Bank Failure, Relationship Lending, and Local Economic Performance

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The analysis and conclusions set forth are those of the author alone and do not indicate concurrence by the Board of Governors or other members of the research staff.
Failed Depository Institutions

- Failed Depository Institutions (left axis)
- Failed Institutions as a Percent of Total FDIC Insured (right axis)
General Overview

• How important are banks to local economies these days?
  – Relationship lending, direct employment, etc.

• My strategy:
  – Identify counties affected by bank failure → Measure subsequent economic outcomes

• Clear endogeneity concern:
  – Poor economic environments can lead to bank failures
Bank Failures: 25
Counties with a Bank Failure: 235
2009 Failures

Bank Failures: 140
Counties with a Bank Failure: 321
2010 Failures

Bank Failures: 157
Counties with a Bank Failure: 307
Outcome Variables

- Per Capita Income Growth
- Per Capita Income Growth, Ex-Transfer Payments
- Total Employment Growth, Ex-Farm
- Total Employment Growth, Ex-Farm/Finance
- Per Capita Total Compensation Growth
- Per Capita Total Compensation Growth, Ex-Finance
- Unemployment Rate
- Poverty Rate
Method 1: Propensity Score Matching

• Pseudo-experimental technique
  – Compare “treated” counties that experienced a bank failure with very similar counties that did not
  – Estimate the analogue of a “treatment effect” from a controlled experiment

• Counties are matched across many observables
  – Adequacy of matching algorithm is evaluated in the paper

• General approach:
  – Observe failure (t)
  – Match counties to identify a “control” group (t-1 or earlier)
  – Observe outcomes (t+1, t+2)
Propensity Score Matching
Estimated Effect of Bank Failure – First Year After Failure

Per Capita Income Growth (%)
Per Capita Income Growth, Ex-Transfer Payments (%)
Total Employment Growth, Ex-Farm (%)
Total Employment Growth, Ex-Farm/Finance (%)

2008 Failures
2009 Failures
2010 Failures

Note: unfilled bars indicate statistical insignificance at the 10% level
Estimated Effect of Bank Failure – Second Year After Failure

-1.40%
-1.20%
-1.00%
-0.80%
-0.60%
-0.40%
-0.20%
0.00%
Method 2: Variation in Method of FDIC Resolution

• I compare resolutions that include loss-sharing agreements with those that don’t
  – Loss-sharing agreements should help maintain banking relationships by keeping assets with the acquiring institution

• Using panel regressions, I identify the effect of a loss-sharing agreement by including dummies

\[ y_{it} = \alpha + \beta F_{it-1} + \delta x_{it-1} + \phi \chi_t + \varepsilon_{it} \]
Estimated Effect of the Inclusion of a Loss-Sharing Provision in a Resolution Agreement

Note: unfilled bars indicate statistical insignificance at the 10% level
Method 3: Variation in the “Importance” of Bank Failure to a County

• If bank failure matters to local economies, more “serious” bank failures should precede worse economic performance

• The variation in (normalized) deposits held in failed institutions can be used to explain future economic outcomes
  – Assume extent of banking relationships correlates with deposit penetration within a county
Method 3: Variation in the “Importance” of Bank Failure to a County

• Relationship lending can be affected by the extent of competition faced by banks (Boot, 2000)

• Petersen and Rajan (1995): Higher competition $\rightarrow$ Less relationship lending

• Boot and Thakor (2000): Higher competition $\rightarrow$ More relationship lending

$$y_{it} = \alpha + \beta s_{it-1} + \gamma (s_{it-1} \ast HHI_{it-1}) + \delta x_{it-1} + \phi X_i + \epsilon_{it}$$

$$s_{it-1} = \frac{Failed Deposits_{t-1}}{Personal Income_{t-2}}$$
Estimate effect of *Failed Deposits/Income Ratio* of 5%, by Market Concentration
Conclusions

• Bank failure appears to lead to measurable economic underperformance
  – A likely channel through which this works is relationship lending
  – There is also evidence of a “direct” channel of bank failure on economic performance

• Bank failure most strongly affects high-competition markets
  – Relationship lending is most prevalent in low concentration markets