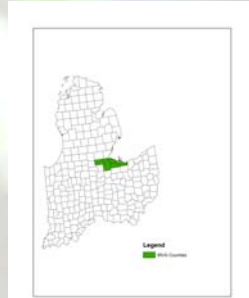
- ❖ Industrial cluster focused on 60+ greenhouses in northwest Ohio.
- ❖ Goal is to collaborate to solve large scale industry-wide problems such as high energy costs.

4 Methods of Spatial Delineation Compared

- ❖ Political definition
- ❖ Location quotients
- ❖ Spatial statistics (G_i^*)
- ❖ Social network analysis

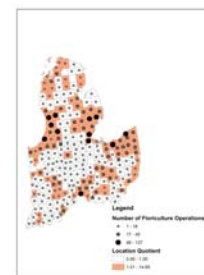
5 Political Definition

- ❖ Corresponds to congressional district of Representative Kaptur.
- ❖ Political definitions correspond to the flow of political and financial support.
- ❖ Economic relationships do not conform to political boundaries.



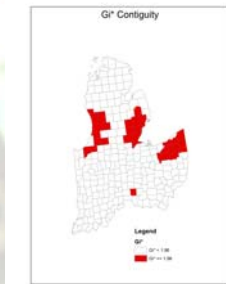
6 Location Quotients

- ❖ Identifies counties which are specialized in the industry.
- ❖ Problem is the selection of appropriate level of specialization.
- ❖ Does not take into account concentrations in neighboring areal units.



7 Spatial Statistics (Getis-Ord G_i^*)

- ❖ In contrast to location quotients, considers amount of industry in neighboring counties.
- ❖ Identification of appropriate spatial weights matrix is problematic.

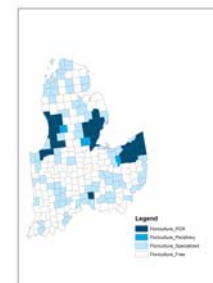


8 Combine G_i^* and Location Quotients to Identify PCRs.

- ❖ Potential Cluster Regions (PCR) is a concentration of geographically proximate firms which may have the potential to be a cluster.
- ❖ It includes counties with high location quotients and G_i^* values.
- ❖ These counties have high potential because they are specialized in floriculture production and their neighbors have high levels of production.

9 County Classification

- ❖ PRC has high LQ and G_i^* . Best opportunity for a cluster.
- ❖ Periphery has high G_i^* and low LQ.
- ❖ Floriculture-Specialized has high LQ and low G_i^* .
- ❖ Floriculture-Free has low LQ and G_i^* .



10 Combining G_i^* and Location Quotients

- ❖ Combines strengths of location quotients and G_i^* .
- ❖ Does not solve problem of spatial weights matrix.
- ❖ This approach and preceding methods ignore social relations

11 Social Network Analysis

- ❖ SNA analyzes networks of interpersonal links within a group of individuals.
- ❖ It indicates the people with whom individuals in a cluster are linked through collaboration, exchange of ideas, etc.
- ❖ SNA nodes are those people with whom cluster members are linked.
- ❖ Indicates the interaction space of the cluster.



12 Conclusions

- ❖ Each method provides a different perspective on the spatial footprint of an industrial cluster.
- ❖ Using a combination of all methods is the best approach.
- ❖ Social network analysis is helpful because one can identify linkages that may be formed to strengthen the network through network weaving.
- ❖ None of these methods takes into consideration the behavior of firms.