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Are Rural Credit Markets Competitive? Is There Room for Competition in Rural Credit Markets?

Maureen Kilkenny and Robert W. Jolly

Talk to a country banker these days and the first subject will likely be competition—cherry picking by the Farm Credit System, sneaky tax-free credit unions, captive finance companies hawking credit as a loss leader, investment houses siphoning off deposits, and so on. It's a long list and an old refrain. But it reveals an important question: How hot is the competition in rural credit markets? If it's not hot enough, we could expect credit rationing that limits economic growth. If it is too hot, there is a risk of declining credit quality and failure of financial institutions, which would also limit growth.

Our interest in this topic is motivated, to some extent, by the recent bid by Rabobank into the Western Corn Belt. That event suggested that profit opportunities might exist in rural credit markets. But there is a broader issue as well. Rural credit markets are often fraught with inefficiencies. Remoteness—frequently in association with poorly defined property rights, rule of law, and poverty—can make it difficult to extend credit to rural households, farms, or firms. This problem is widespread in developing and transitional economies. And, historically, it has been a problem in rural areas in the United States—one that has been dealt with by creating unique rural lending institutions, public policies, and other interventions.

In this paper we attempt to take the temperature of the competitive forces in rural credit markets in 12 Midwestern states. A recent review by economists at the USDA's Economic Research Service pointed out that the average rate of return on rural-headquartered bank assets has been systematically higher than the return on urban bank assets. The review presented a number of indicators suggesting that rural credit markets may be less than perfectly competitive. Rural banks charge higher interest rates on loans, pay lower interest rates on deposits, and take fewer risks.

The authors argued, however, that the small size of rural communities and the low number of rural borrowers might limit the number of lenders that can profitably compete in rural counties. And, since 1997, the number of bank firms has continued to decline.

Bank market structure has changed in recent decades, consolidating from a peak of 14,000 firms in 1983–4 to about 7,800 today, according to the FDIC. In his review of the structural changes in the nonmetro financial service sector, Lence concluded that the decline in the number of bank firms has been driven by bank stockholders' search for return on equity (Lence, 1997). Bank consolidation has been made possible by the relaxation of policy restrictions against branch banking over the past 20 years. Mergers of smaller banks have been driven by the opportunity to achieve economies of size and geographic and market portfolio diversification. But at the same time we have observed new bank branches opening in rural credit markets, along with a host of nonbank lenders. The fact that the number of bank offices has *increased* since the 1980s from 55,300 to more than 75,000 in 2004 may suggest that rural citizens have more access to bank credit than ever. Let's take a look at the landscape in rural credit markets.

Table 1 reports numbers and types of bank offices in the urban and rural counties in 12 Midwestern states. The types of banks that operate in rural areas are more often unit banks (banks with no branch offices outside the headquarter county) or small community banks with a few branch offices all in the same county. On average, there are five or fewer bank firms operating in strictly rural counties. There are twice that many competitors in larger nonmetro counties and more than 30 bank firms competing in the average central metro county in the US Midwest.

Table 1. Average banks and bank offices by county type (US Midwest, June 2001).

	County type ^a	Code	# firms	% unit bank	% below \$100m	# offices	% community bank offices
Metro HQ (“urban”)	Central metro	0	33	16%	7%	161	32%
	Fringe metro	1	11	20%	18%	25	55%
	Mid-sized metro	2	14	14%	10%	50	34%
	Small metro	3	13	24%	18%	36	55%
Nonmetro HQ (“rural”)	Large nonmetro, adjacent	4	12	23%	22%	25	63%
	Large nonmetro, nonadjacent	5	10	30%	31%	19	73%
	Mid-sized nonmetro, adjacent	6	8	30%	37%	13	76%
	Mid-sized nonmetro, nonadjacent	7	7	30%	39%	10	79%
	Rural, adjacent	8	5	31%	53%	7	83%
	Rural, nonadjacent	9	4	32%	56%	5	86%

^a Beale Code definitions are as follows. Metropolitan counties (0–3): 0—central counties of metropolitan areas of 1 million population or more; 1—fringe counties of metropolitan areas of 1 million population or more; 2—counties in metropolitan areas of 250,000–1,000,000 population; 3—counties in metropolitan areas of less than 250,000 population. Nonmetropolitan counties (4–9): 4—urban population of 20,000 or more, adjacent to a metropolitan area; 5—urban population of 20,000 or more, not adjacent to a metropolitan area; 6—urban population of 2,500–19,999, adjacent to a metropolitan area; 7—urban population of 2,500–19,999, not adjacent to a metropolitan area; 8—completely rural (no places with a population of 2,500 or more) adjacent to a metropolitan area; 9—completely rural (no places with a population of 2,500 or more) not adjacent to a metropolitan area. Note. Data from FDIC.

Distance insulates rural banks from competition, so even smaller, less efficient banks may thrive there. Distance can also insulate high-profit banks from competition. Even if there are no barriers to entry (other than fixed costs), space imparts market power because lenders can afford to charge nearby customers higher rates without fear of losing them to more distant competitors, because distance increases the costs of monitoring loans. By the same token, the proximity of the lender to the borrower, and their participation in the same social networks or community institutions can improve opportunities for loan origination and make applicant screening and monitoring more efficient. Relationship lending has been shown to be essential to a bank’s competitiveness (Moss, Barry, & Ellinger, 1997). In addition, because bricks-and-mortar banks are lumpy, sparsely populated counties may simply be too small to justify the construction of an additional bank office. Banks are required to obtain approval to enter a new market from the relevant regulatory agency. Part of

this approval process involves justifying that there is a need for additional banking services in the local market.

In sum, financial intermediaries in rural areas may be able to price-discriminate without losing their rural customers, because other potential lenders are effectively too far away (Degryse & Ongena, 2004). Price discrimination and barriers to entry may result in less credit being extended in rural areas than is optimal. To test if these conditions exist, we can examine data on commercial banks for indicators of above-normal profitability and indicators favoring entry into the region’s credit markets. An obvious shortcoming of this approach is that we are not able to fully account for competition from other rural financial intermediaries. But it is a place to begin—particularly given the market share dominance of banks in rural credit markets.

To determine if rural banks possess exploitable market power, we have to account for the fact that many banks operate in more than one location. This includes banks that are headquartered in rural areas

but operate as either as a multibank holding company or simply have several branches, as well as large money-center banks that branch into rural areas. To begin, we estimate the market power enjoyed by a bank by weighting the bank’s share of each market in which they operate by the market’s share of the bank’s total deposits. Then we estimate the profitability of a bank in a location by weighting the profitability of each bank with an office in the location by that bank’s share of the total deposits in the location. A bank may have market power, but if it isn’t profiting from it, we conclude it is not exploitable—that the markets are sufficiently competitive. Finally, we test the hypothesis that a location’s profitability is sufficient to induce entry.

We analyzed the data on all the banks with offices in the Midwest, including more than 4,000 bank firms and their offices by county across five Federal Reserve districts in 12 Midwestern states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and

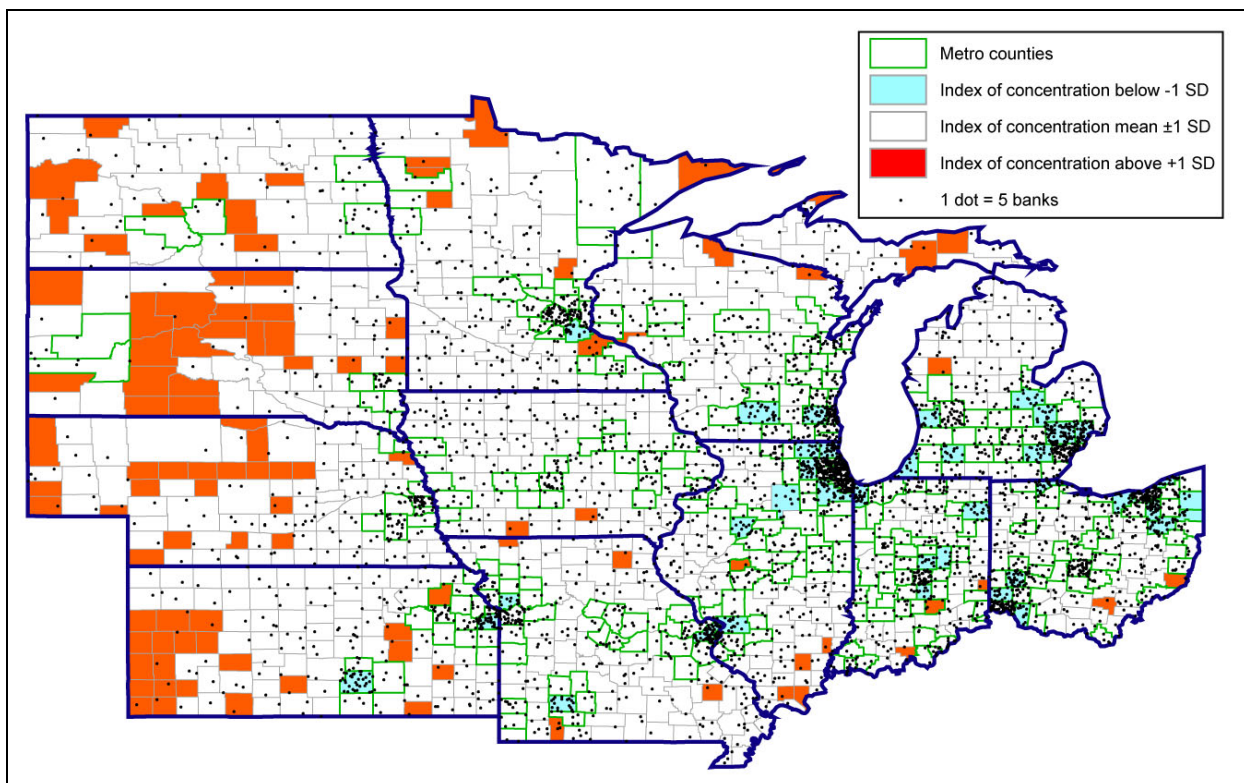


Figure 1. Low-competition counties.

Wisconsin, as reported to the FDIC on June 2000, 2001, and 2003. We found significant evidence of room for more competition in credit markets. Banks that control larger shares of the deposits in the counties in which they have offices have earned above-normal profits. This evidence is consistent with the hypotheses that the market power rural banks have is exploitable. Banks with superior management or production technologies who are insulated from competition by distance, or who differentiate their financial products, have been able to exercise and profit from market power in the Midwest. The percent of loans to farmers or backed by farmland also supports higher profits for commercial banks.

Figure 1 shows the counties with unusually few competitors. The blue-shaded counties are counties where the banking market is quite competitive and the market power of any one bank is low. The orange-shaded

counties are where one or a few banks have unusually large shares of the deposits, indicated by a high Hirschman-Herfindahl Index. These counties are low on competition. Because our statistical analysis indicates that banks with low competition do earn higher profits, it is into these counties that a bank may consider expanding.

Next, we investigated whether the profitability of banks in a county has in fact been sufficient to induce entry into a county in the recent past. Between 2001 and 2003, the number of bank offices rose by 1,600; in all types of Midwestern counties except rural counties adjacent to metropolitan ones (FDIC data; Table 2). The largest rate of growth in offices was in counties with towns larger than 20,000 that are not adjacent to metro areas. Midwestern rural counties continue to be much denser in terms of bank offices per person than urban counties. Because there are already

more bank offices per person in non-adjacent rural areas than any other type of county, there was little expansion in those counties. But despite the emergence of e-banking, the profitability of being physically close to one's customers was apparently sufficient to justify the existence of one brick-and-mortar bank office per 1,000 persons in the totally rural areas of the Midwest (Table 2).

In our statistical analysis we found that existing banks did indeed open additional offices in profitable locations. But the profitability has not been sufficient to entice new bank firms into those counties—just new offices of existing banks. Bank office coverage also appears to be diffusing across space. More new offices have opened in places where office density is lower; especially in urban areas where there were fewer offices per capita, but also in nonadjacent rural areas where there were fewer offices per square mile. Nevertheless, in

Table 2. Bank firm and office entry.

County type ^a	Code	2001			2001-2003, % change			
		# firms	# offices	Offices/1,000 cap	# firms	# offices	POP	Offices per capita
Central metro	0	33.0	161	0.27	4.9%	12.0%	2.1%	9.7%
Fringe metro	1	11.3	25	0.35	5.3%	5.0%	4.3%	0.7%
Mid-sized metro	2	13.5	50	0.33	6.8%	5.7%	1.5%	4.2%
Small metro	3	12.7	36	0.35	6.8%	7.6%	1.0%	6.6%
Large nonmetro, adjacent	4	12.0	25	0.38	2.0%	2.3%	0.3%	2.0%
Large nonmetro, nonadjacent	5	10.2	19	0.41	7.8%	10.8%	-0.3%	11.2%
Mid-sized nonmetro, adjacent	6	7.6	13	0.50	3.0%	3.3%	0.6%	2.7%
Mid-sized nonmetro, nonadjacent	7	6.7	10	0.59	3.3%	3.4%	-0.6%	4.0%
Rural, adjacent	8	5.3	7	0.73	-1.6%	-0.2%	-0.3%	0.1%
Rural, nonadjacent	9	3.6	5	0.91	1.0%	1.4%	-1.4%	2.8%

^a See Table 1 footnote for Beale Code definitions.

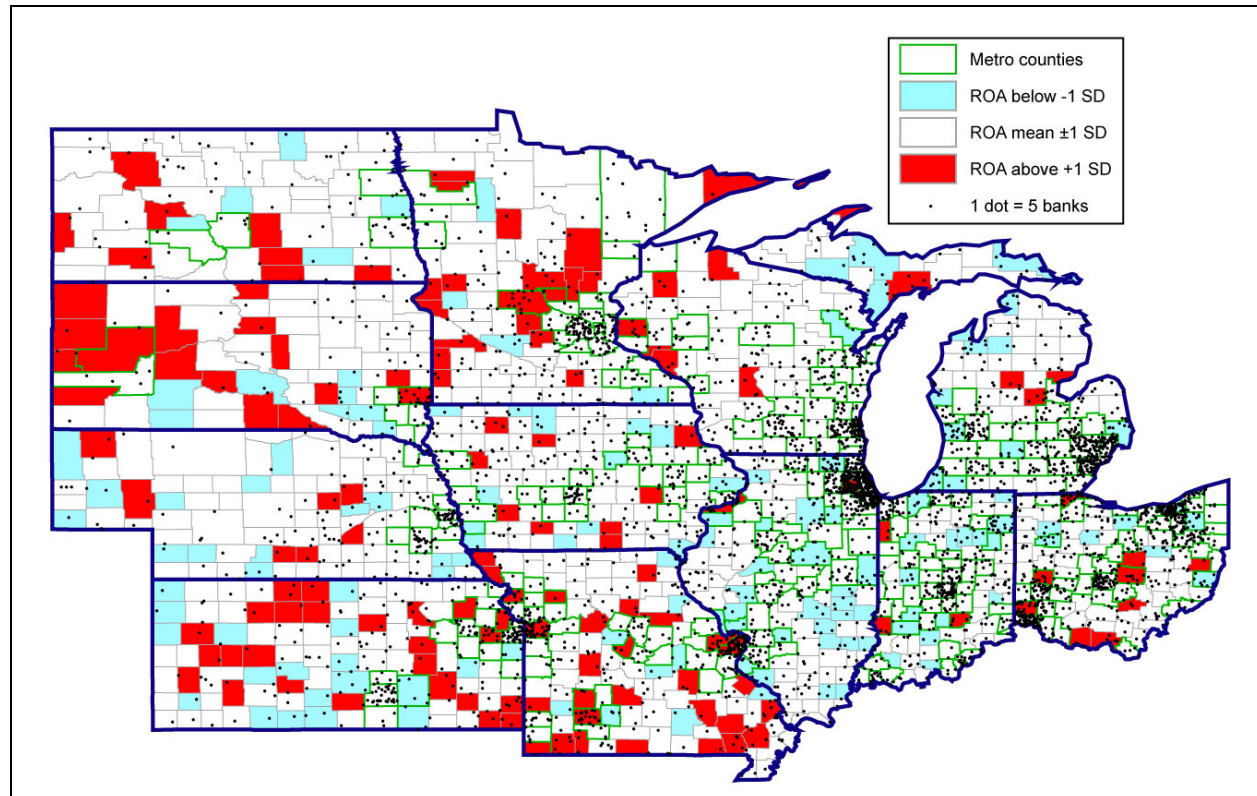


Figure 2. High-profitability counties.

rural counties adjacent to metro areas, there were bank and office closures.

In particular, Figure 2 shows the counties that recently inspired existing banks to open new branches. These are counties where the rate of return on

bank assets has been unusually high and the number of bank firms is unusually low. The map highlights the 106 Midwestern counties (10% of the total 1,047) worth a closer look. These hot spots are colored red. These counties are where the returns on bank assets, weighted by the share

each bank has of all the deposits in the county, are more than one standard deviation above average. The blue counties are where the banks that operate there are not profitable. One may also infer that some of those blue counties may be places where there are just “deadbeat”

banks, whose rates of return on assets are low because of poor management. Those counties may also be areas where more efficient banks could profitably open new branches.

Many of the potentially attractive counties are in South Dakota and Nebraska. By the way, those two states are served by Farm Credit Services of America, the agricultural credit association that Rabobank recently bid to acquire. Sixty-five percent of the hot spots are completely rural counties, with no towns larger than 2,500. Metro counties are outlined in green. Although only 2% of the region's metro counties look attractive for entry, over 13% of the nonmetro counties may be. We conclude that there is room for more competition in rural credit markets.

Further market research is needed to understand if these might be attractive locations for bank office entry, expansion, or takeover. Census data indicates that some of these rural hot spots have high Native American populations. That makes some sense if banks in casino areas are unusually profitable. Product differentiation may explain their advantages. Our FDIC data also indicates that the people in these hot counties are savers. Bank deposits per capita are 25% higher on average. They are also more self-sufficient places. The proportion of local residents employed within their county of residence is twice as high in the hot counties than in all the other counties. And they are

not necessarily high-growth places—yet. The average rate of population growth over the decade 1990–00 in the hot counties was only 0.5%, compared to an average population growth rate of 6% in the rest of the Midwest.

All our analyses showed that regardless of their size, headquarters location, or other characteristics, banks that specialize in farm lending are more profitable. In the presence of barriers to entry, this is consistent with a hypothesis that banks providing farm credit engage in credit rationing towards farmers and away from nonfarm borrowers, as shown by Turvey and Weersink (1997). Coupled with the evidence in Collender and Shaffer (2003) that farming-dependent county income growth is more sensitive to local bank firm concentration, it suggests a hypothesis that agricultural credit demands may crowd out nonfarm demands for bank loans in farming-dependent rural areas. It also suggests that there is room for more of both farm and nonfarm lending in the rural Midwest. We hope these tables and maps have provided the kind of information that helps community leaders and existing Corn Belt bankers to focus their attention on some of these opportunities.

For More Information

Collender, R., & Shaffer, S. (2003).
Local bank office ownership,

deposit control, market structure, and economic growth. *Journal of Banking and Finance*, 27(1), 27-57.

Degryse, H., & Ongena, S. (in press). Distance, lending relationships, and competition. *Journal of Finance*.

Economic Research Service. (1997). *Credit in rural america* (agricultural economic report no. 749). Washington, DC: U.S. Department of Agriculture.

Federal Deposit Insurance Corp (FDIC). *Financial institution directory*. Available on the World Wide Web: <http://www3.fdic.gov/idasp/index.asp>.

Lence, S. (1997). Recent structural changes in the banking industry, their causes and effects: A literature survey. *Review of Agricultural Economics*, 19(2), 371-402.

Moss, L., Barry, P., & Ellinger, P. (1997). The competitive environment for agricultural bankers in the US. *Agribusiness*, 13(4), 431-44.

Turvey, C., & Weersink, A. (1997, November). Credit risk and the demand for agricultural loans. *Canadian Journal of Agricultural Economics*, 45(3), 201-17.

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