



Is Bigger Necessarily Better in Community Banking?

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Community Banks Have Comparative Advantages

- ❖ Ben Bernanke (March 23, 2011):
 - “Community bankers live and work where they do business, and their institutions have deep roots, sometimes established over several generations. They know their customers and the local economy. Relationship banking is therefore at the core of community banking.”
 - This advantage in collecting soft information is fundamental to community banks’ effectiveness -- and cannot be matched by models or algorithms (used by large banks), no matter how sophisticated.”

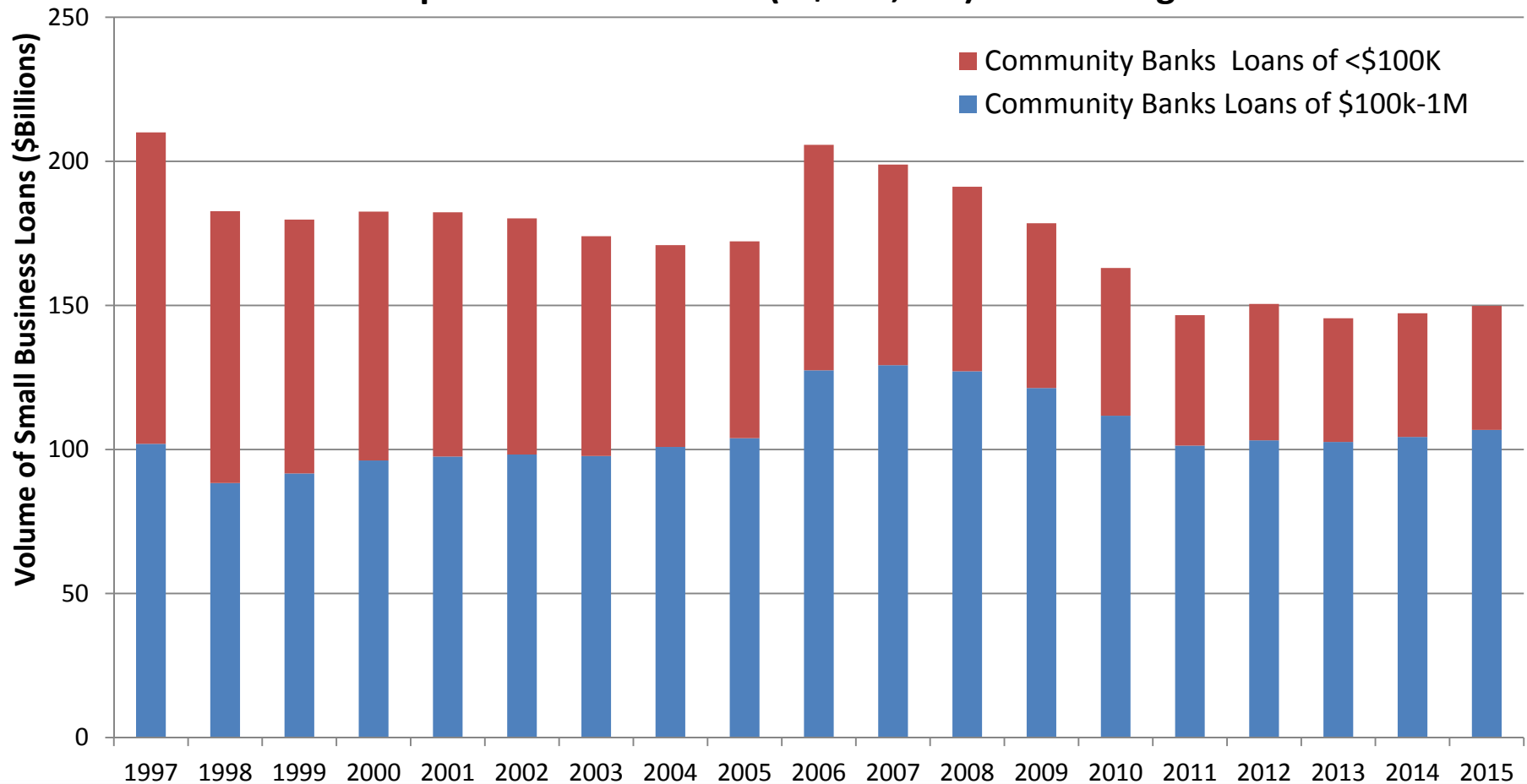


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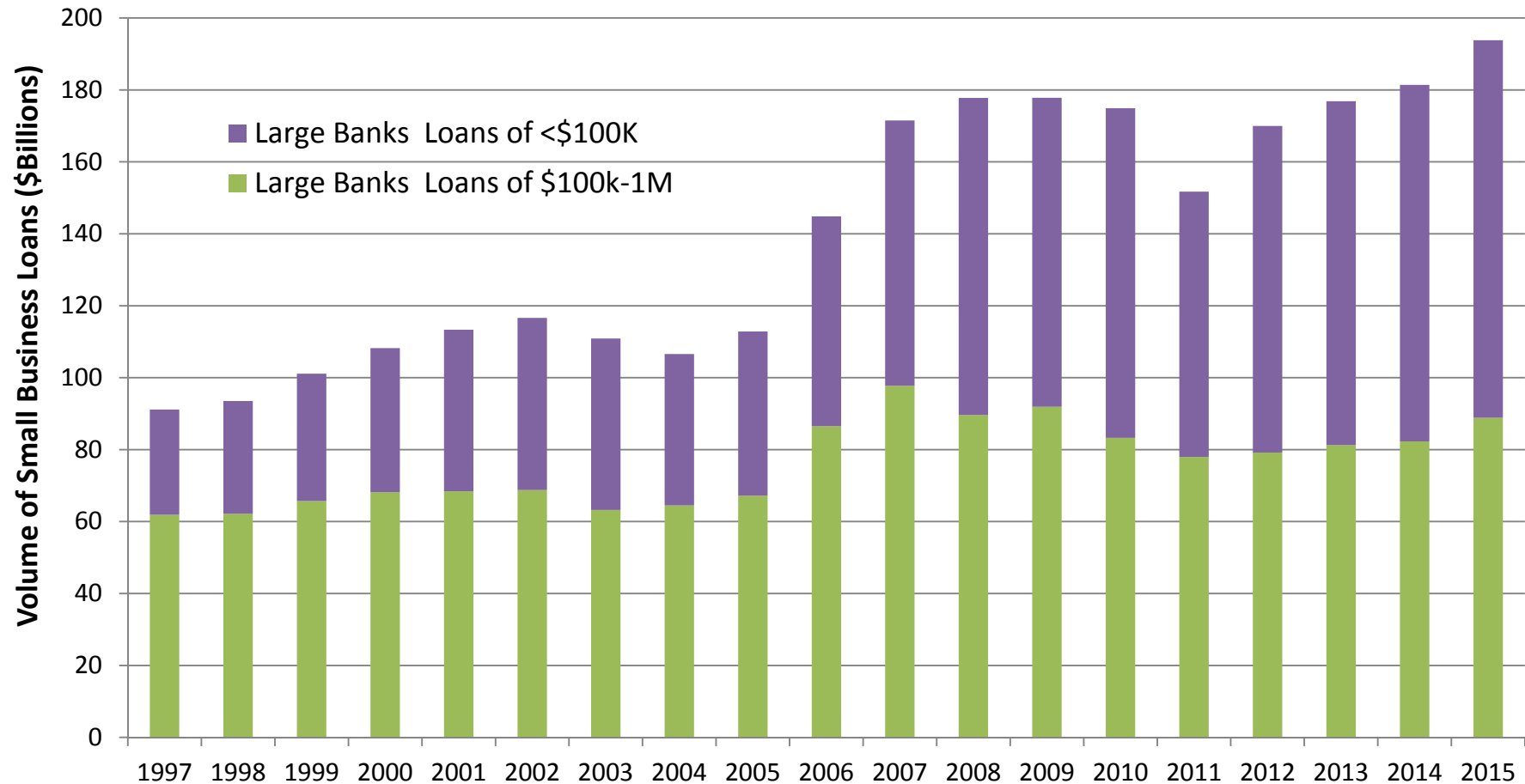


Total SBL Volume at Community Banks (< \$10 Billion) – Declining Proportion of Small SBL (< \$100,000) -- Declining



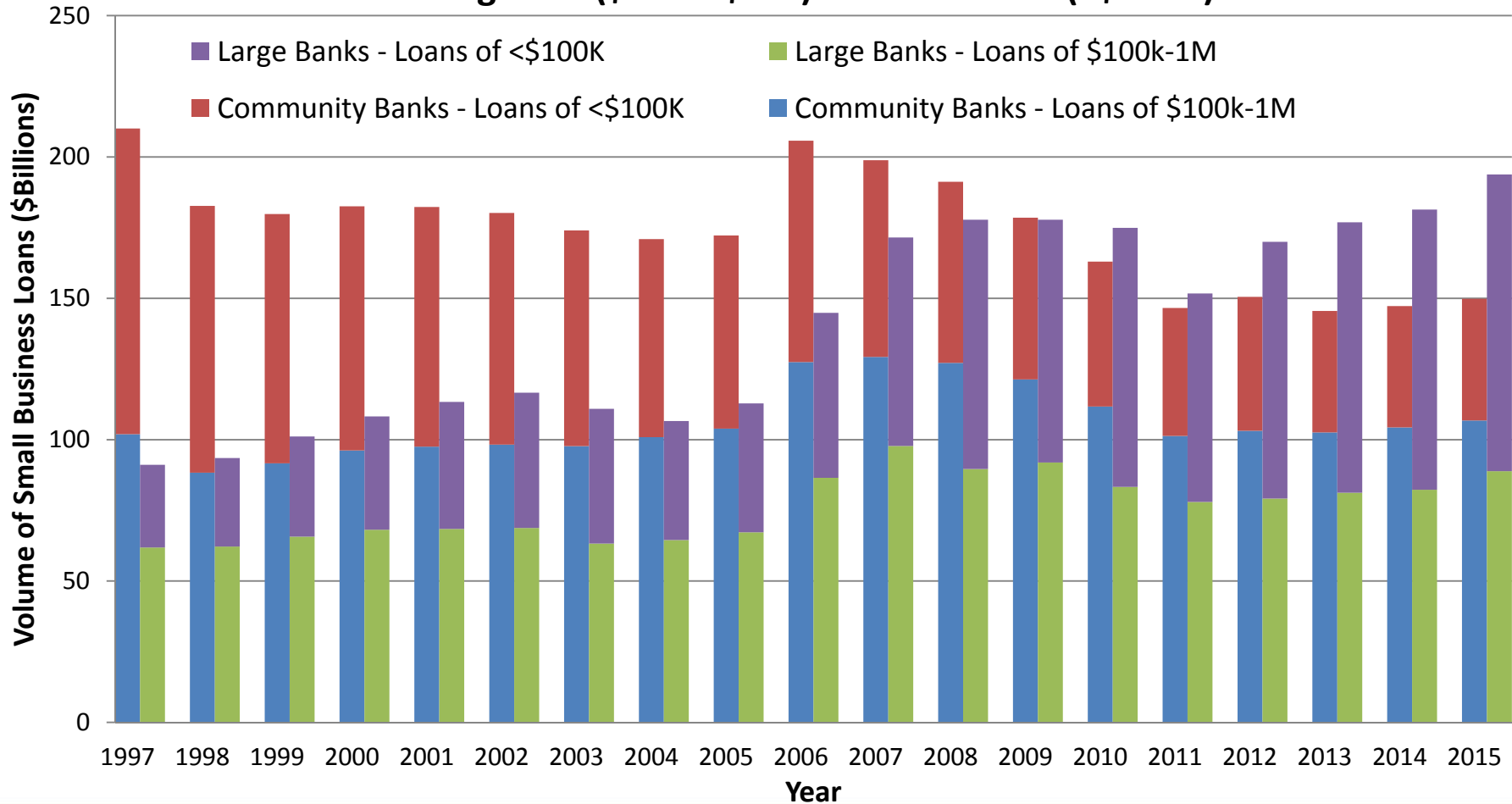


Total SBL Volume at Large Banks (> \$10 Billion in Assets) -- Increased Proportion of **Small SBL (<\$100,000)** -- Increased



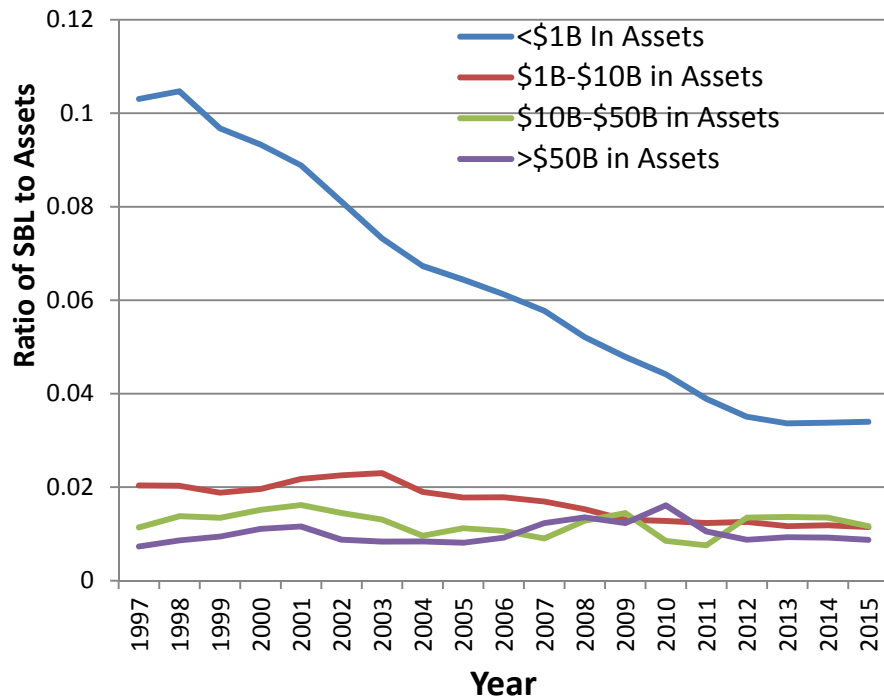


SBL Volume at Community Banks vs. Large Banks (1997-2015)
Large SBL (\$100K-\$1M) and Small SBL (<\$100K)

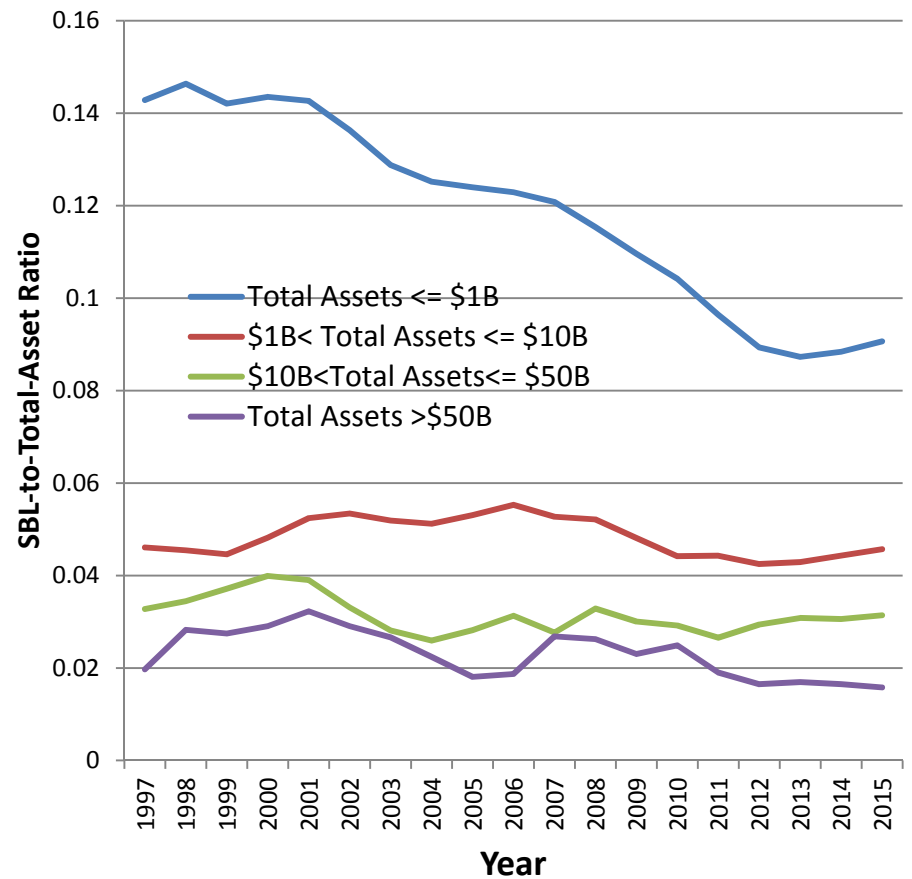




Declining Ratio of Small SBL (<\$100K) to Assets at Small Community Banks – Stable at Large Community Banks



Declining Ratio of Large SBL (\$100K to \$1M) to Assets at Small Community Banks



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The Changing Landscape

- ❖ The comparative advantages in information intensive lending – small business loans (SBL) -- may be shrinking?
- ❖ More recent data shows that the roles of community banks (less than \$10 billion) in SBL have declined:
 - Declining SBL market shares
 - Declining SBL to asset ratio
- ❖ **What is really happening?**
- ❖ Jagtiani and Lemieux (2016) – examine the roles of large banks that do not have physical presence in the county where loans (SBL) were made. Found increasing roles of FinTech.

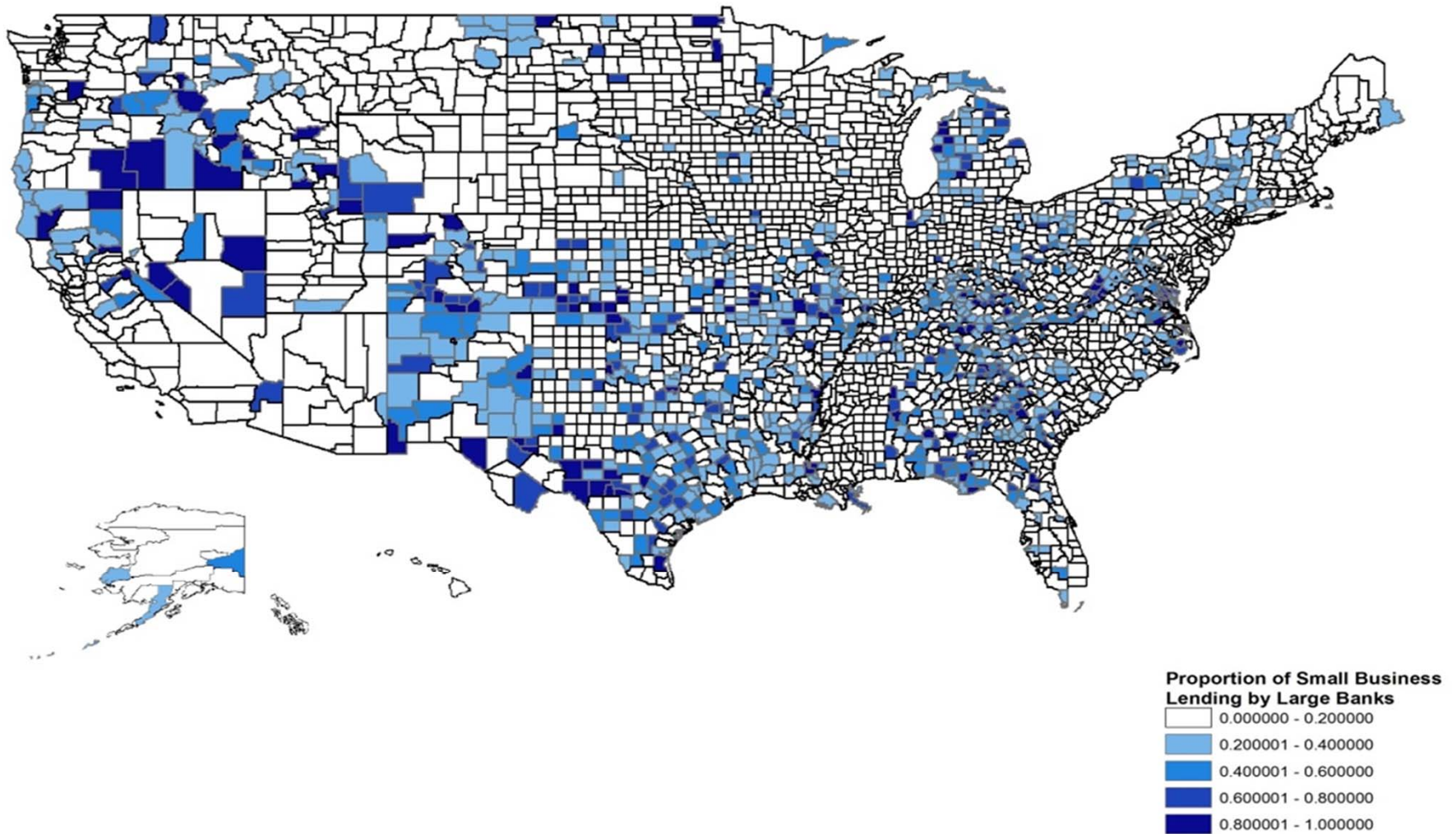


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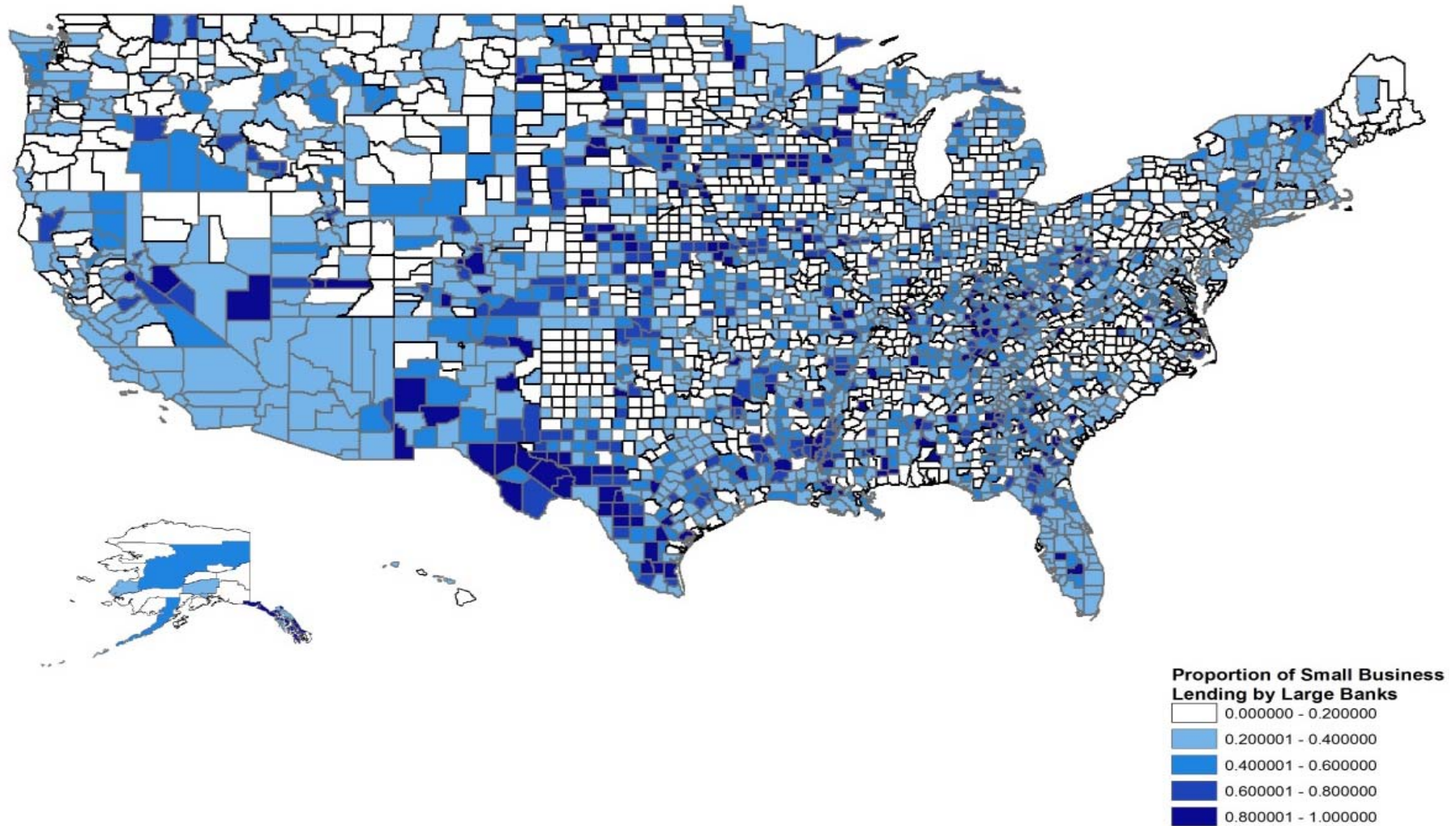


Percent of Newly Originated SBLs Made by Large Banks (that do not have offices in the county) in 1997 – using CRA Data





The Role of Technology – Increased Percent of Newly Originated SBLs Made by Large Banks (that do not have offices in the county) in 2014.





Our Research Objectives

- ❖ There are fixed cost associated with regulatory compliance and technology investment.
- ❖ These create burdens – which may have disproportionately raised operating costs at smaller banks.
- ❖ Research Questions:
 - Is there a bank size small enough that these fixed costs would outweigh community bank advantages in relationship lending?
 - Do larger community banks outperform smaller community banks?





The Data

- ❖ 2013 data on 245 publicly traded top-tier U. S. bank holding companies
 - 54 small community banks: assets < \$1B
 - 156 large community banks: \$1B - \$10 B
 - 35 larger banks: \$10B - \$50 B
 - CCAR banks (>\$50B) are excluded
- ❖ Most community banks are not traded – so, we ran some basic characteristics to confirm that our sample of community banks are representative of the population, on average.
- ❖ Data Sources: Call Reports, Y-9 Reports, Summary of Deposits, Compustat.



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Our Basic Performance Measures

- ❖ Tobin's Q ratio = ratio of the MV of assets (MVA) to their replacement cost of assets (BV).

$$\text{Tobin's } q \text{ Ratio} = \frac{\text{market value of assets}}{\text{book value of assets}}$$

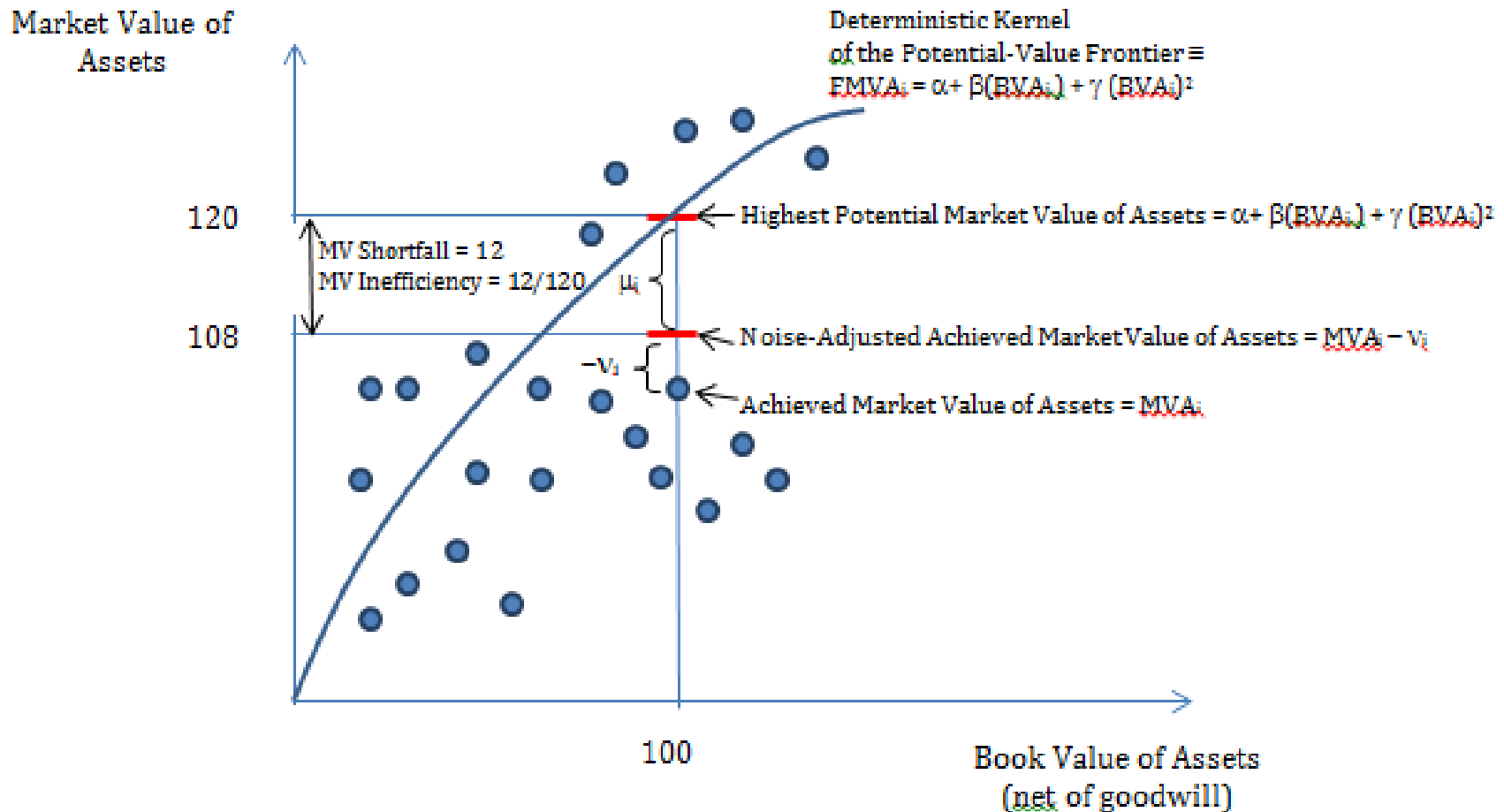
- ❖ **Noise adjusted Tobin's q Ratio** -- eliminates the effect of statistical noise = $\frac{\text{noise-adjusted market value of assets}}{\text{book value of assets}}$

- ❖ **MV Inefficiency** = $\frac{\text{Highest Potential Value} - \text{Achieved Value}}{\text{Highest Potential Value of Assets}}$



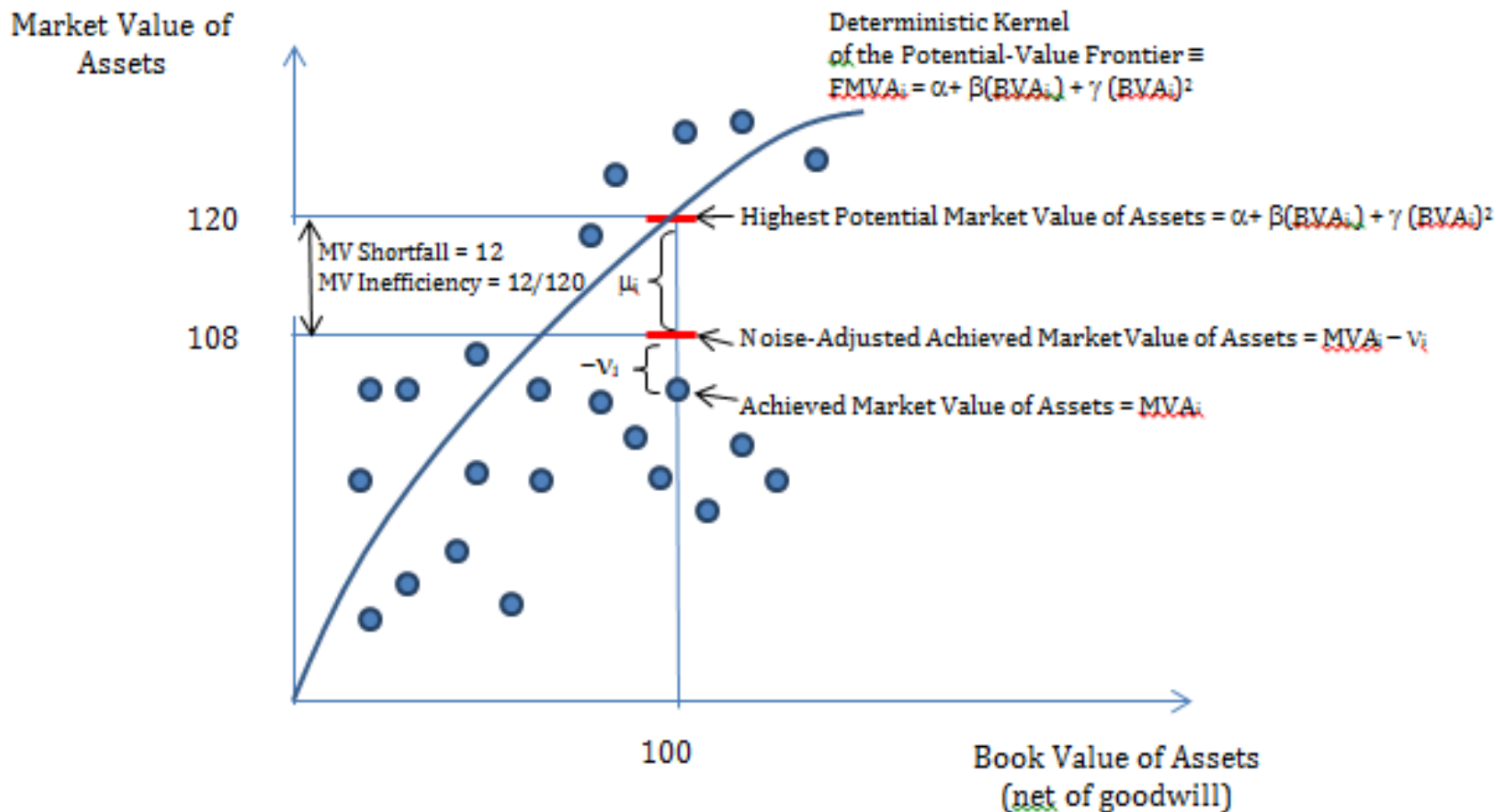


Investment in Assets= 100; Achieved Value= 108; Highest Value= 120;
Shortfall = Lost Value= 12





Shortfall = 12; Noise-Adjusted Tobin's Q Ratio = $108/100 = 1.08$
 MV Inefficiency Ratio = $12/120 = 0.10$





Investment Opportunity Ratio In addition to the MV Inefficiency Ratio To Accurately Measure Frontier in Relevant Markets Only

- ❖ Investment Opportunities -- applies the frontier analysis to estimate the highest potential value of banks' assets in the markets in which they operate **only** – so, the frontier represents the value achieved by best-practice in these markets.
- ❖ **Investment Opportunity Ratio** = Highest Potential Value (relative to other banks that operate in similar economic environment; e.g. HHI, GDP) to the BV investment in assets.





Empirical Results (1) -- Size Matters Overall

- ❖ Results -- on average:
 - Large banks exhibit better overall performance than community banks.
 - Large community banks exhibit better financial performance than small community banks
 - Results hold when focusing on **Top Third Best** -- best performing large community banks perform better than the best performing small community banks



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Empirical Results (2) – Size and Relationship Lending (SBL)

- ❖ We apply stochastic frontier analysis to estimate the Best-Practice Minimum NPLs for any given amount of total loans – controlling for risk, average contractual lending rate (perception of ex ante credit risk), portfolio composition, macroeconomic, and market concentration.
- ❖ **Loan Performance Inefficiency** = the excess of a bank's observed NPL volume (adjusted for statistical noise) over the best-practice frontier.

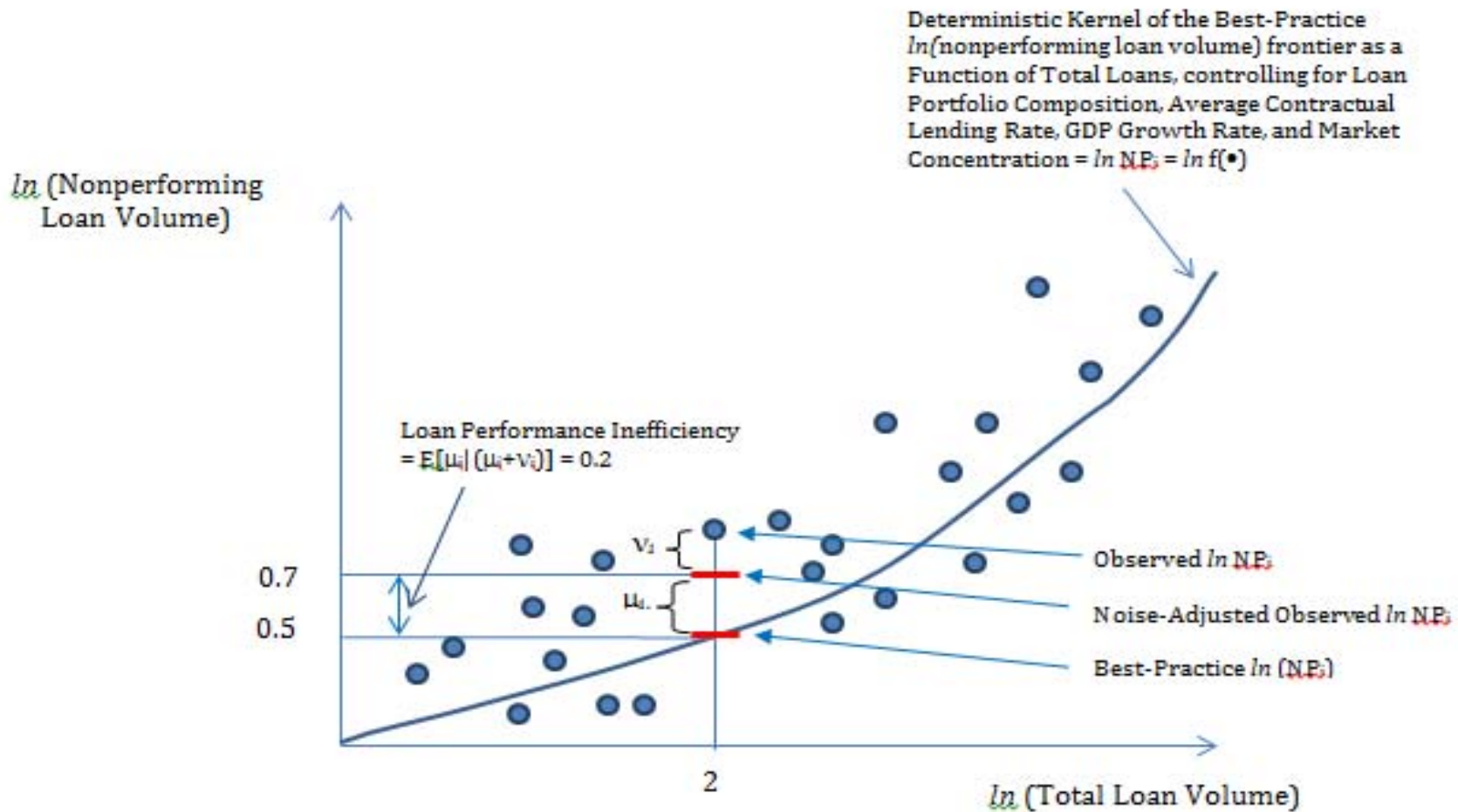


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Best-Practice Loan Nonperformance Frontier



Optimal SBL Ratios across Bank Size

❖ Empirical Results:

- **For Small Community Banks & Large Banks:** Financial performance is **negatively** related to the SBL/assets ratio at **small community** banks and **large** banks -- incentives to reduce SBL activities & increase large business loans.
- **For Large Community Banks:** Financial performance is **positively** related to the SBL/assets ratio at **large community** banks -- suggesting that large community banks could improve performance by doing more SBL -- have financial incentives to increase SBL.



Conclusions

- ❖ Yes, on average, large community banks outperform small community banks
- ❖ Yes, there seems to be a bank size small enough that fixed costs (e.g. compliance, technology investment) would outweigh the lending advantages that small community bank used to have.
- ❖ Importantly, we find that large community banks (\$1B-\$10B) have financial incentives to expand their SBL activities.
- ❖ Implications: Concern that small business lending would be adversely affected if small community banks find it beneficial to increase their scale is not supported by our results.



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