

Program for Study of Midwest Markets and Entrepreneurship
Housed in
The Agricultural Entrepreneurship Initiative,
Department of Economics,
Iowa State University

1. Purpose

Midwest labor, product and capital markets are atypically thin compared to markets on the east and west coasts. Agglomerations of customers, suppliers, and educated workers have been used to explain the century-long shift of population from rural to urban areas, the increasing concentration of patenting and entrepreneurship in cities, and the higher wages for urban than rural workers. As a result, studies of entrepreneurship, innovation, and economic growth have focused most on the experiences in cities. This also occurs because data to analyze these questions has been much more available for urban than rural markets. Nevertheless, 29% of the Midwest population lives in nonmetropolitan areas compared to 15% for the nation as a whole, and so it is important to understand how thin markets function in a world where agglomeration economies are increasingly important, and how policy choices can enhance or diminish economic outcomes.

2. Research Areas

This center will be focused on

- Entrepreneurship in thin Midwestern markets;
- Entrepreneurial finance, with an emphasis on the examination of the supply of and demand for venture capital in thin Midwestern markets;
- Education policy, growth, and returns, with an emphasis on identifying how Midwest states can attract and retain critical human capital in thin markets, and on how government policies enhance or restrict returns to human capital;
- Analyzing the roles of government tax, expenditure, and regulatory policies on entrepreneurship and economic growth;
- Developing and applying the Border Index.

A. Entrepreneurship. Compared to more densely populated markets on the coasts, the Midwest is characterized by large endowments of land and natural resources accompanied by a poverty of labor and reputed poor access to venture capital. Thin markets pose additional challenges to entrepreneurs. For example, most ventures fail, and so entrepreneurs must consider the possibility of exit at the time of entry. In rural markets, the resale value of the firm may be a much smaller fraction of the initial capital investment due to a paucity of bidders. Even if successful, rural ventures may have few potential successors at retirement whereas there may be many potential entrepreneurs interested in taking over a successful urban venture. The Kauffman Foundation's new Start-up Index suggests that relatively few entrepreneurs are up to the challenge of fostering a start-up in rural markets. Midwest states generally rank in the lower half of their Index.

While the energy boom has spurred new start-ups in the Dakotas, the rest of the Midwest states fair relatively poorly on entrepreneurship. Despite having some of the lowest unemployment rates in the nation, the pace of new firm creation has lagged. One area of exploration is the role of local comparative advantage in fostering growth. For example, does the relative importance of agriculture in the Midwest alter the climate for new firm entry by

spurring new sectoral innovation from input suppliers or by increasing the local supply of agricultural commodities used in manufacturing, but at the same time, hinder the entry of firms in other sectors?

How Midwest States Rank in Entrepreneurship, Unemployment and Agricultural Production (1 is highest)

State	Rank		
	Kauffman Start-up Index	Unemployment Rate	Agricultural Production
North Dakota	3	2	20
South Dakota	6	6	16
Nebraska	20	1	5
Kansas	25	18	11
Illinois	26	33	6
Missouri	27	33	13
Iowa	42	6	3
Minnesota	47	9	4
Wisconsin	50	15	10

The slow pace of entrepreneurship in the Midwest comes at a time when investment and new firm creation has also slowed steadily at the national level since the 1980s. While it will be useful to identify factors that have led to atypically slow new firm creation in the Midwest, we also need to assess the climate for new firm creation and innovation on a national level. Numerous possible reasons exist, including regulatory costs, high marginal tax rates, immigration restrictions, and low human capital investment. Identifying key factors will be critical to returning the United States from its current 2% growth rate to its long-run historical rate of 3%.

B. Entrepreneurial Finance According to the National Venture Capital Association, venture capital per capita is \$17 in the Midwest versus \$94 for the United States as a whole. This difference suggests that optimal strategies for attracting venture capital in thin markets may differ from those in more capital abundant regions and raises a series of related questions. In the Midwest, does venture capital disproportionately follow the abundant resources and focus on land- and resource-intensive firms? Or does venture capital attempt to fill gaps in access to labor or customers? Are government policies aimed at incentivizing local venture capital effective? Are there constraints on the flow of capital across states or regions so that entrepreneurs need to seek out capital rich locations as opposed to venture capitalists looking for promising investment opportunities regardless of location? Is crowd funding a viable option or a fad? Answering these questions is critical for developing campus training programs for future entrepreneurs or developing optimal government policies aimed at encouraging entrepreneurial activities in the Midwest.

C. Education Policy, Growth and Returns, Recent research has demonstrated how the growth of cities has been enhanced by agglomeration economies: productivity, input supply, cost and marketing advantages in markets characterized by large numbers of educated workers. High concentrations of educated workers have also been linked to high rates of entrepreneurship and

innovation. Do these economic advantages imply that firms in thinner markets will be unable to compete, or are there ways for labor markets in the Midwest to generate agglomeration economies? Recent studies by Iowa State economists Artz, Orazem and Kim suggest that economic growth in the Midwest also occurs in areas that are able to generate agglomeration economies in which a concentration of jobs in one town becomes the job center and source of sustainability for a large number of small communities within an hour's commute. Areas lacking such a job center tend to decline and shed population.

A related issue is how the education of labor force is tied to economic growth. Concerns about the low quality of the education and skillset of workers compound the difficulties associated with thin labor markets, especially in cases of a mismatch between worker training and the needs of potential employers. For decades, the advantage of the United States over other countries has been the high productivity of its workers and the complementarities of capital and skill. However, as other countries continue to invest into their physical and human capital, these advantages may be waning. Can more human capital investment and improved education offset the disadvantages of thin markets? What policies will insure that firms will be able to employ workers with the skills they need to compete in the future?

The United States has long relied on its population to respond to the incentives provided by the marketplace. Returns to quantitative (i.e., STEM) skills have increased dramatically, to the extent that starting salaries for engineering graduates are now more than double those for graduates in parks and recreation. Then why does our educational system continue to produce graduates who lack basic mathematical competencies and why has the supply of quantitatively trained college graduates failed to keep up with the growth in demand?

Professor Orazem and colleagues at the World Bank have embarked on an ambitious research agenda that will examine how economic institutions shape economic growth and the returns to human capital investments. Using measures of economic and political freedom, they have shown that countries that protect property rights, have larger private sector share of the economy, and have a more free market orientations in trade, banking, and financial markets also have higher rates of return to human capital. The presumption is that when individuals are free to apply their skills to the sector which offers the greatest reward, both they and the country benefit. Future research will examine how school quality can be inferred from the link between years of schooling and earnings within a country, and how school quality affects the country's economic growth. Part of this agenda is to build a data set that includes the best available data on human capital by country and to make that data set available to researchers around the world.

D. Taxes, Government Spending, Regulation, and Entrepreneurship. The fifty states in the United States have different tax structures and regulatory environments. These fiscal and regulatory policies affect the expected return from firm entry into a market. We expect that differences across states to have their greatest impact at state borders. In addition, state and local governments exert varying efforts in order to incentivize investment and innovation. Do these efforts to spur new ventures actually pay off? If so, which strategies work best? Is it better to offer a favorable tax structure and let the market allocate resources accordingly or should governments provide specific sectors with favorable treatment directly?

In addition to conducting independent research, the proposed Center will compile information on and create a searchable database of tax rates and regulatory structures that researchers worldwide will be able to use in their own analyses. The Center will also compile

and make available to others multiple measures of economic growth and wealth at state borders that can be used to assess the impacts of differential tax and regulatory policies.

E. The Border Index Preliminary analysis by Iowa State faculty Artz, Singh and Orazem along with their students indicates very consistent effects of relative state marginal tax rates on economic outcomes at state borders. We will build on this research to construct an index of the most and least competitive borders within the United States (“the border index”). The least competitive borders will be the ones where states are at the greatest disadvantage relative to neighbors due to own tax policies. We expect that the border index will be easy to interpret for policy-makers and the public. Importantly, it will also serve as a means of raising public awareness about the activities of the Center.

The border index will complement existing indexes that rate states on their business climates. Past research suggests that policies have their strongest effects at state borders. Conversely, the adverse effects of an unfavorable policy tend to dissipate for firms that are more distant from their competitors in other states. Moreover, most states have multiple borders, and so New Jersey’s relatively poor business climate may be a disadvantage on the Delaware border but less of a problem on the New York border. The border index will highlight where state policies really bite and help to show why other states need not be particularly disadvantaged by a bad policy.

In the future, the conceptual foundations underlying the border index could be extended to address issues of international tax competitiveness as well.

3. Required resources

Data. Iowa State University has recently been funded by NSF to establish a branch of the Central Plains Research Data Center (RDC). The RDC is expected to open in spring 2016. The RDC will allow researchers to access restricted microdata from the U.S. Bureau of the Census, the Bureau of Labor Statistics, the Social Security Administration and other federal agencies that are normally only available in aggregated formats. For researchers in the Midwest, this has the immediate advantage of having large samples of Midwest firms and workers with more granularity than is available in public use microdata. Also, the restricted datasets will provide access to exact values of sensitive variables (such as income) that are often top-coded or converted into broad categories in public use datasets for confidentiality reasons. Thus, the availability of the RDC on campus can be leveraged to facilitate more precise quantitative research on thin markets that was just not possible using previously available public data.

To gain access to restricted data, a proposal is submitted to the Census Bureau that details the research to be conducted and the added value of the research to the public and/or to the agency sponsoring the data. Approved projects and their scholarly products are subject to agency review to ensure confidentiality is protected. To oversee the RDC activities and support proposal development and research projects, the RDC will be staffed with an ISU-supported Census Bureau employee. The RDC will be affiliated with ISU’s Center for Survey Statistics and Methodology (CSSM). CSSM is one the largest and most sophisticated survey statistics research groups in the United States, with extensive experience in statistical and methodological aspects of collecting and analyzing survey data and a successful Federal funding portfolio. Faculty and staff in the RDC will be a resource to draw on for researchers developing project using restricted microdata.

Over the initial three years of the RDC's establishment, Iowa State University has pledged to extend \$60K in NSF funds with an additional \$335K. Subsequently, Iowa State University will provide \$115K per year in ongoing support for the RDC. The remaining costs for the RDC will be covered via user fees for research projects.

Under this project, we envision offering \$100,000 per year to fund up to 5 projects that plan to access these data. The funds will be used to pay for the marginal costs of supporting the data center and acquiring the specific data needed by researchers. We envision making the funds available across campus and to researchers at other universities to broaden the family of scholars interested in analyzing Midwest markets.

Faculty positions. Existing economics faculty at Iowa State who are expected to contribute to the regular Center activities include Georgeanne Artz, <http://www.econ.iastate.edu/people/faculty/artz-georgeanne>; Kevin Kimle <http://www.econ.iastate.edu/people/faculty/kimle-kevin>; and Peter Orazem <http://www.econ.iastate.edu/people/faculty/orazem-peter-f> who will focus on areas A, C, D, and E in the research section.

4. Partnership with the Charles Koch Foundation

The Charles Koch Foundation has expressed interest in the purpose and mission of the program, and will provide start-up seed funding to cover all costs of the program for the first 3-5 years of operation.

Beyond this initial period, CALS and LAS commit to add one faculty line in economics that will augment efforts in Agricultural and Rural Entrepreneurship. The Economics Department commits to absorb the cost of one of the new faculty hired through anticipated retirement.

During this start-up phase ISU will seek to secure on-going funding for some or all of these activities.

5. Academic Freedom

Koch Foundation funding is intended to promote an environment at the University where ideas can be exchanged freely and useful knowledge will benefit the well-being of individuals and society. Thus, the foundation and ISU agree that the academic freedom of the University, the Program and their faculty, students and staff is critical to the success of the Program's research scholarship, teaching and service.