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Bank Diversification, Economic Diversification?

Business cycle volatility has fallen in the United States during the past two decades. Trehan (2005) explains some of the possible mechanisms behind our now more stable economy. Some researchers have argued, for instance, that businesses manage inventory better today than in the past, or that innovations in financial markets have helped smooth out business fluctuations; others have emphasized better economic policy; still a third camp argues for nothing more than good luck.

This *Economic Letter* explores in some detail one aspect of better finance. Changes in regulations during the 1980s and early 1990s facilitated a more integrated banking system, which in turn helped states share risks better.

Changes in U.S. banking

In the 1970s, the United States had a balkanized banking sector. Most states restricted banks' ability to open branches, and all states prevented out-of-state bank holding companies from buying their banks. The U.S. had almost 15,000 banks, most of them very small and very local. There were something like 50 little banking systems, one per state, rather than a single integrated system.

The shape and structure of U.S. banking has changed drastically since deregulation in the 1970s. Banks may now branch more freely (both within and across state lines) and bank holding companies may buy banks anywhere. These changes started with state-level branching reforms in the 1970s, accelerated during the 1980s as states began to allow out-of-state bank holding companies to buy their banks, and were completed in the middle of the 1990s with federal legislation allowing banks to operate nationwide. While some regulatory constraints remain (for example, no bank may hold more than 10% of deposits nationally), by and large the U.S. has moved toward a more open banking system.

As a result of these regulatory changes, banks are now larger and better diversified. For example, the share of assets held by banks with over \$10 billion

in assets (year-2000 dollars) rose from 36% in 1980 to 70% by 2000. Banks are not only bigger today than in the past, but banks and banking companies are also geographically broader. In the middle of the 1970s only 10% of the typical state's banking-system assets were owned by organizations with operations outside the state. This fraction rose to about 65% by the middle of the 1990s as reform allowed bank holding companies to buy banks across the country. Thus, the U.S. now has a single, well-integrated banking system with institutions operating across many states.

The changes in bank regulations have altered not only the size and geographical scope of banks but also their efficiency. By opening new avenues for bank takeovers and for bank expansion into new markets, deregulation has increased competitive pressure on bank managers, leading to greater efficiency, higher quality, and lower pricing of bank services (Jayaratne and Strahan, 1998; Dick, 2006). Bank efficiency itself increased through a powerful competitive shakeout that occurred with consolidation, as better run banks gained market share over higher-cost and lower-profit competitors.

What are the expected consequences of banking integration?

Bigger and broader banks are almost surely better diversified, but are they in fact safer? Early evidence from the 1930s and before suggests that large and geographically diversified banks weather economic downturns better than smaller banks. For example, the U.S. experienced periodic banking panics during the 19th century and into the early part of the 20th century. During the Great Depression years—1930 through 1933—5.6%, 10.5%, 7.8%, and 12.9% of U.S. banks failed in each year; by the end of that four-year stretch, almost half of U.S. banks had either closed or merged. Bernanke (1983) argues that this banking crisis worsened the magnitude of the downturn because credit supply fell as banks failed. Thus, many firms were unable to finance potential investments. Most of the failed banks were small and operated out of just a single office. In Canada, where not a single

bank failed, branching was the rule; in fact, Canada had only ten large banks during the 1930s. The Canadian economy fared much better than did the United States economy, in large part because of its better diversified and integrated banking system.

History thus suggests that bigger and better diversified banks are safer. Of course, history need not repeat itself. Some studies of modern consolidation suggest that banks increase their leverage following mergers or acquisitions, which tends to offset the risk-reducing effects of diversification. Demsetz and Strahan (1997) find that large banks today, while clearly better diversified, are not safer than small banks because they tend to hold riskier loans and finance themselves with less equity (leading to higher leverage). So, active management of banks can and often does offset the potential stabilizing effects of size and diversification.

Even with no change in bank risk, geographical diversification and consolidation integrates our banking system, which has potential spillover effects on local business-cycle volatility (for example, volatility measured at the state level). Integration allows banking resources to flow between states. Small business lending, for example, was traditionally a local business dominated by local lenders. Before deregulation, the fortunes of the banker and the local business community were inextricably linked. Today, however, banks are less exposed to the local economy: they tend to lend to small businesses over much greater distances, and they tend to operate branches widely across broad regions (Petersen and Rajan, 2002). In turn, the local economy is less exposed to the fortunes of local banks, partly because firms are less likely to borrow locally and partly because local banks owned by multi-state holding companies can readily access capital through affiliated banks operating elsewhere. Thus, local downturns no longer imply declines in bank capital and credit availability. Integration reduces both the effect of local business downturns on banks and the sensitivity of local business to banking downturns.

The story does not end quite there. Integrated banks, while better diversified against local economic shocks, are also better able to drain financial resources in response to downturns. Remember, before deregulation, banks and businesses inherited each other's problems. Therefore, if the local business lost money, so did the local bank. With limited opportunities to invest, however, local banks tended to stick with their customers through good times and bad. Integrated banks—banks with operations in many markets—may choose to respond

to local downturns by lending elsewhere. This kind of capital reallocation, made easier by integration, could actually worsen the impact of local shocks.

How did local volatility change after U.S. banking integrated?

Given these theoretical uncertainties, it seems natural simply to test empirically whether or not local economic volatility has increased or decreased with banking integration. Morgan, Rime, and Strahan (2004) test how the magnitude of state-specific economic shocks changed after states permitted interstate banking deregulation. They show first that the ownership of a state's banks by out-of-state banking organizations rose sharply after interstate reform, thereby integrating the state with the rest of the country. They next isolate the local business cycle for each state in each year from the middle of the 1970s (just before deregulation) to the middle of the 1990s (the end of deregulation). Then, they compute the change in average employment growth volatility after interstate banking reform relative to the change in volatility over the same years in states that were still regulated. By comparing the change in volatility to non-deregulating states, the effects of trends unrelated to banking reform can be removed. Though a bit crude (because the "control group" composition changes as more states deregulate), this calculation reveals whether most states experienced more or less volatility after deregulation. In fact, all but four states experienced lower employment growth fluctuations after deregulation.

The magnitude of the decline in volatility has been quite large. The typical state in the typical year experienced an absolute deviation in the growth of employment of about 2 percentage points from average growth. In other words, it is not unusual for a state to grow 2% faster or 2% slower than average. The size of this typical deviation, however, fell by about one-half of a percentage point after interstate banking reform, meaning that deviations around average growth are about 25% smaller than before.

Why does local economic volatility fall after banking deregulation? It seems that the answer must have to do with integration that allows the banking system to become more robust to local shocks via diversification. To test whether this expected channel actually explains the data, Strahan (2003) reports the relationship between the annual growth rate in a state's economy and the annual growth rate of capital in that state's banks, after controlling for both the national business cycle as well as dif-

ferences in long-run growth prospects across states. This correlation was very high during the years of banking disintegration, prior to the expansion of bank branching and cross-state bank ownership. For instance, the estimates suggest that a 10% decline in bank capital was associated with a decline in state-level growth of about 1.3%. This correlation, however, declined to nearly zero after states permitted interstate banking. In other words, the health of the banking system (measured by the growth in capital) now varies little with the health of the local economy. Since banks no longer become distressed during local downturns, credit remains available, thus allowing business to recover more quickly.

Conclusions

As other researchers have noted, the U.S. economy has become much more stable over the past 20 years. Changes in banking have also been dramatic during this same period, with deregulation and consolidation leading to a better integrated system dominated by large, multistate banking organizations. Regulatory change spearheaded by individual states made it easier for banks to protect their capital and profits from local downturns by becoming better diversified. The net effect of bank diversification has been both lower levels of volatility at the state level and a reduction in the link between the local economy and the local banking system. Given that state economies became less volatile after these interstate banking reforms, the evidence points to banking integration as one—though probably not the only—piece of the puzzle to explain why the U.S. economy has become less volatile.

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