Bank Competition and Performance:

Tying Together the Research Papers, Highlighting Their Contributions to the Literature, and Providing Some Suggestions for Improvement

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The Three Research Papers

- Fronk paper – Determinants of community bank profitability over different time periods with different regulations.
- Marsh and Sengupta paper – Effects of competition as proxied by geographical deregulation on the risks of community banks and regional banks.
- Ballew, Iselin, and Nicoletti paper – Effects of Dodd-Frank regulation on bank M&A activity.

The Papers All Fit the General Theme of Bank Competition and Performance

- Regulation has important effects on bank competition, determining how much banks are allowed to compete against each other, and in some cases, favoring one group of banks over another.
  - All three of the papers are about the effects of regulation which has differential effects on banks that depend on size.
    - First paper looks at different regulatory time periods for community banks, second examines effects of geographic deregulation on community and regional banks, and third explores effects of the Dodd-Frank regulatory bright line of $10 billion in assets on banks in that size neighborhood.
- Three of the most important measures of bank performance measures are profitability, risk, and M&A activity.
  - The first, second, and third papers examine profitability, risk, and M&As, respectively, as key dependent variables.

All Three Papers Have Virtues over Most Bank Competition and Performance Research

- Unlike most of the literature using U.S. data, they do not simply use the Herfindahl Hirschman Index (HHI) of local deposit market concentration to measure competition.
- Of the minority of papers that use regulation to proxy for competition, these are among the very few that directly use measures of bank performance.
- They allow for differences in behavior by bank size, which very few of the competition papers do.

Background on Bank Competition and Performance Research

- Hundreds, if not thousands, of research papers since 1963 examine the effects of bank competition on performance using U.S. data.

  - ➢ In most cases, competition is simply measured by the Herfindahl Hirschman Index (HHI) of local deposit market concentration, which is assumed to reflect competitive conditions for all banking products.
    - ❑ HHI is the sum of squares of market shares, and is a complete summary statistic for competition under Cournot quantity competition.
  - ➢ Bank competition is assumed to be independent of bank size – only the deposit HHI matters.

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Background (cont.)

- The focus on local deposit market competition primarily results from the United States v. Philadelphia National Bank (1963) Supreme Court Decision.
  - Established “cluster approach:” banks are assumed to offer a cluster of banking products in local markets, so that bank competition can be measured by using information on only local product – deposits.
  - Under the cluster approach, complete locational data for antitrust policy need only be collected for deposits.
  - Since data are usually collected for regulatory, rather than research purposes, these are the data with which researchers have to work.
    - The FDIC Summary of Deposits (SoD) collects locational data on bank branches and the deposits in each branch.
    - Most bank competition research using U.S. data over the last five-plus decades uses the local market deposit HHI calculated from the SoD.

Using Geographic Deregulation to Indicate Competition

- A growing literature over the last two decades uses alternative measures of competition – differences across U.S. states in the times at which they removed regulations that geographically restricted competition.
- This research mostly suggests that increased competition from deregulation has positive real economic outcomes:
  - Improved state economic outcomes, such as higher state income growth.
  - Mostly better outcomes for nonfinancial firms.
  - Better outcomes for households.
- Many authors in this literature, but two names stand out:
  - Philip Strahan is the author of many of the papers.
  - Tara Rice is largely responsible for the *R&S Index*.

Geographic Deregulation (cont.)

- The deregulation research does not generally directly measure the effects of bank competition on bank performance.
  - Deregulation is not a direct measure of how banks compete, but rather of how much state governments ***allow*** the banks to compete.
  - Real economic outcomes for state income, firms, and households are not direct measures of bank performance, but rather the indirect consequences of improved performance.
- The three papers in this session have the advantage over most of this research of addressing the second issue – they look directly at bank performance.

Differences in Behavior by Bank Size

- Some research supports the notion that there are important differences in behavior by bank size.
- Large and small banks generally use different lending technologies to serve small businesses.
  - ➢ Large banks more often use hard-information-based technologies because these banks have comparative advantages in processing and communicating hard numbers.
  - ➢ Small or community banks more often employ soft-information based technologies like relationship lending, because of comparative advantages in collecting and communicating soft information, like the character of a small business owner.
    - ❑ Berger and Udell, *EJ* 2002; Stein, *JF* 2002; Berger, Miller, Petersen, Rajan, and Stein, *JFE* 2005; Berger and Udell, *JBF* 2006; Berger and Black, *JBF* 2011.

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Research on Bank Competition and Performance that Allows for Differences in Competition by Bank Size

- A limited amount of research examines the effects of the market share of small banks on small business credit availability, with mixed results:
  - Berger, Rosen, and Udell (*JBF*, 2007); Berger, Goulding, and Rice (*JBF*, 2013); Berger, Cerqueiro, and Penas (*RoF,* 2015).
- A paper I presented here two years ago uses a better outcome variable, a direct measure of financial constraints from small business managers in the local banking market.
  - Finds strong evidence that a higher market share for small banks is associated with fewer financial constraints for small businesses.
    - Berger, Bouwman, and Kim (*RFS*, forthcoming).
- The three papers in this session extend this research by examining how bank regulation affects the performance of banks in particular size classes.

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Suggestions for Improving the Three Papers

- The most important suggestions for improving the papers are:
  - ➢ Broaden the appeal by putting them in the context of the far-reaching literature on bank competition and performance.
  - ➢ Emphasize the three big advantages over most of the competition and performance literature:
    - ❑ Using regulation instead of the deposit market HHI.
    - ❑ Using direct measures of bank performance instead of indirect measures of the performance of the local economies.
    - ❑ Allowing for differences in behavior by bank size.

Specific Suggestions for Fronk Paper

- Add a table with variable definitions and summary statistics.
- Check if the results are robust to alternative measures of profitability.
- Include the local market deposit HHI, which is standard in the research.
- Consider including measures of geographic regulation like intrastate branching, interstate banking, and interstate branching like the *Rice & Strahan Index*.
- Consider adding a separate analysis of other banks to see what is unique for community banks.
- Double check which banks are included, given that there appear to be more community banks included than the total number of commercial banks.

Specific Suggestions for Marsh and Sengupta Paper

- Extend the data past 2005 by collecting data from state regulators to update the *Rice & Strahan Index*.
- Label the tables more clearly. Would make it easier to determine what the dependent and independent variables are without reading the legend (sometimes the legends are also confusing).
- See if your results are robust to excluding lagged loan growth.
- Make the paper more complete by measuring more dimensions of bank fragility besides loan growth, including bank capital and Z-score.
  - ➢ The effects on bank capital could go in the opposite direction, making the banks actually safer.
    - ❑ Berger, Klapper, and Turk-Ariss (*JFSR* 2009) finds that more competition leads to *riskier* portfolios (consistent with the competition-stability view of Boyd and De Nicolo), but the banks are actually *safer* because they hold more capital that more than offsets the higher portfolio risk (consistent with the competition-fragility view of Keeley).

Specific Suggestions for Ballew, Iselin, and Nicoletti Paper

- Clarify the reason why banks under the bright line would increase their probability of acquisitions that subject them to more regulatory burden.
  - Is it that they think they will cross organically anyway?
  - The paper also provides some evidence that banks below the bright line slow their deposit growth, consistent with the opposite argument.
- Run the tests allowing for difference between banks just under and just over the bright line (i.e., < \$10B versus ≥ \$10B), as the incentives likely differ.
- Be consistent in the size groupings (i.e., either \$8B - \$10B or \$9B - \$10B), rather than switching the cutoffs.
- Consider using the more conservative methodology of two-sided hypothesis tests throughout the paper, especially because some arguments and evidence go the other direction.

Conclusions

- The papers in the session all push forward the research literature on bank competition and performance.
- I encourage you to read these papers, to consider how to apply them in real-world applications, and to conduct further research on this important topic.