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Bank Branching and Portfolio Diversification

In recent months, banking powers reform has become a major congressional policy issue. One option under consideration would permit a bank to operate branches in different states. The hope is that this would enhance banks' ability to diversify their assets. Potentially, this approach could lead to consolidation of the banking industry with a smaller number of large banks operating national branch networks.

Would interstate branching increase bank asset diversification? To answer this question, we can begin by examining the historical experience of *intrastate* branching. In this *Letter*, we focus on the effects that intrastate branching has had on agricultural lending. Our evidence suggests that banks in states with unrestricted branching typically have developed more diversified loan portfolios than similar banks in restricted states. By extension, *interstate* branching could lead banks to choose to broaden the set of industries to which they lend. Specifically, we can expect that banks headquartered in urban areas would devote more of their loan portfolios to agriculture, while banks headquartered in rural areas would concentrate less on agricultural lending.

Portfolio choice

For banks, diversification presents both benefits and costs. The major benefit is that banks can distribute their loans across a broad range of customers, which helps insulate them from the effects of individual loan defaults. By not "putting all their eggs in one basket," banks can reduce the chance of insolvency.

The costs are largely due to the increased need for information-gathering. In particular, lending to customers in a greater variety of industries requires the bank to learn about those industries to evaluate their loan potential. Economists usually argue that banks specialize in evaluating and monitoring the creditworthiness of their borrowers—borrowers whose projects and prospects cannot be as easily evaluated by other creditors.

Banks' special, customer-specific expertise may stem from their access to information, including information about transactions activity, gained from deposit relationships with borrowers. Thus, banks may find that, despite potential diversification benefits, it is more attractive to take advantage of knowledge specific to existing customers than to bear the cost of acquiring expertise in new areas.

This trade-off between diversifying a portfolio and acquiring expertise about new borrowers and their projects also has a geographic component. Banks may recognize the benefits of diversification, but may find that it requires some lending to borrowers in geographically dispersed areas. If evaluating and monitoring distant borrowers is too costly, diversification may suffer.

Effects of regulation

To the extent that it is hard to learn about and monitor borrowers at a distance, lifting branching restrictions enhances banks' efforts to diversify their portfolios. Setting up a branch in an area can provide a bank with a local observation post to gather information. For example, by having a branch in the area, a bank may be able to learn more about the potential returns to a local investment than could a bank outside the area. A branch may also provide the bank with information gained through a relatively long-term relationship with the borrower, both in the bank and in the community. Although banks without branches in the area may still make loans there, their evaluation and monitoring costs will very likely be relatively high.

Regulations limiting branching, therefore, may tend to restrict the market area of a bank to the region that is close to the bank's headquarters. Thus, states that allow branching may have banks that lend across wider markets. To the extent that different locales in the potential market area have different industrial structures, banks in branching states may have more diversified portfolios.

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Evidence in agriculture

Examining agricultural lending in bank portfolios offers one test of this hypothesis. Agriculture is by its nature restricted to low-density rural areas. Moreover, the nation's agricultural land is present in both states that allow branching and those that do not, making comparisons possible.

We examined data on lending by individual banks taken from the Federal Reserve's "Survey of Terms of Bank Lending to Agriculture" over the period 1981 to 1986. Our statistical model sought to explain the ratio of a bank's agricultural loans to its total loan portfolio. Variables to explain this agricultural share included bank characteristics, such as its size (assets) and its aggressiveness in lending (deposit-to-loan ratio).

The model also accounted for differences in the characteristics of the agricultural economy, taking into account average farm size, government payments to agriculture, and agriculture's share of gross state product. Competition from other institutional lenders also was included, using the Farm Credit System's share of total agricultural lending in the preceding year in the bank's state as an explanatory variable.

Finally, to get at the central point, variables were included to indicate whether the bank was in a restricted or unrestricted branching state, and whether the particular bank was in an urban or rural area.

Findings

Results from the regression analysis found that branching restrictions were associated with important variations in bank portfolios. Moreover, the effects of the restrictions worked in the expected direction: Banks in states that allowed branching had more diversified loan portfolios than similar banks in states with branching restrictions.

Not surprisingly, urban banks had significantly smaller portfolio shares in agricultural lending than did rural banks, in both restricted and unrestricted states. However, in unrestricted states, urban banks had agricultural shares only 5.3 percentage points below those in rural areas. Restricted urban banks, in contrast, had agri-

cultural shares 19.3 percentage points below the portfolio shares of their rural counterparts.

Simple simulations indicated that eliminating branching restrictions would boost the diversification of rural and urban banks. We found that if all other explanatory variables were held constant and branching restrictions were eliminated, urban banks would increase their agricultural portfolio shares by 4.3 percentage points, while rural banks would decrease their shares by 9.7 percentage points.

Implications

The empirical results suggest that geographic limitations on banking may limit a bank's ability to diversify its lending portfolio. A more comprehensive branching system, therefore, may produce a different lending pattern from the one we now observe.

Although the model predicts a decrease in the rural banks' agricultural portfolio share, the net effect on agricultural lending may be positive for two reasons. First, because urban banks in restricted states hold 98 percent of total loans in those states, urban banks' modest increase in agricultural lending predicted by the model would swamp the decrease implied for the rural banks. The model predicts a net increase of 4.2 percentage points in average agricultural portfolio shares in restricted states.

Second, branching could help agricultural communities by increasing diversification and reducing costs of bank services. First, by encouraging greater portfolio diversification, branching can enhance rural bank (and urban bank) stability. Because the health of many agricultural banks is at present tied so closely to the fortunes of the area's agricultural economy, a few bad years in a row can put the bank in jeopardy. For example, Smith (1987) found empirical evidence that intrastate branching restrictions increase the incidence of bank closure.

The failure of a local bank can have a serious effect on an agricultural community. Calomiris, Hubbard, and Stock (1986) have argued that, since agricultural lending depends heavily on the information a bank has acquired about the bor-

rower, other banks cannot quickly step in to take the place of rural banks that fail. In fact, they found a statistically significant negative relationship between bank failures and farm output.

Branching also may be more efficient. Encouraging too many banks to operate by restricting branching may make bank costs higher than necessary. Mergers of small banks can result in reduced overhead and lower costs of service to bank customers. Moreover, if rural banks have access to broader credit markets, they may be able to invest in loans yielding higher returns. At present, many agricultural banks lend a sizable portion of their assets at low rates in the federal funds market because of their limited ability to identify other, more profitable investment opportunities. Thus, interstate branching may well increase the supply of agricultural loans at a given price. Moreover, rural customers may benefit in other ways, perhaps through increased interest on their deposits, enhanced services, or decreased service charges.

Conclusions

Increased branching activity is likely to allow banks to compile more diversified portfolios. Current restrictions on branching appear to have limited banks' portfolios to the industries geographically close to the bank. Specifically, an examination of agricultural lending reveals that banks in states that allow branching had more diversified lending patterns than those that restricted branching.

Reform that allows more branching activity may increase loan availability to agriculture from

commercial banks. Contributing to an increase in supply would be increased lending by urban banks as they establish branch networks. In addition, such reform would strengthen the health of the banking system through diversification and possibly would lead to an increase in bank operating efficiency.

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References

- Smith, Hilary H. 1987. "Agricultural Lending: Bank Closures and Branch Banking." Federal Reserve Bank of Dallas *Economic Review* (September) pp. 27-38.
- Calomiris, Charles W., R. Glenn Hubbard, and James H. Stock. 1986. "The Farm Debt Crisis and Public Policy." *Brookings Papers on Economic Activity* 2, pp. 441-485.
- Laderman, Elizabeth S., Ronald H. Schmidt, and Gary C. Zimmerman. 1991. "Location, Branching, and Bank Portfolio Diversification: The Case of Agricultural Lending." Federal Reserve Bank of San Francisco *Economic Review* (Winter) pp. 24-38.

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