AGRICULTURAL AND RESOURCE ECONOMICS
SEMINAR SERIES

Industry Sectors and Economic Growth in the Appalachian Region, 2000-2007: An Exploration with Smooth Transition Autoregressive Models

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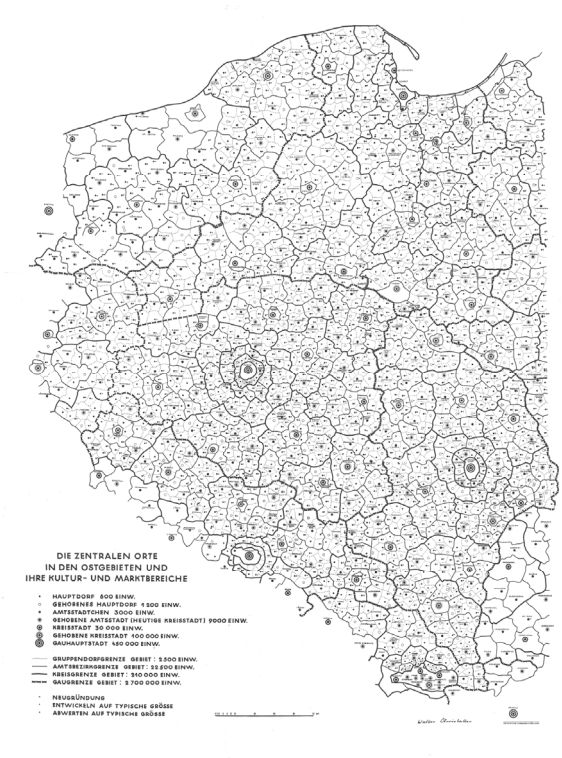

The identification of industry sectors that contribute to local economic growth is an important component of regional development strategies. This exploratory analysis examines the relationship between industry sectors (aggregated to the 2-digit NAICS level) and economic growth measures in the Appalachian region, 2000 – 2007. Identifying sectors that flourished in the region during this period may inform economic development strategies with respect to job growth, business formation, and retention. For example, some sectors may have positively contributed to growth during this short business cycle, but in other instances the presence of a given industry sector may have had no effect, or even a negative relationship, on growth. However, the differential effects of any sector on local growth may be heterogeneous across space, with implications for targeted development strategies on the one hand, and regional coordination between counties on the other. We test the hypothesis that local response to growth determinants and specifically to industry sectors may be heterogeneous across the region using a method relatively new to the spatial econometric toolbox: the Smooth Transition Autoregressive (STAR) model. In this preliminary analysis, the change in per capita income, change in employment, and change in the number of business establishments was regressed on industry concentration indices, controlling for demographic, physical, and economic composition. This class of models exhibiting regime switching behavior appears useful for identifying regional clusters of counties with comparative advantage, providing another tool to regional scientists for exploring relationships between local determinants of economic growth across space.

Dr. Lambert is an Assistant Professor with the Department of Agricultural & Resource Economics at the University of Tennessee. His areas of professional interest are Rural Economic Development, Regional Economics, Location Theory and Spatial Econometrics.