

Community Banking  
in the 21st Century

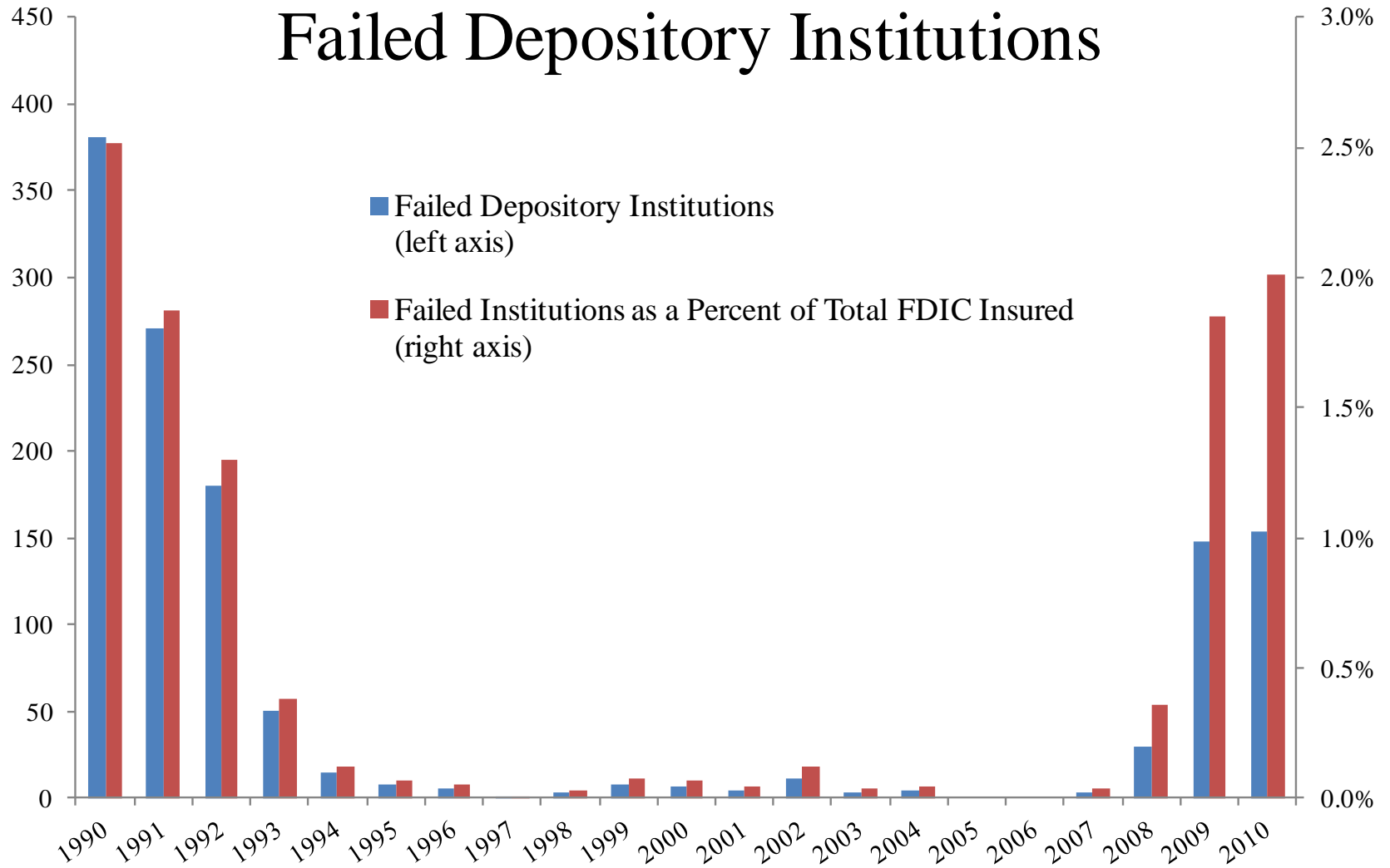
# Bank Failure, Relationship Lending, and Local Economic Performance

John Kandrac  
*Federal Reserve Board of Governors*

*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.*



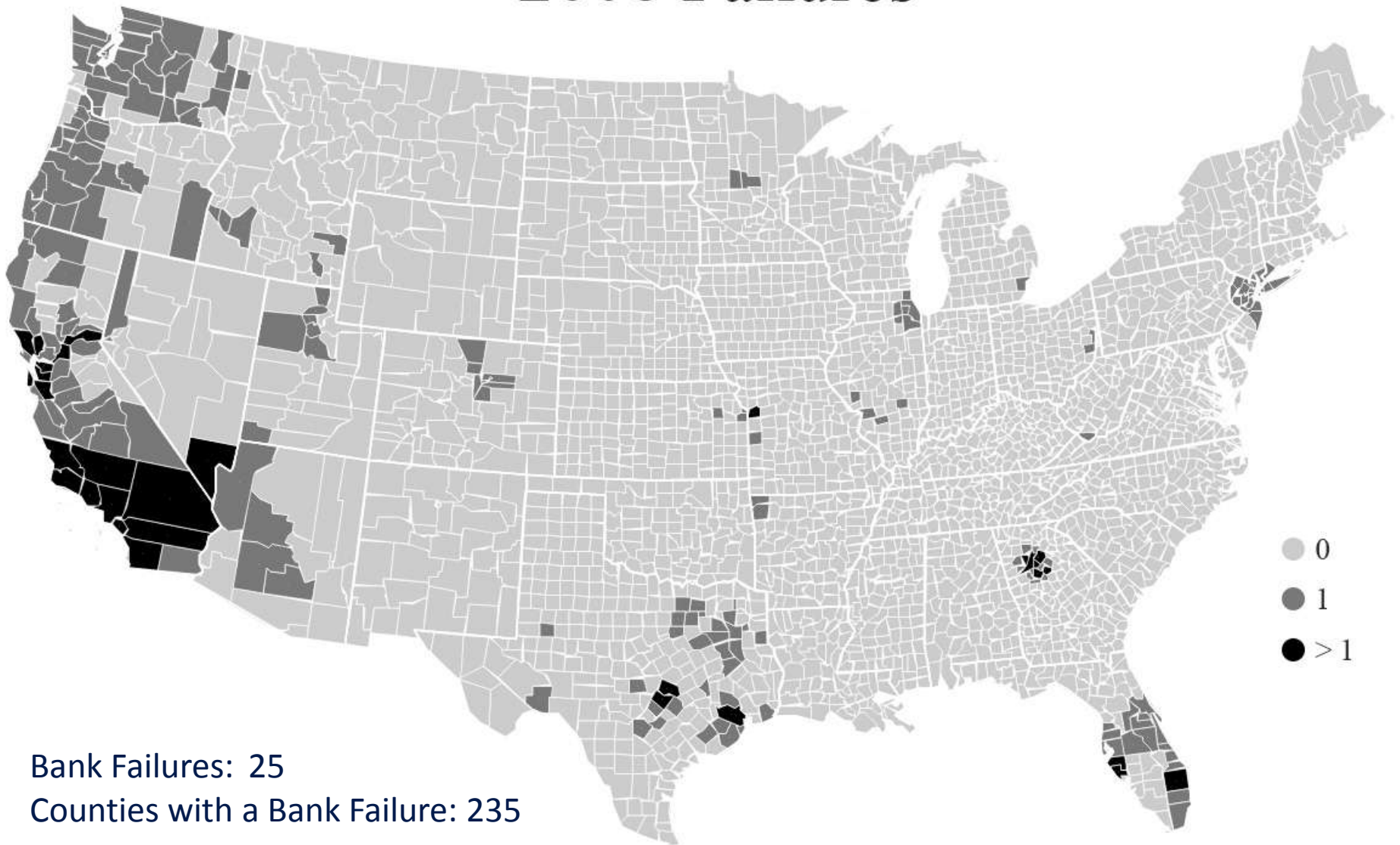
# Failed Depository Institutions



# 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

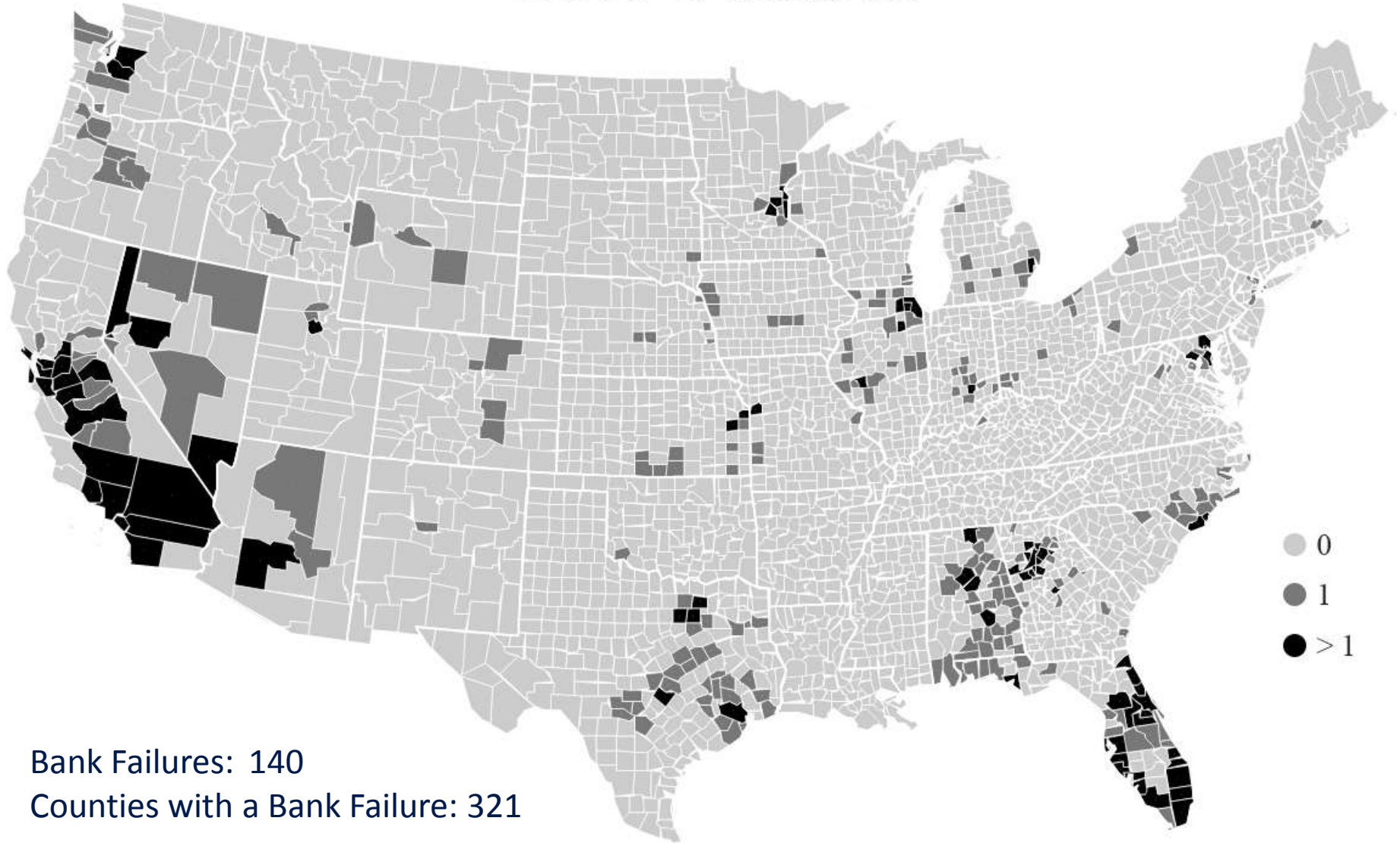
# 2008 Failures



Bank Failures: 25

Counties with a Bank Failure: 235

# 2009 Failures

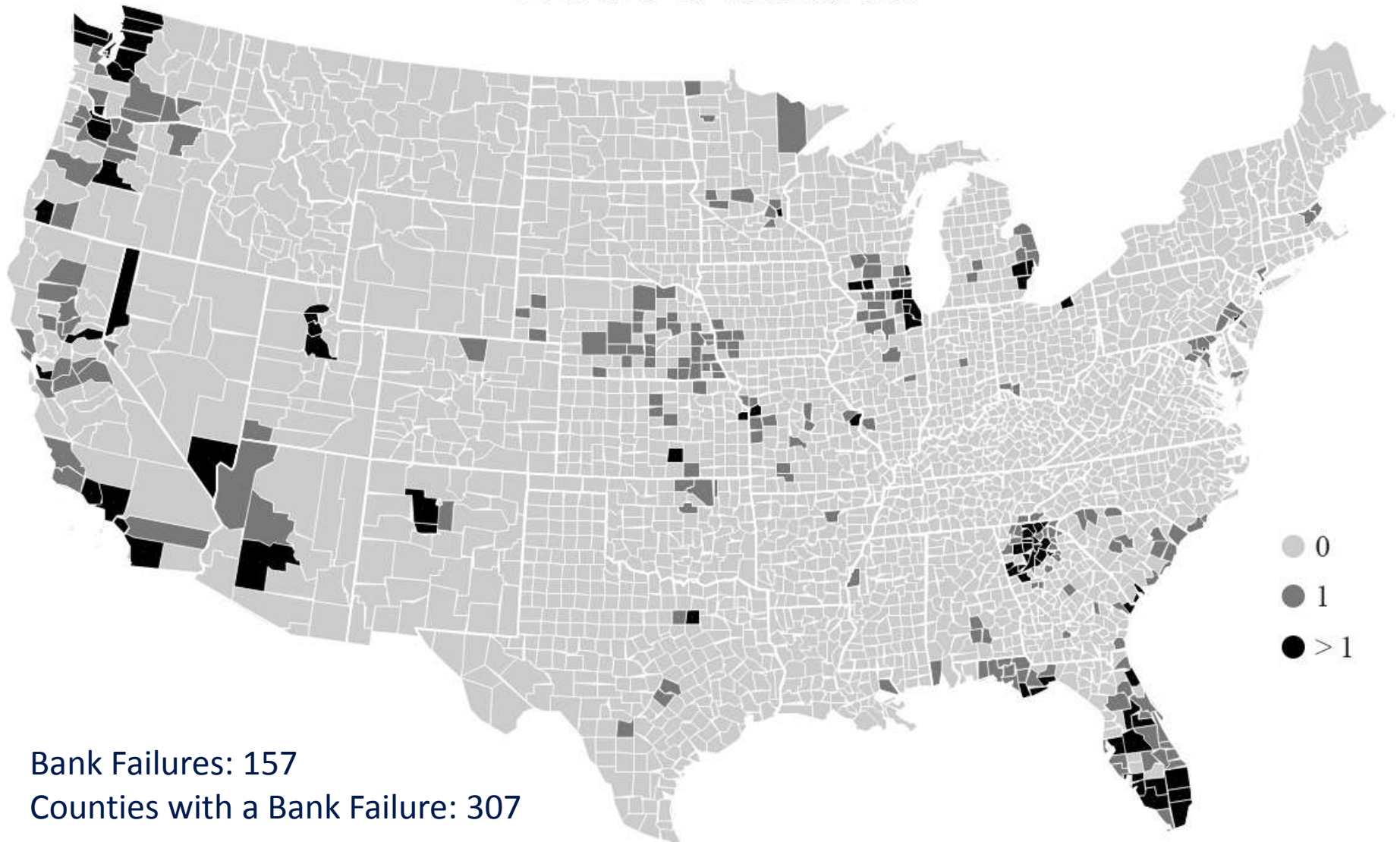


Bank Failures: 140

Counties with a Bank Failure: 321



# 2010 Failures



Bank Failures: 157

Counties with a Bank Failure: 307

# Outcome Variables

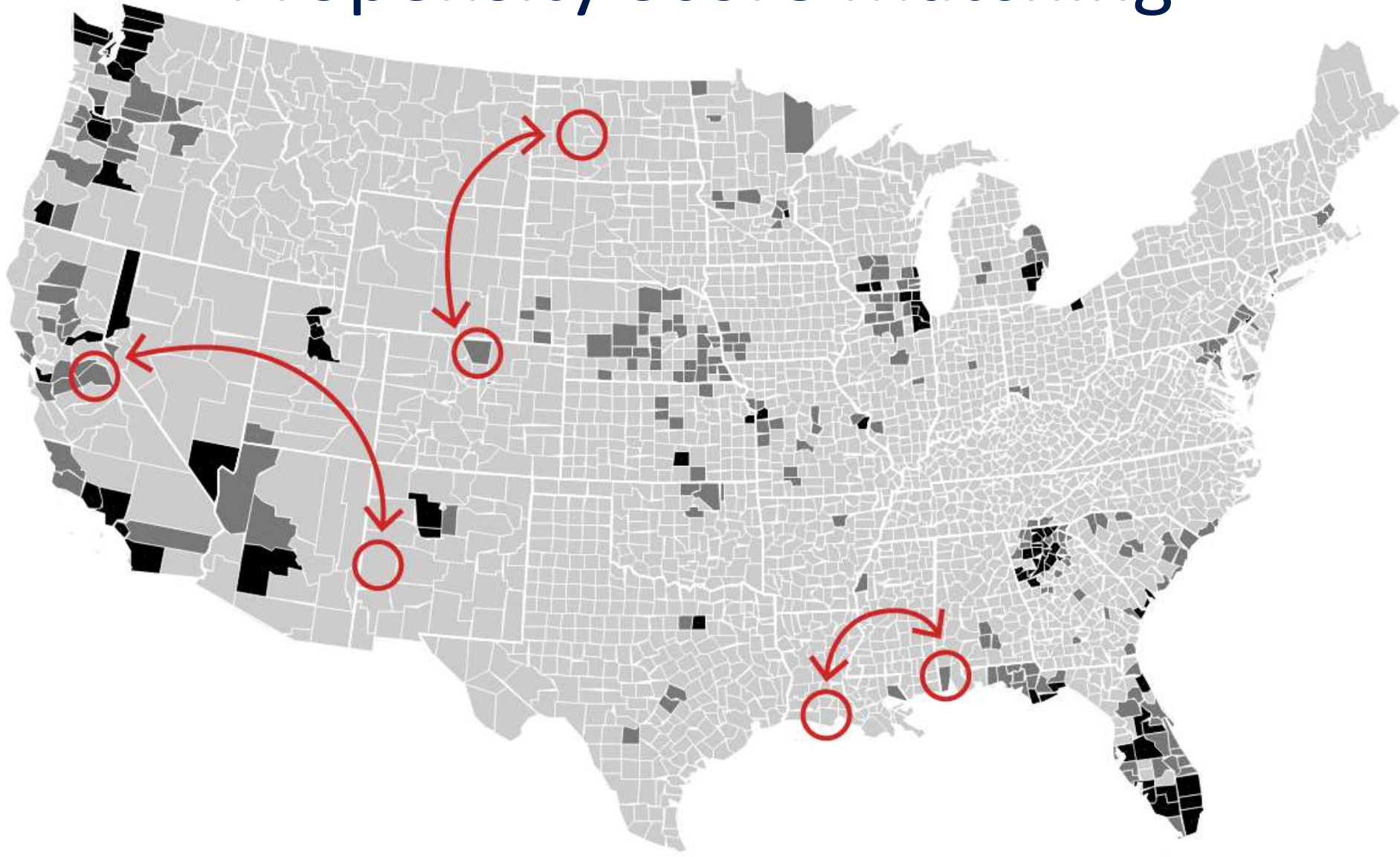
- Per Capita Income Growth
- Per Capita Income Growth, Ex-Transfer Payments
- Total Employment Growth, Ex-Farm
- Total Employment Growth, Ex-Farm/Finance
- Per Capita Total Compensation Growth
- Per Capita Total Compensation Growth, Ex-Finance
- Unemployment Rate
- Poverty Rate

# Method 1: Propensity Score Matching

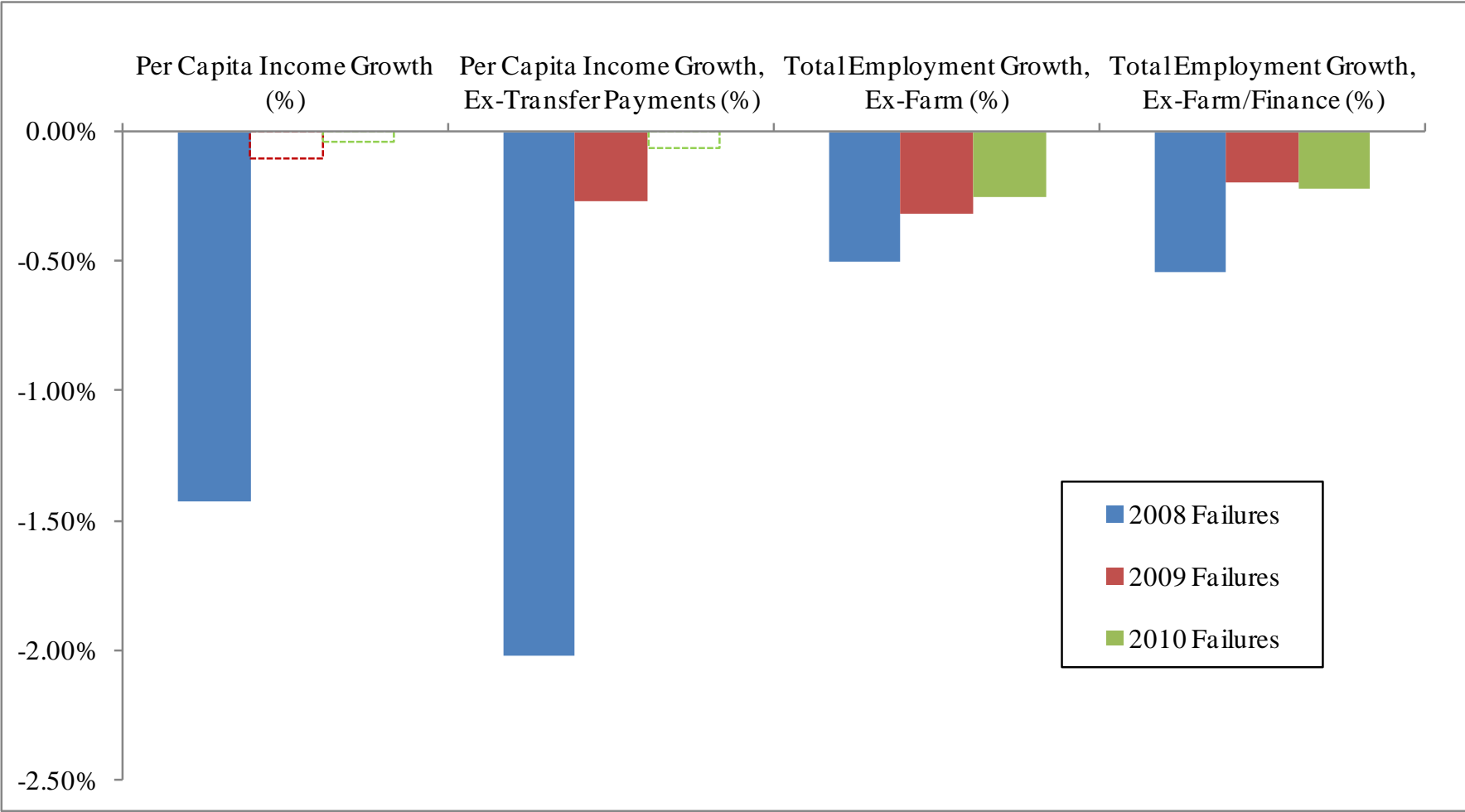
- Pseudo-experimental technique
  - Compare “treated” counties that experienced a bank failure with very similar counties that did not
  - Estimate the analogue of a “treatment effect” from a controlled experiment
- Counties are matched across many observables
  - Adequacy of matching algorithm is evaluated 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

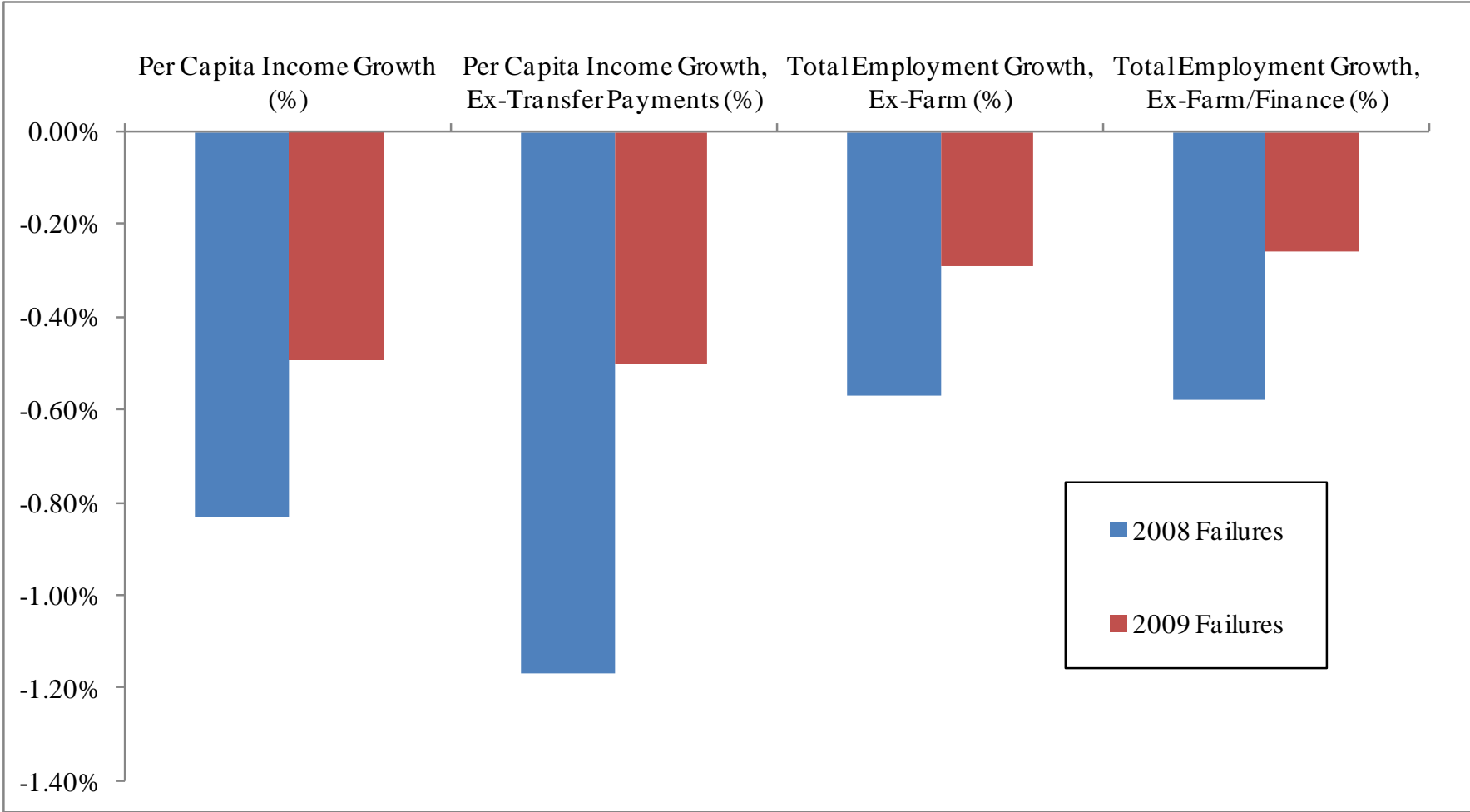


# Estimated Effect of Bank Failure – First Year After Failure



Note: unfilled bars indicate statistical insignificance at the 10% level

# Estimated Effect of Bank Failure – Second Year After Failure

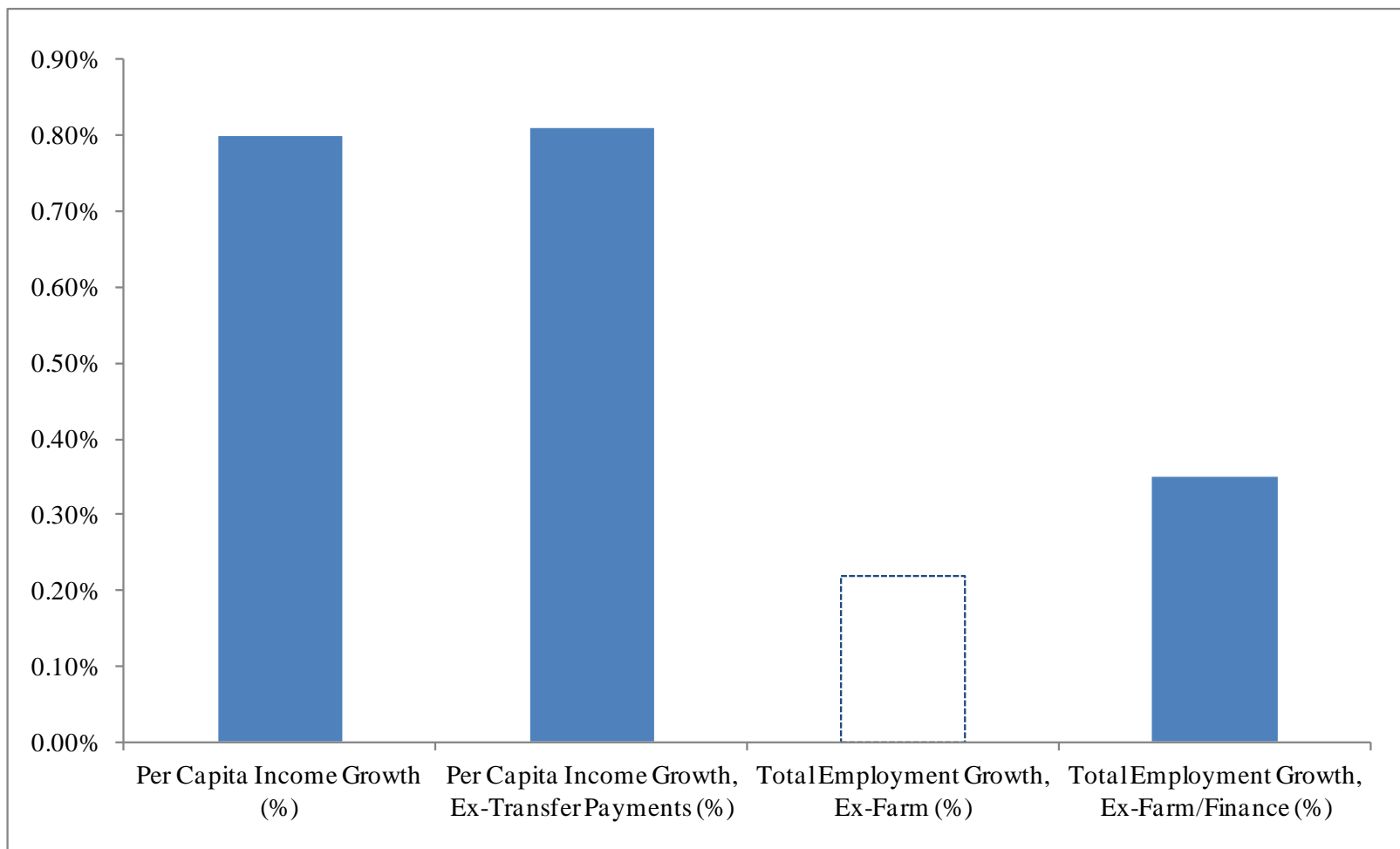


# Method 2: Variation in Method of FDIC Resolution

- 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



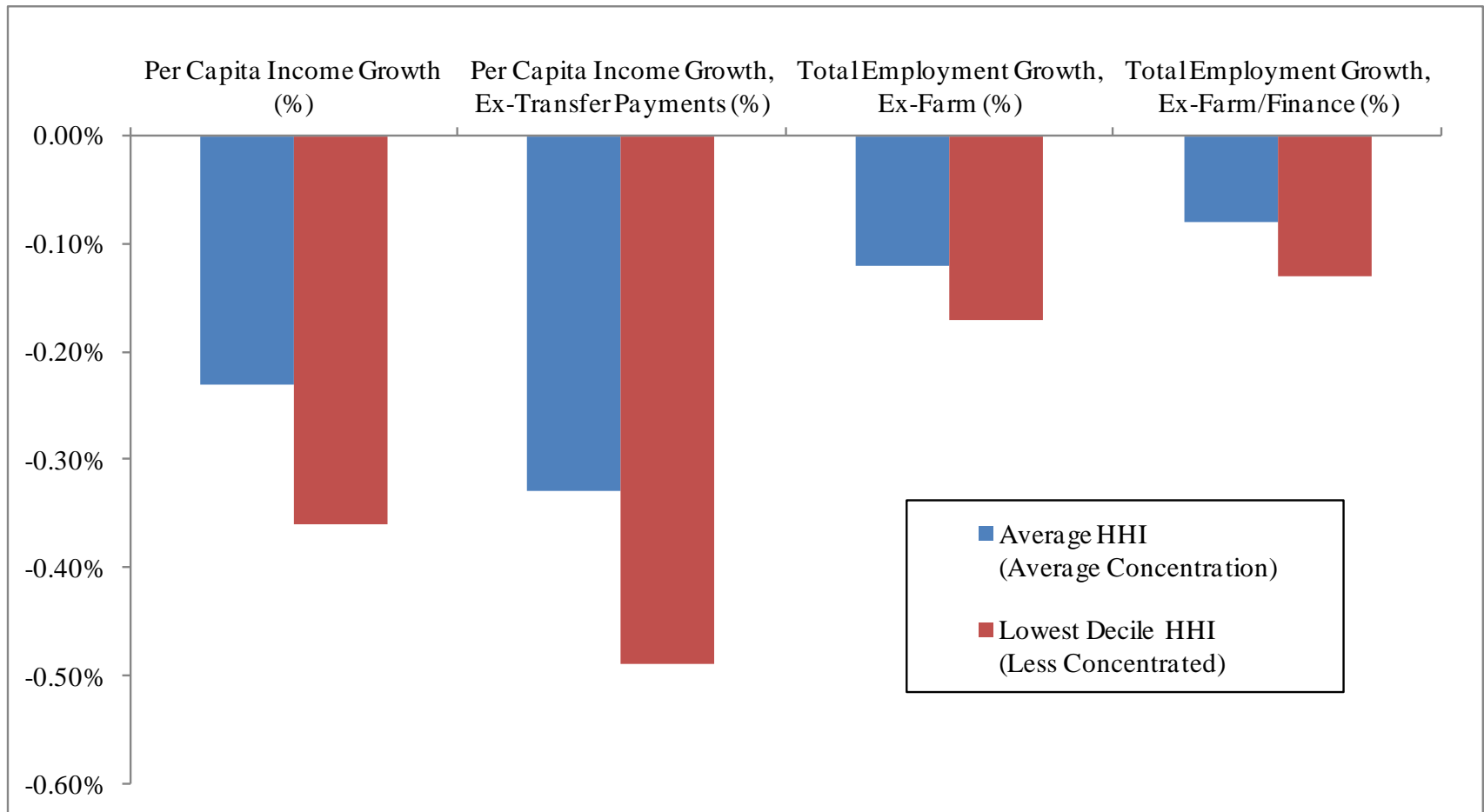
# Method 3: Variation in the “Importance” of Bank Failure to a County

- Relationship lending can be affected by the extent of competition faced by banks (Boot, 2000)
- Petersen and Rajan (1995): Higher competition → Less relationship lending
- Boot and Thakor (2000): Higher competition → More relationship lending

$$y_{it} = \alpha + \beta s_{it-1} + \gamma(s_{it-1} * HHI_{it-1}) + \delta x_{it-1} + \phi \chi_t + \varepsilon_{it}$$

$$s_{it-1} = \frac{\text{Failed Deposits}_{t-1}}{\text{Personal Income}_{t-2}}$$

# 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