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PENETRATING THE KNOWLEDGE FILTER IN “RUST BELT” ECONOMIES (SUMMARY)

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SUMMARY

PENETRATING THE KNOWLEDGE FILTER IN “RUST BELT” ECONOMIES

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Principal Topic

A model of economic growth characterizes a knowledge filter between new knowledge and economically useful knowledge. The formation of new ventures and the absorptive capacity of incumbent firms are the mechanisms that penetrate the knowledge filter. Analysis from expanding economies (Colorado) shows that new firms are more proficient at penetrating the knowledge filter than are incumbent firms. This study explores the role of new and incumbent firms in penetrating the knowledge filter in declining economies (Ohio) utilizing spatial panel estimation techniques providing a more robust set of findings. The results suggest that new firms are more proficient at penetrating the knowledge filter in declining and growing regions alike.

Method

Using spatial panel econometric methods, we estimate an economic growth model with personal income growth as the dependent variable and two interaction terms (i.e., a knowledge-by-entrepreneurship interaction and a knowledge-by-incumbent-firm interaction) as the key independent variables. The employed technique controls for the temporal and spatial structure of the dependent variable. The study combines Ohio county-level data from the US Census Bureau, the US Patent and Trademark Office, and the US Bureau of Economic Analysis.

Results and Implications

The results of our analysis provide evidence in support of two of our three hypotheses. Specifically, the contribution of knowledge in a region to economic growth depends on the propensity of a region to create new business ventures and that the contribution of newly created knowledge to economic growth in a region depends more strongly on newly created business ventures than on the absorptive capacity of existing incumbent firms. The evidence also shows that knowledge is, indeed, a necessary condition, yet, by itself an insufficient explanation of economic growth.

We find no evidence to support our hypothesis that the contribution of newly created knowledge in a region to economic growth depends on the absorptive capacity of incumbent firms in a region. In fact, we found that the interaction of knowledge with incumbent firms has a negative impact on economic growth, as measured by the growth rate of total personal income. This finding is consistent with that found in Acs and Plummer (2005) and, as they indicate, may be a function of the specification of the incumbent firm variable. Furthermore, this result may reflect the possibility that when the local operations of corporations absorb knowledge spillovers, the contribution to growth may occur in other regions, such as the location of the corporate headquarters.

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