

Regulating Banks in the Era of Shadow Banks

Amit Seru

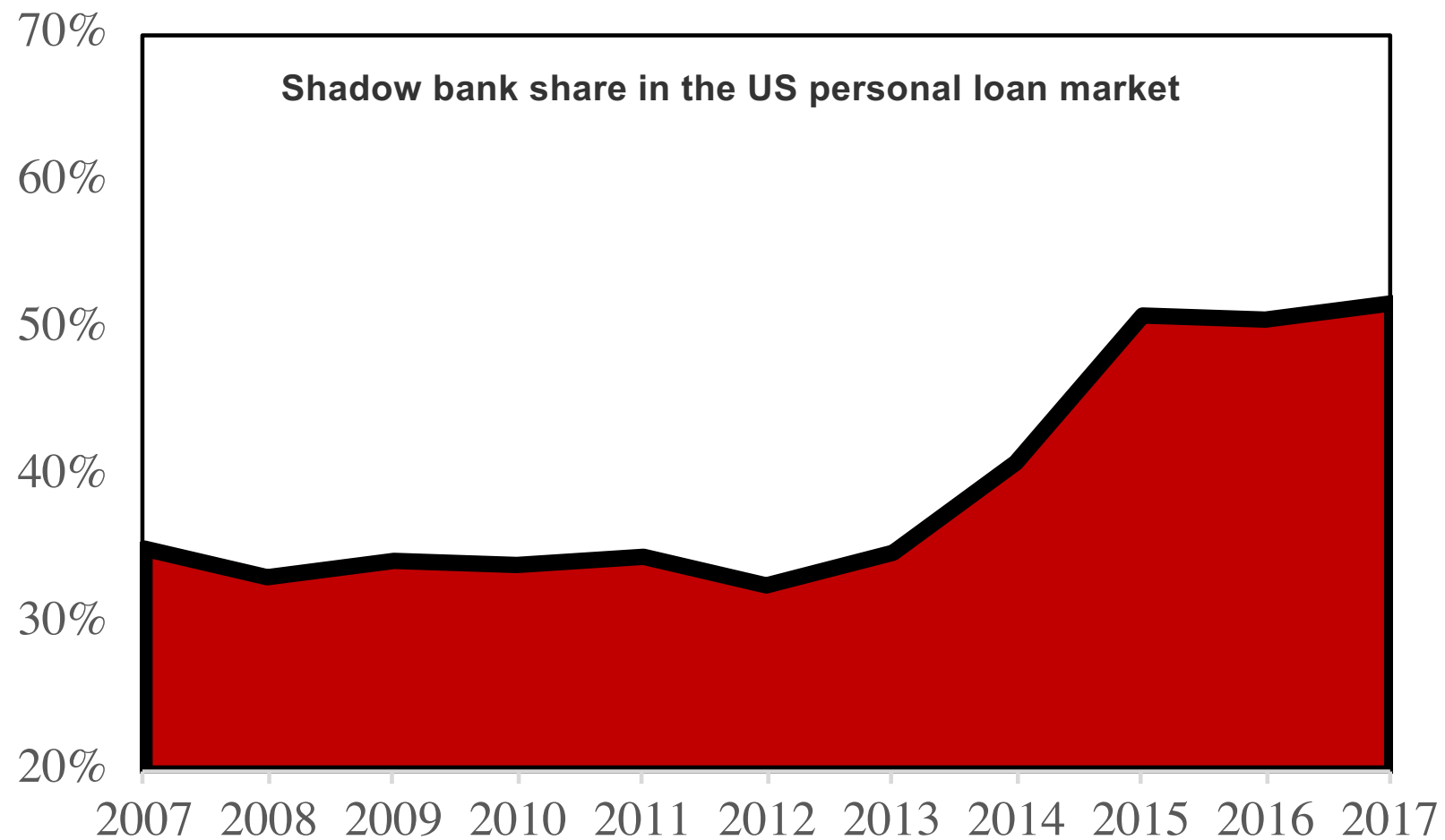
Stanford GSB, Hoover and NBER

Andrew Crockett Memorial Lecture

June 30, 2019

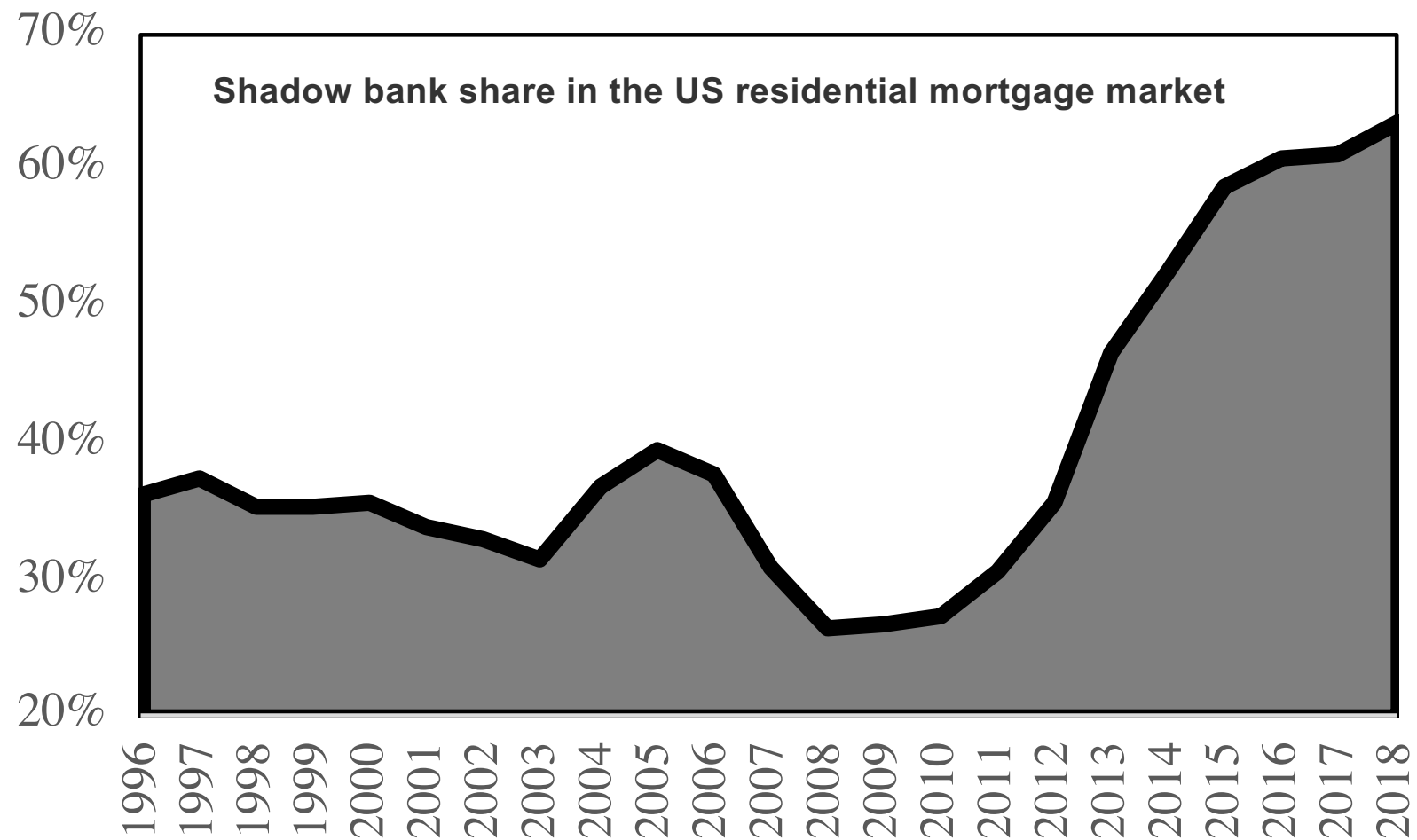
Dramatic Change in Lending Landscape

RISE OF SHADOW BANKS



Dramatic Change in Lending Landscape

RISE OF SHADOW BANKS

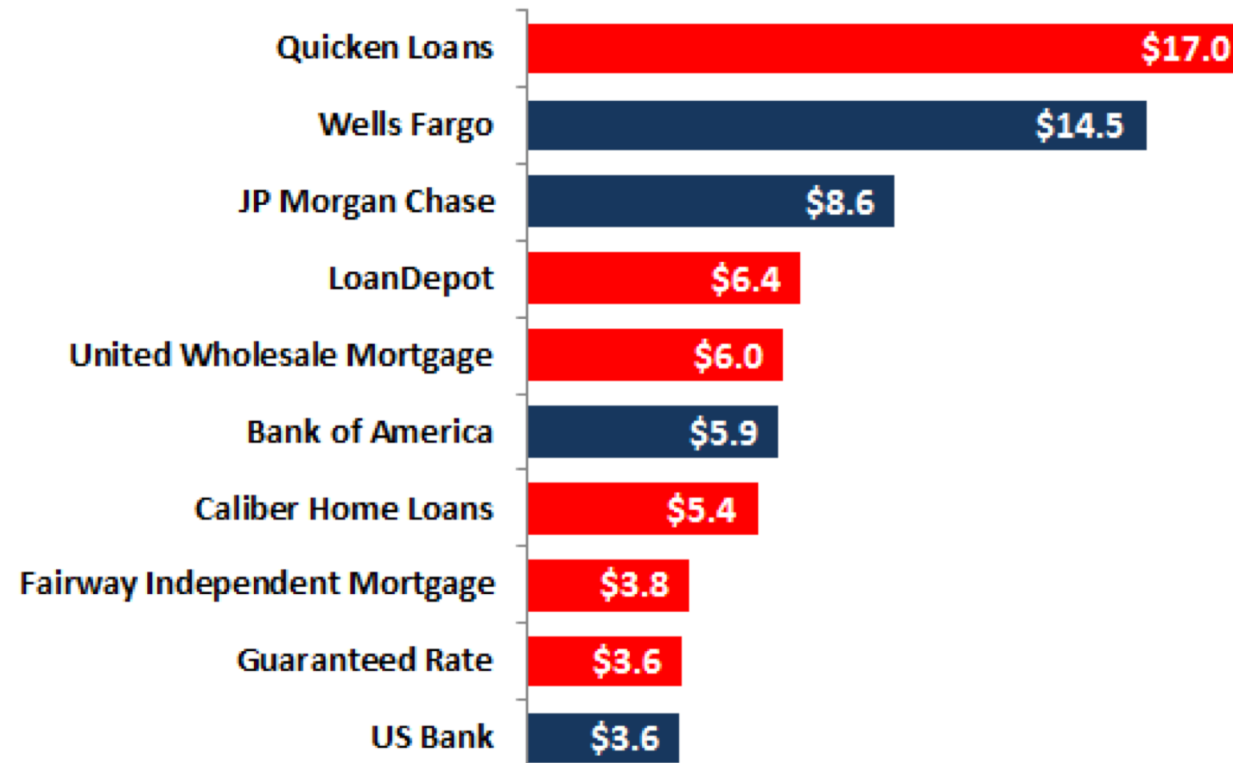


Dramatic Change in Lending over last Decade

RISE OF SHADOW BANKS

Largest Mortgage Lenders, by Originations in Q1 2018
In \$ billions, purchase mortgages & refis

"Shadow banks" in red



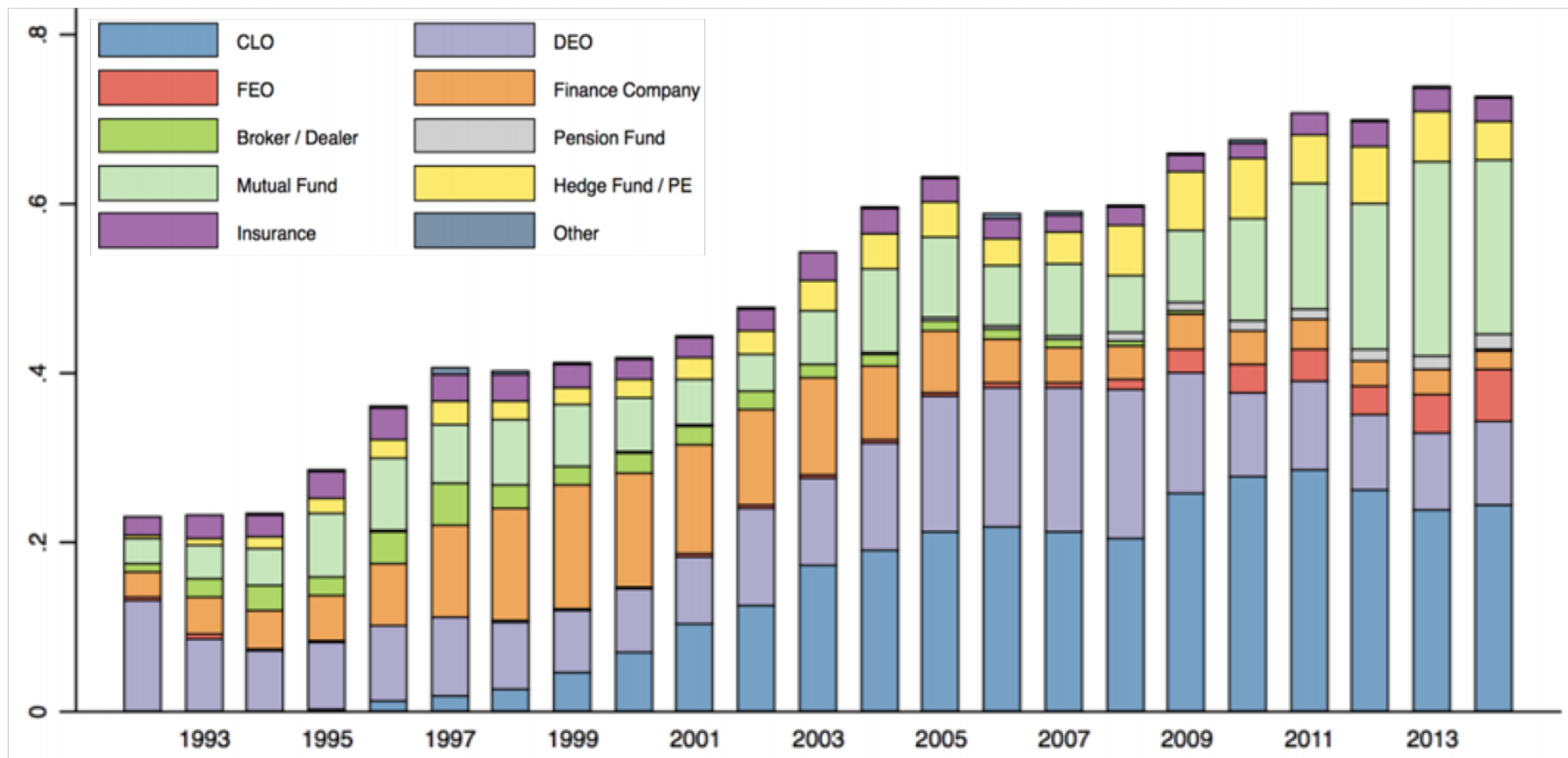
Dramatic Change in Lending Landscape

RISE OF SHADOW BANKS

Type	Market size	% inside banking system	% in banking system at risk	Select disruptors
Personal Loans	\$843bn	81	31	Lending Club, Prosper
Small Business Loans	\$186bn	95	100	On Deck, Kabbage
Leveraged Loans	\$832bn	7	34	Alternative AM, BDCs
Student Loans	\$1,222bn	5	100	SoFi, Earnest
Mortgage Loans	\$1,169bn	58	100	Quicken, PFSI, Freedom
CRE Loans	\$2,354bn	56	9	Commercial REITs

Dramatic Change in Lending Landscape

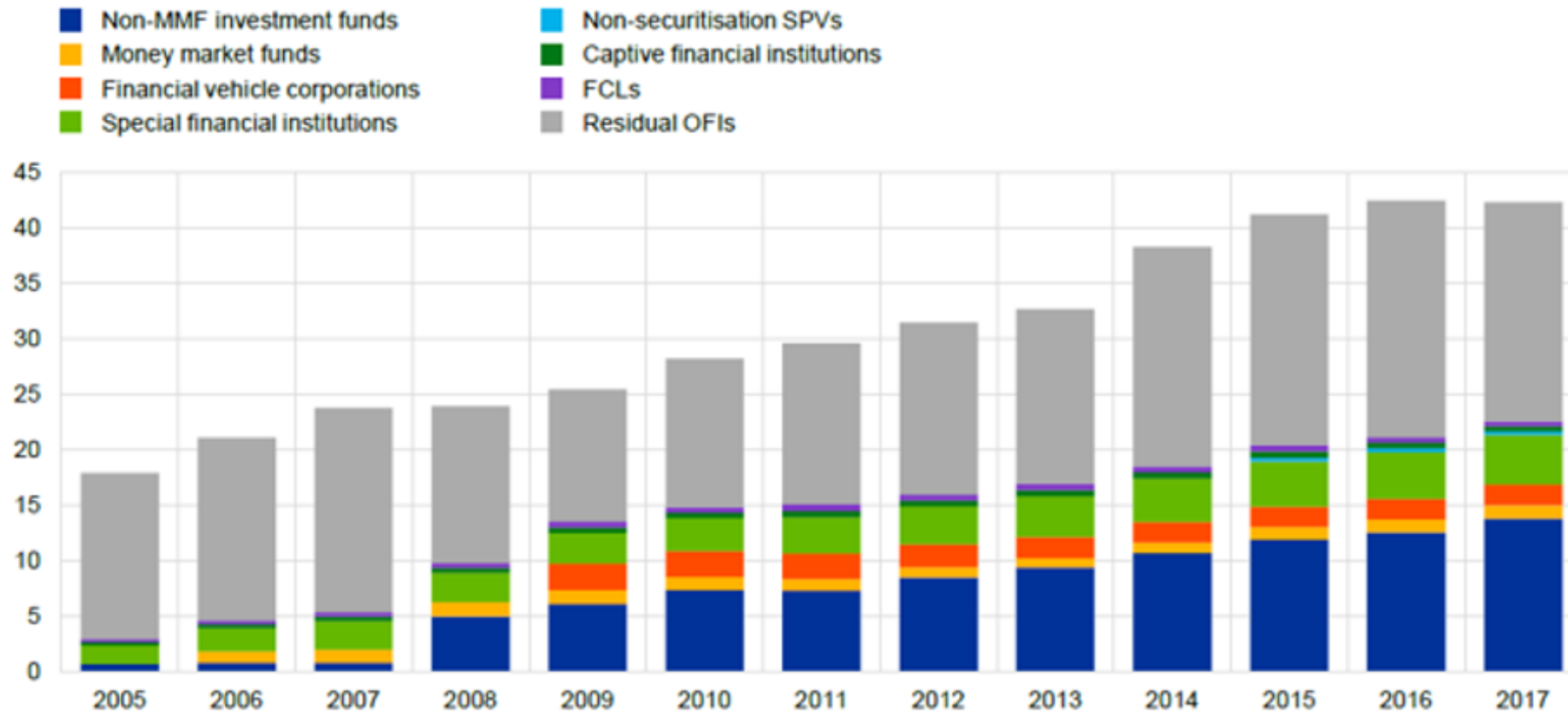
RISE OF SHADOW BANKS



Dramatic Change in Lending Landscape

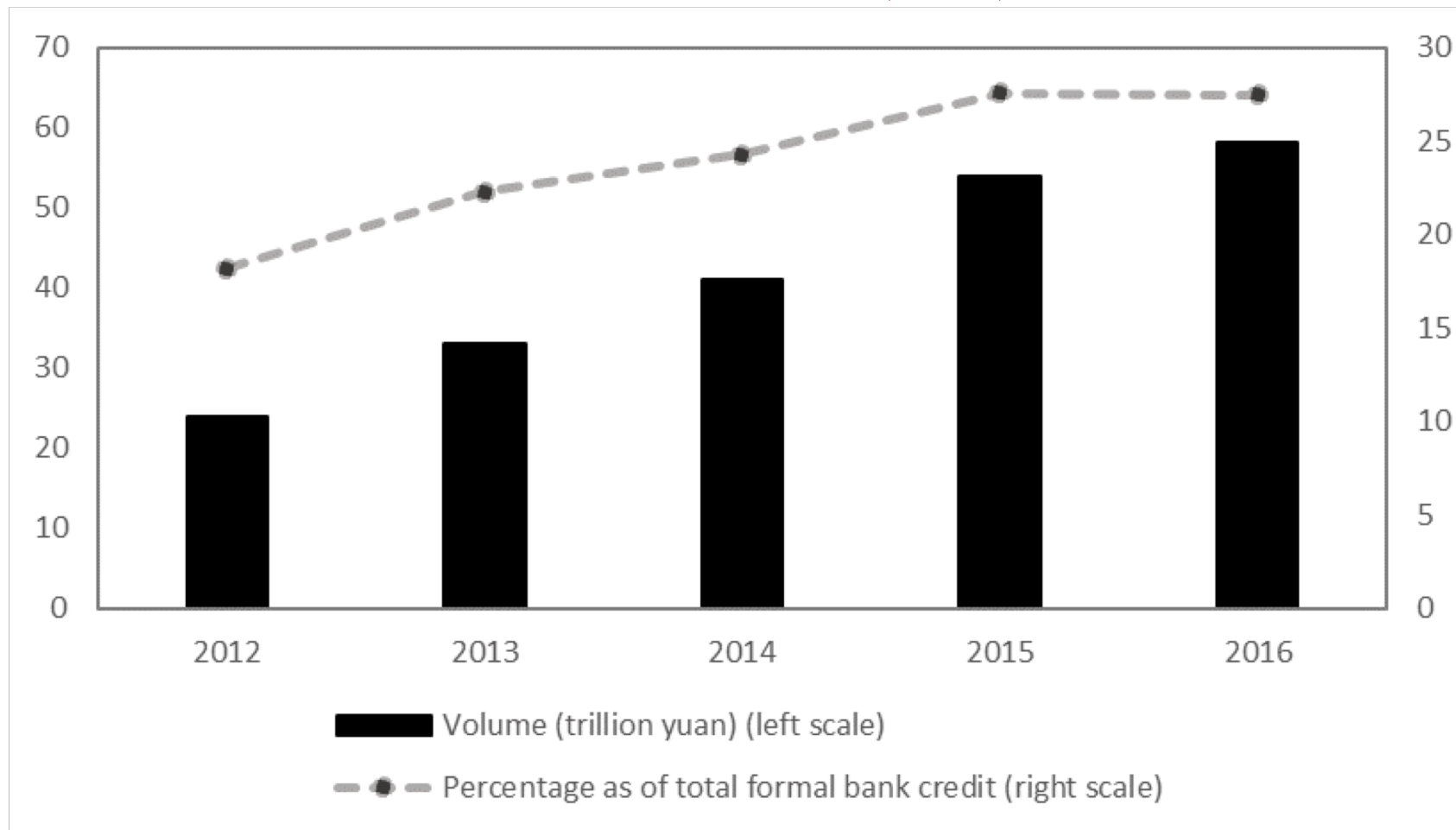
RISE OF SHADOW BANKS (EU)

(EUR trillions; last observation: Q4 2017)



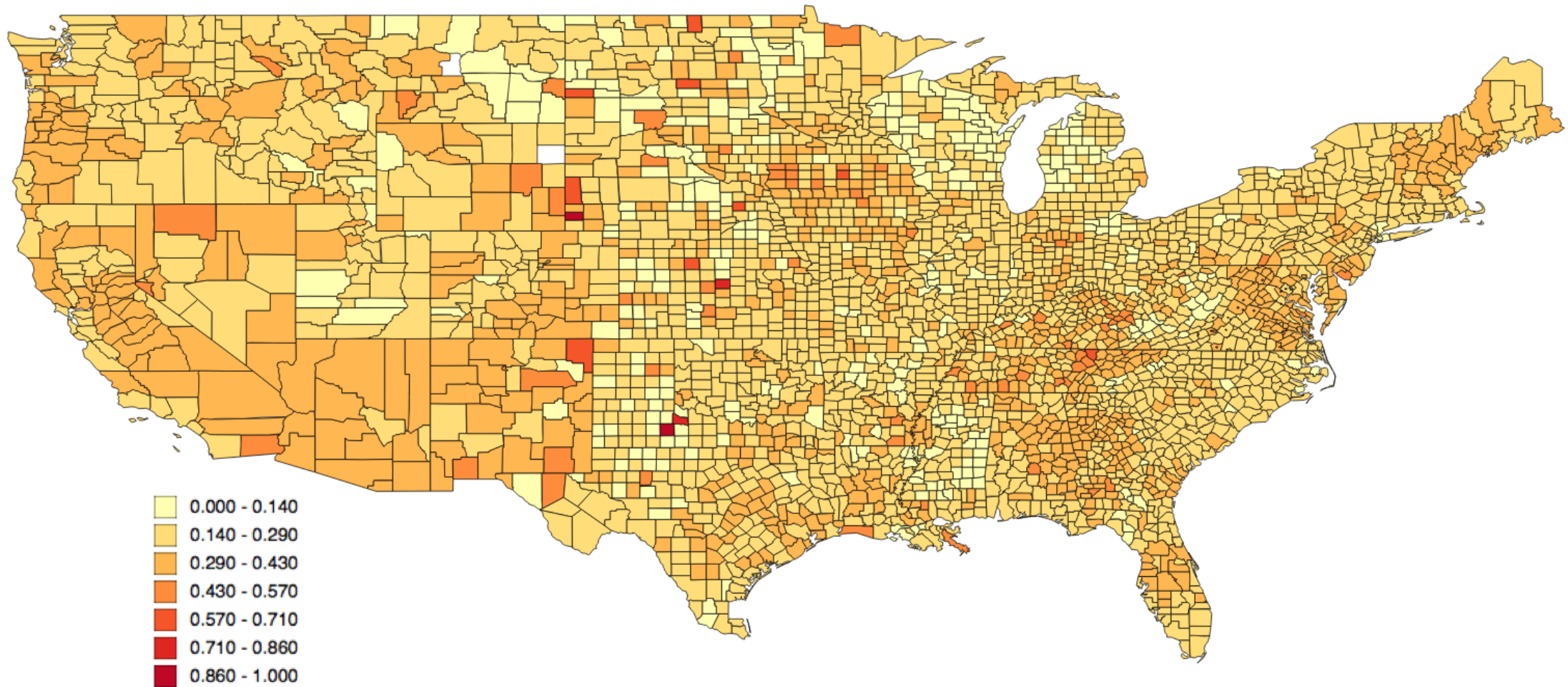
Dramatic Change in Lending Landscape

RISE OF SHADOW BANKS (CHINA)

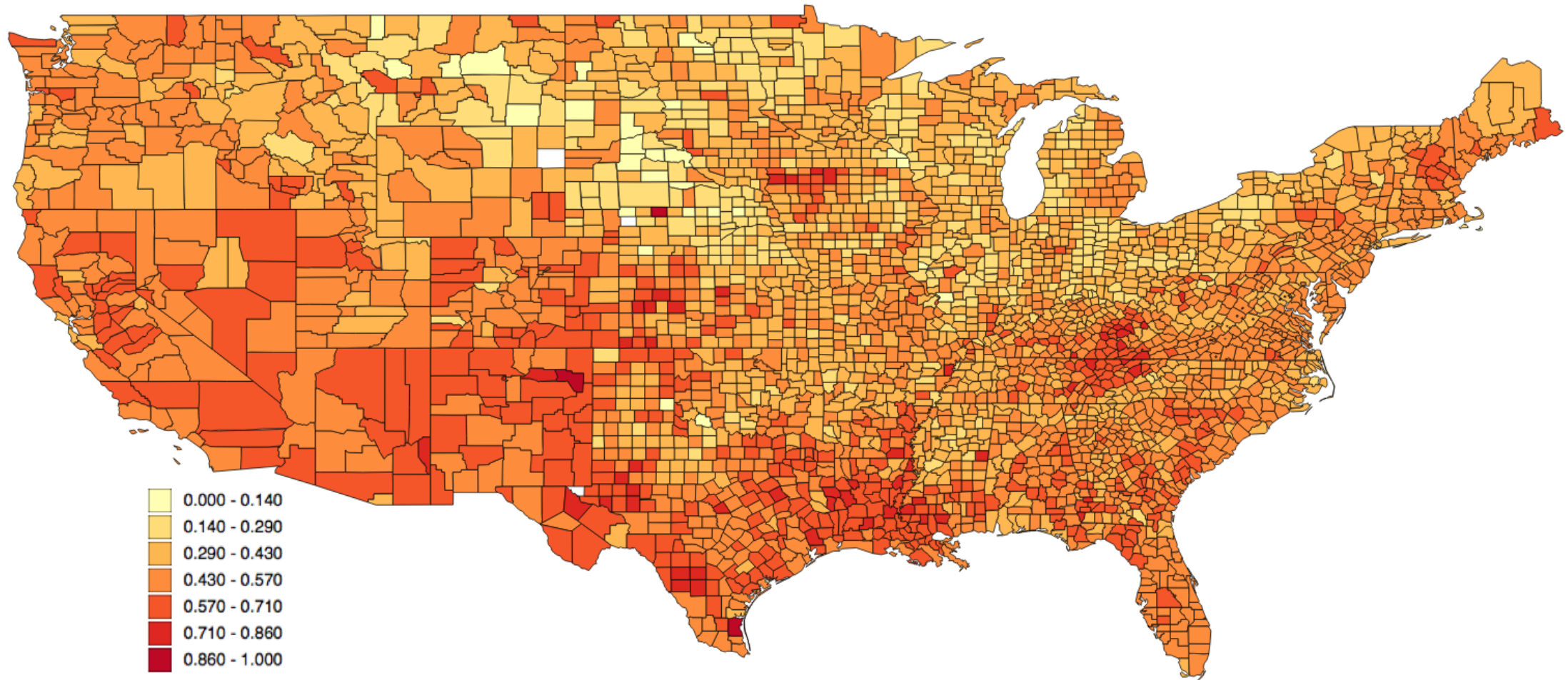


REGULATION?

County Level Shadow Bank Share: 2008

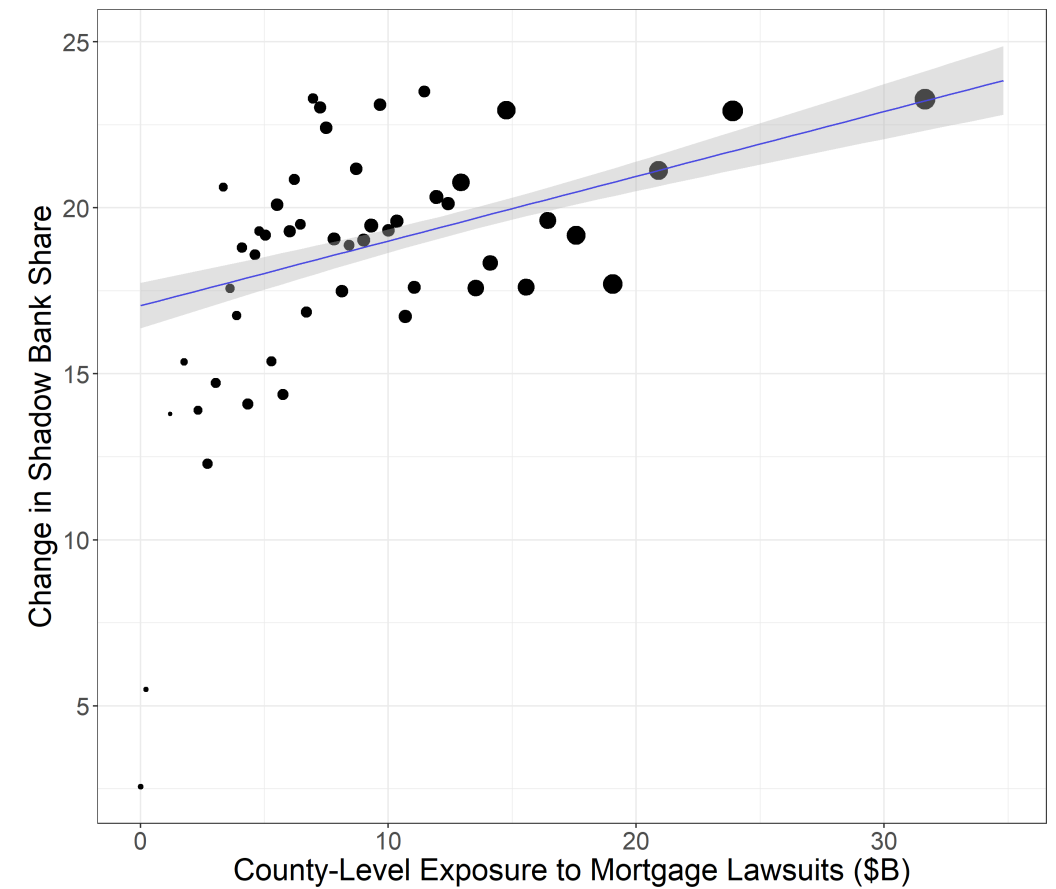
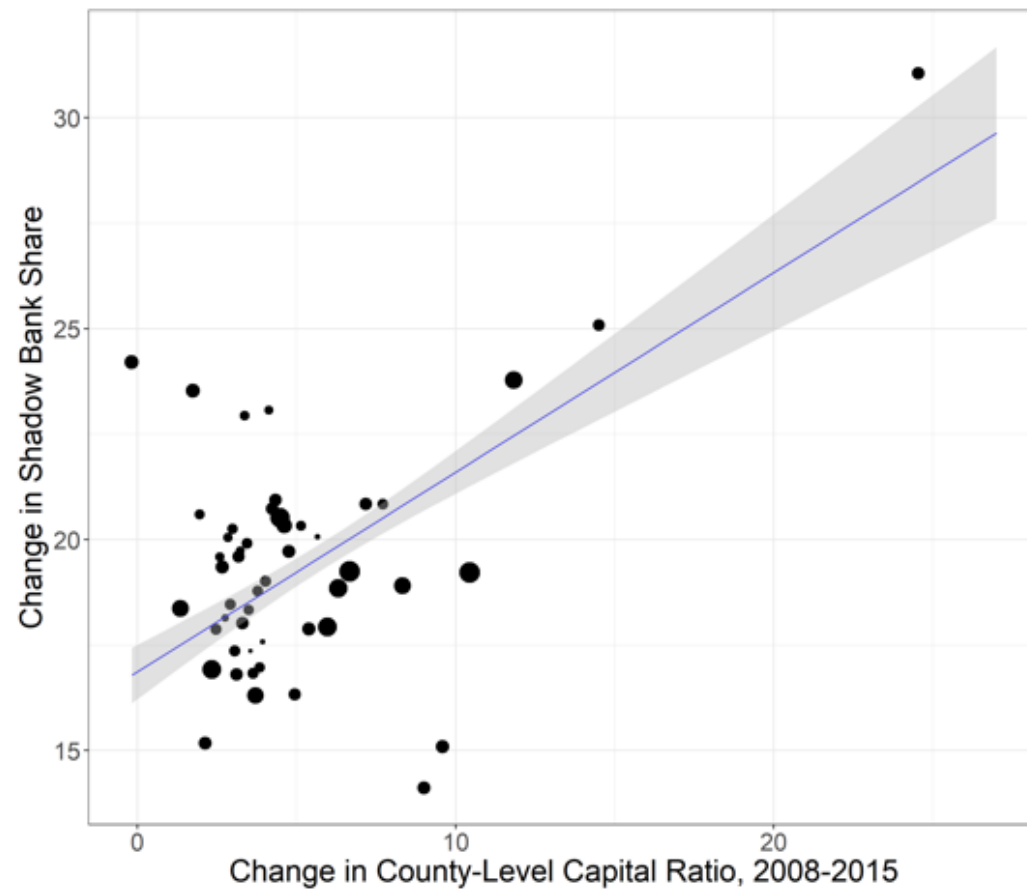


County Level Shadow Bank Share: 2015



Change in Shadow Bank Share and Regulation

CHANGE IN SHADOW BANK SHARE AND REGULATORY PRESSURE




TECHNOLOGY?

Technology?



Quicken Loans



1 My Priority

2 My Current Mortgage

3 My Home Info

4 Who's on the Loan

5 My Money

6 Government Questions

7 My Credit

8 My Solution

9 See If I'm Approved

Why do you want to refinance?

Pick one to get started:

☐ Lower My Monthly Payment


☐ Pay Off My Mortgage


☐ Take Cash Out

Save & Continue

Quicken Loans Zing Blog Rocket Loans Talk to Us Opt Out

Disclosures and Licenses

 We Want Your Feedback



Talk to Us | Sign Out

Your rate is now locked!

Property Address:
123 Main Street, Detroit, MI, 48226

Here's what you've locked in:

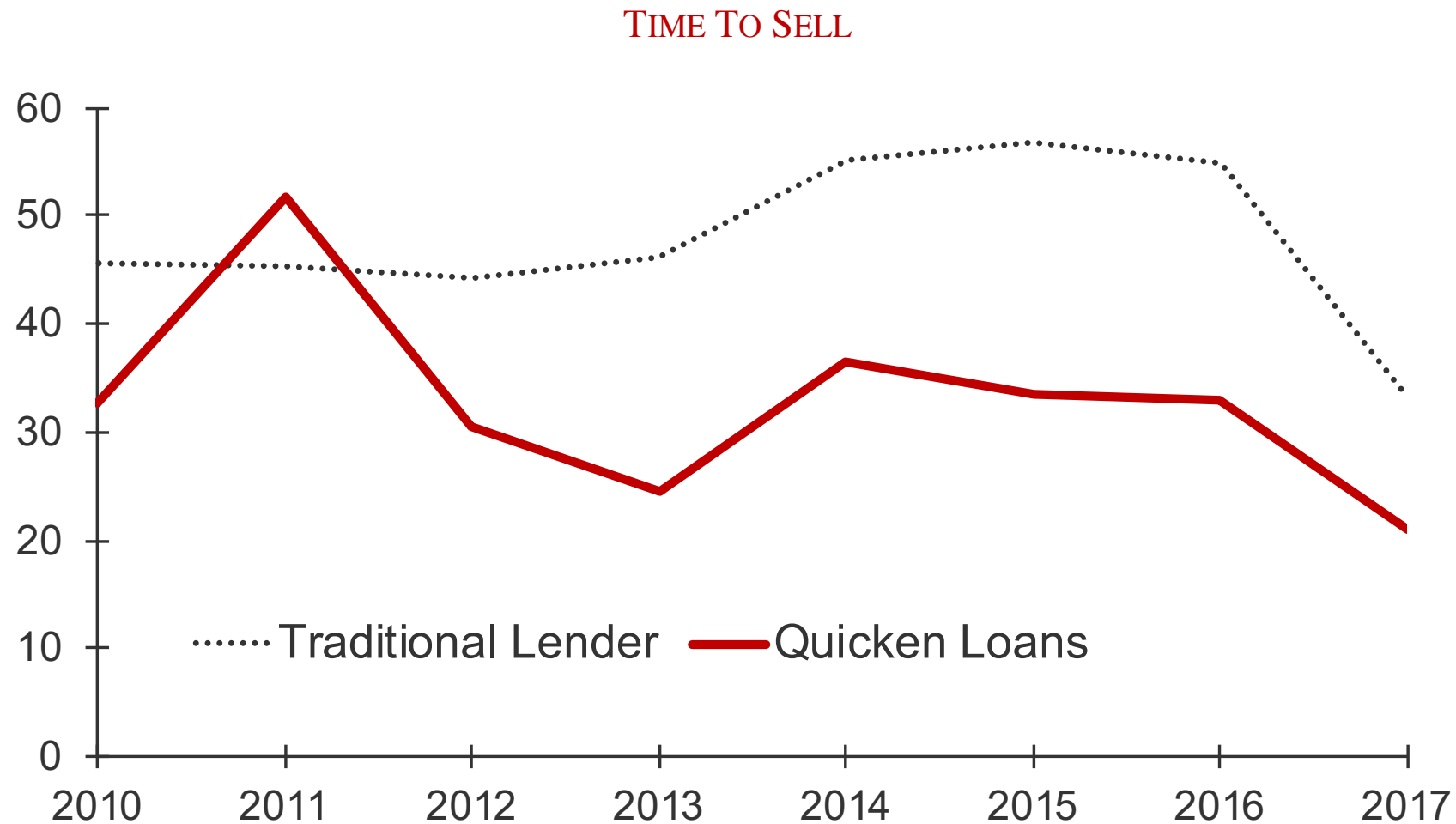
Interest Rate	4.125%
Loan Type	30-Year Fixed
Discount Points	0.12 (\$264.56)
New Loan Amount	\$211,650
Your Rate Lock Expiration Date	01/06/2016

The Steps to Get You to Closing

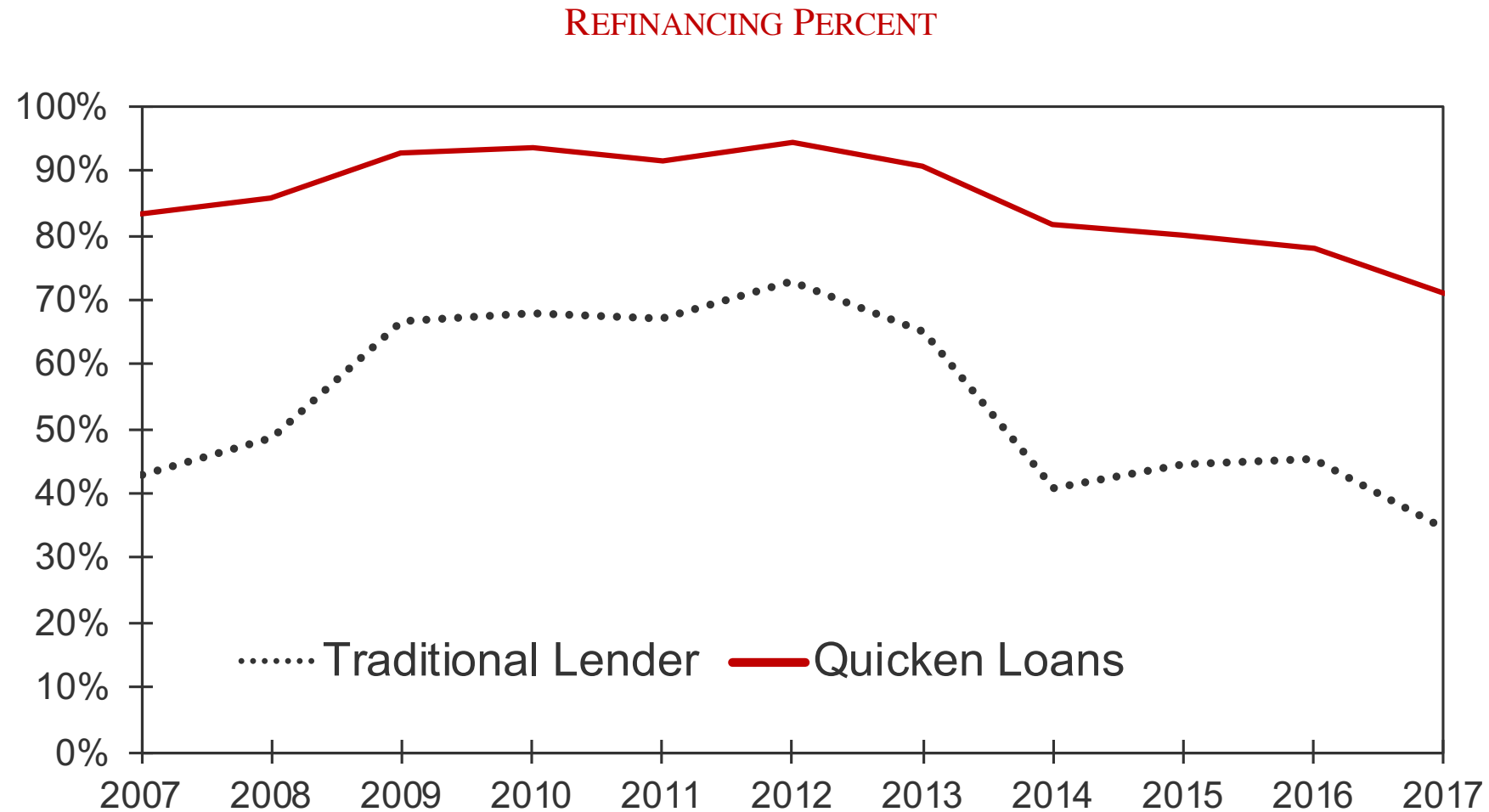
- Use our powerful online tools to get you through the mortgage process with ease.
- Complete your simple to do list by 11/25/2015.

Save & Continue

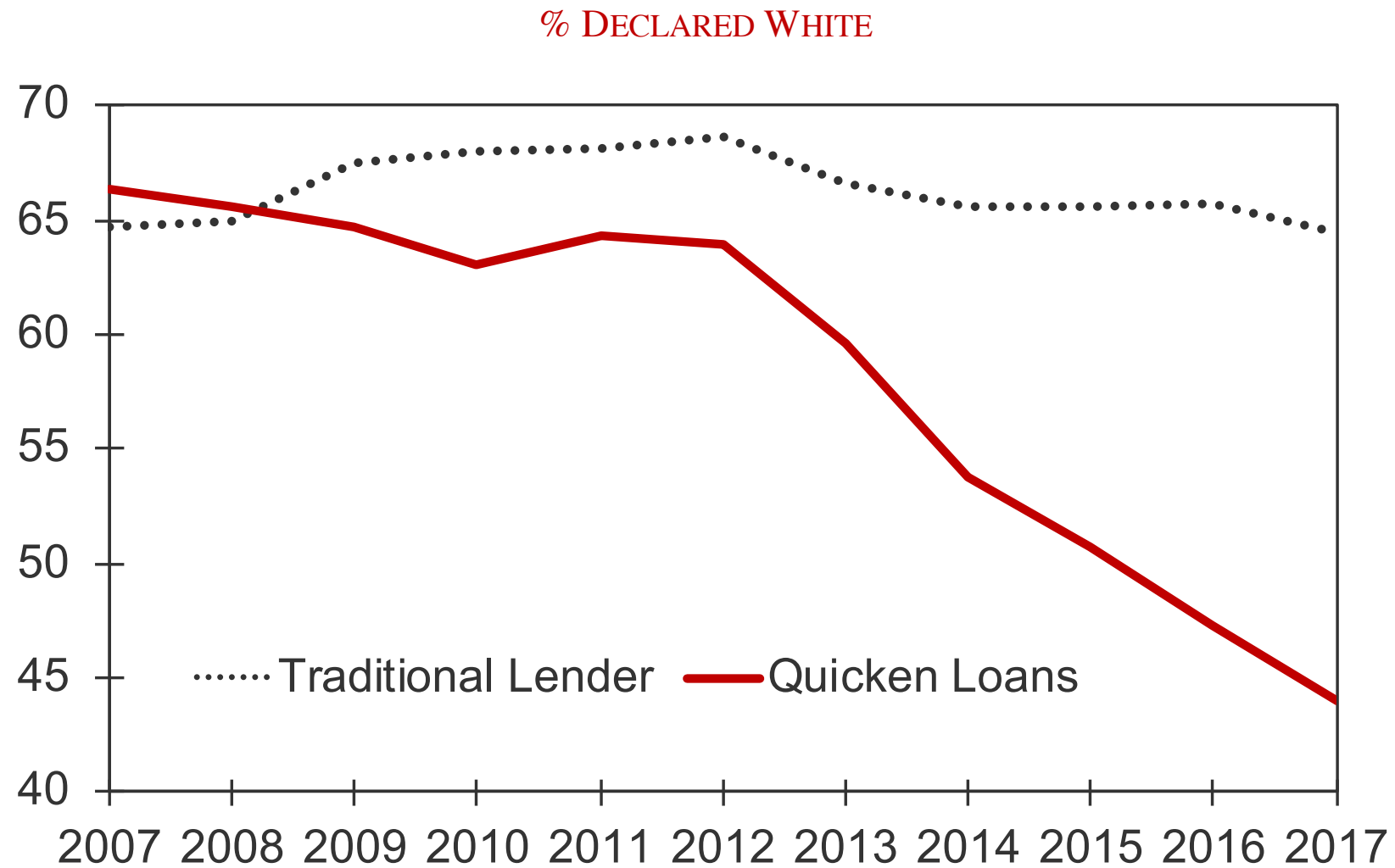
Technology? Faster Processing



Technology? Leveraging Credit Information



Technology? Other Data



Technology? Quality

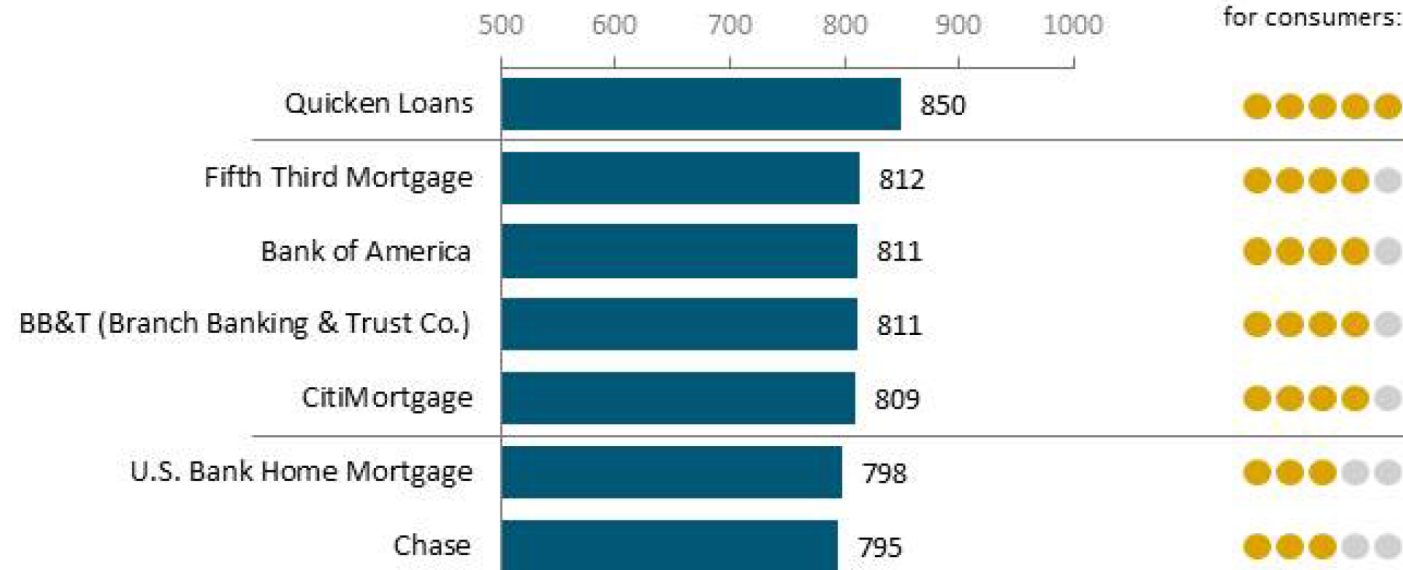
J.D. POWER

2015 U.S. Primary Mortgage Origination Satisfaction StudySM

Mortgage Origination Customer Satisfaction Index Ranking

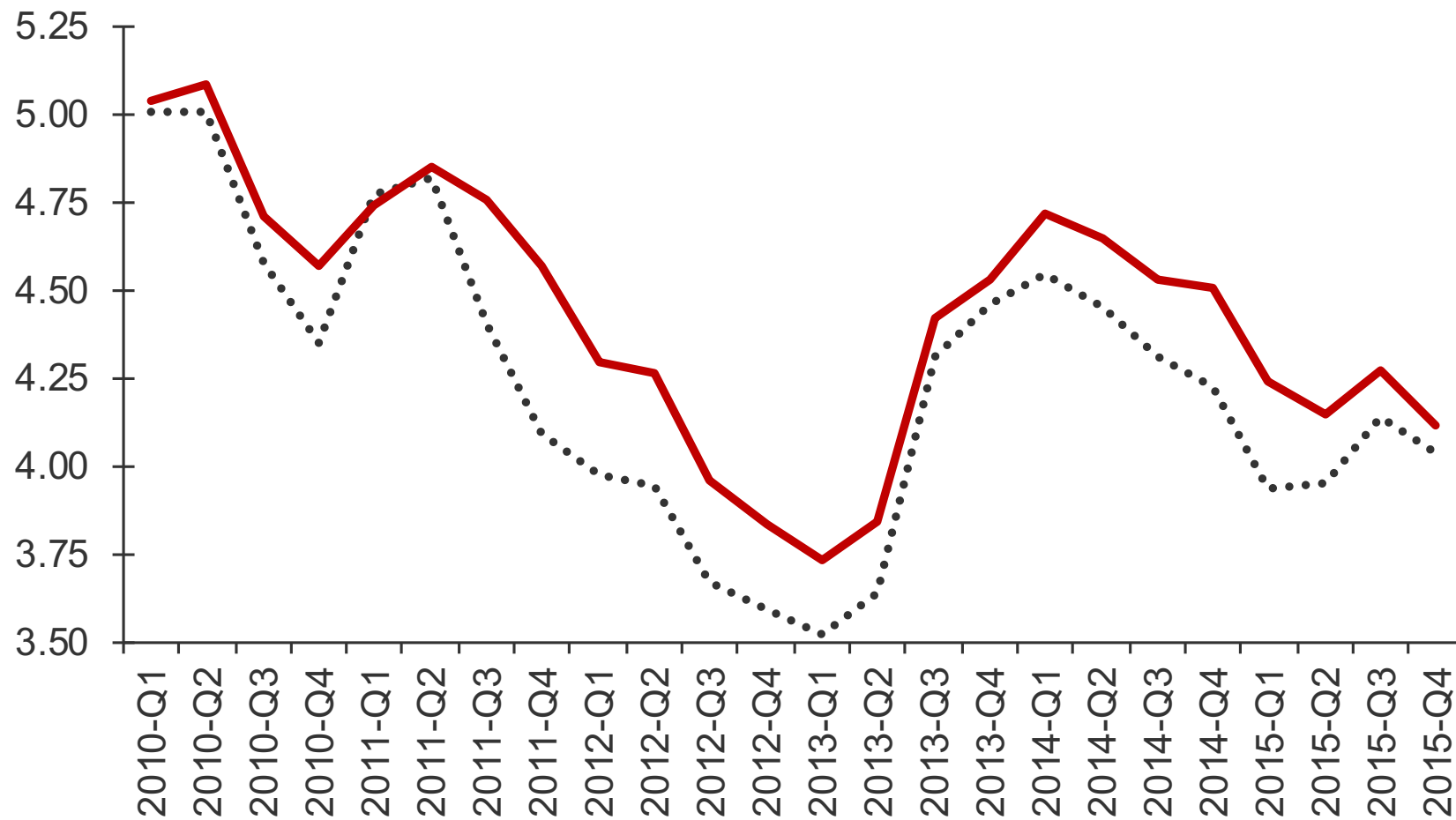
(Based on a 1,000-point scale)

JDPower.com
Power Circle Ratings™
for consumers:



Technology? Willingness to Pay

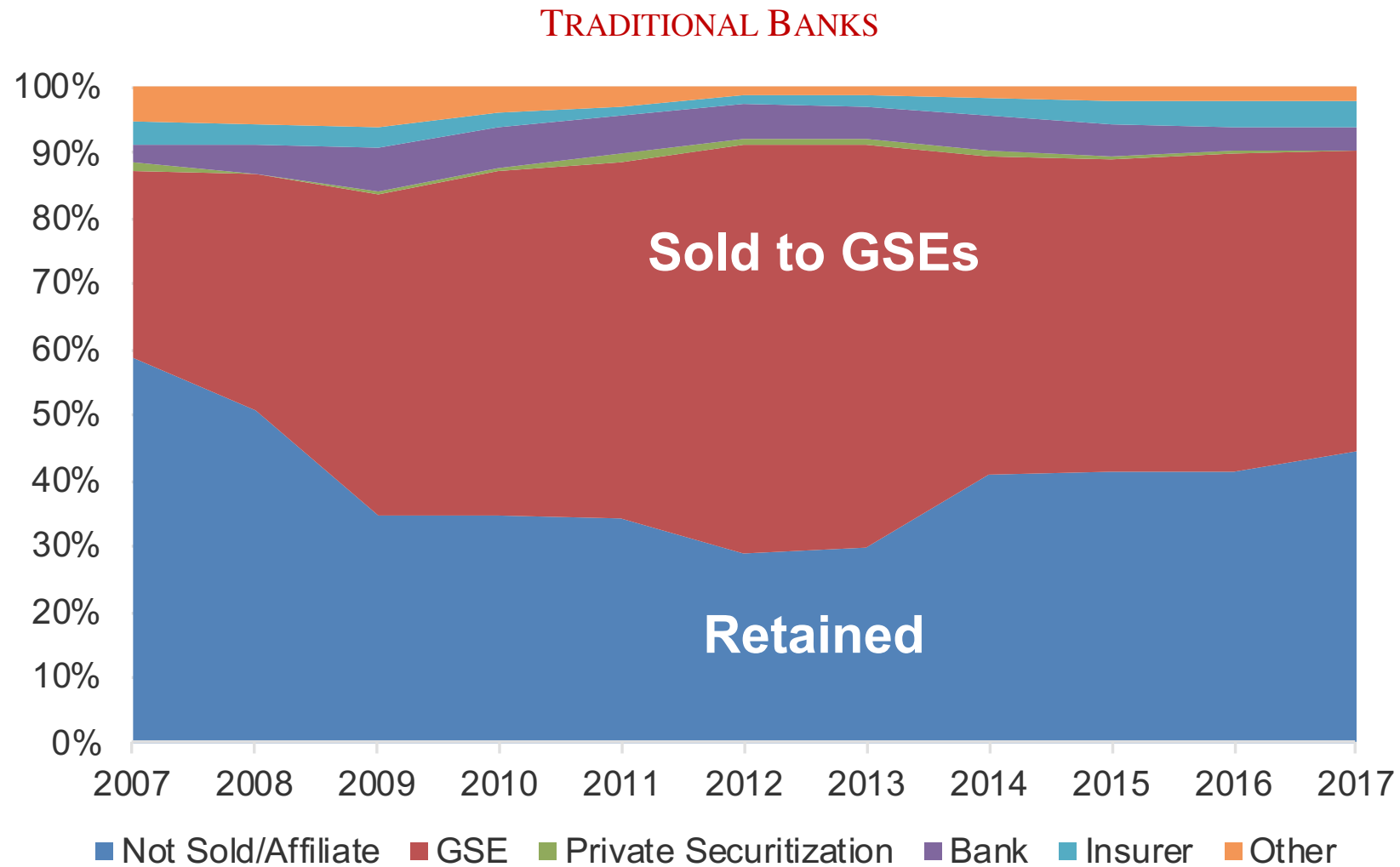
INTEREST RATES ON LOANS



INTEGRATED INTERMEDIATION

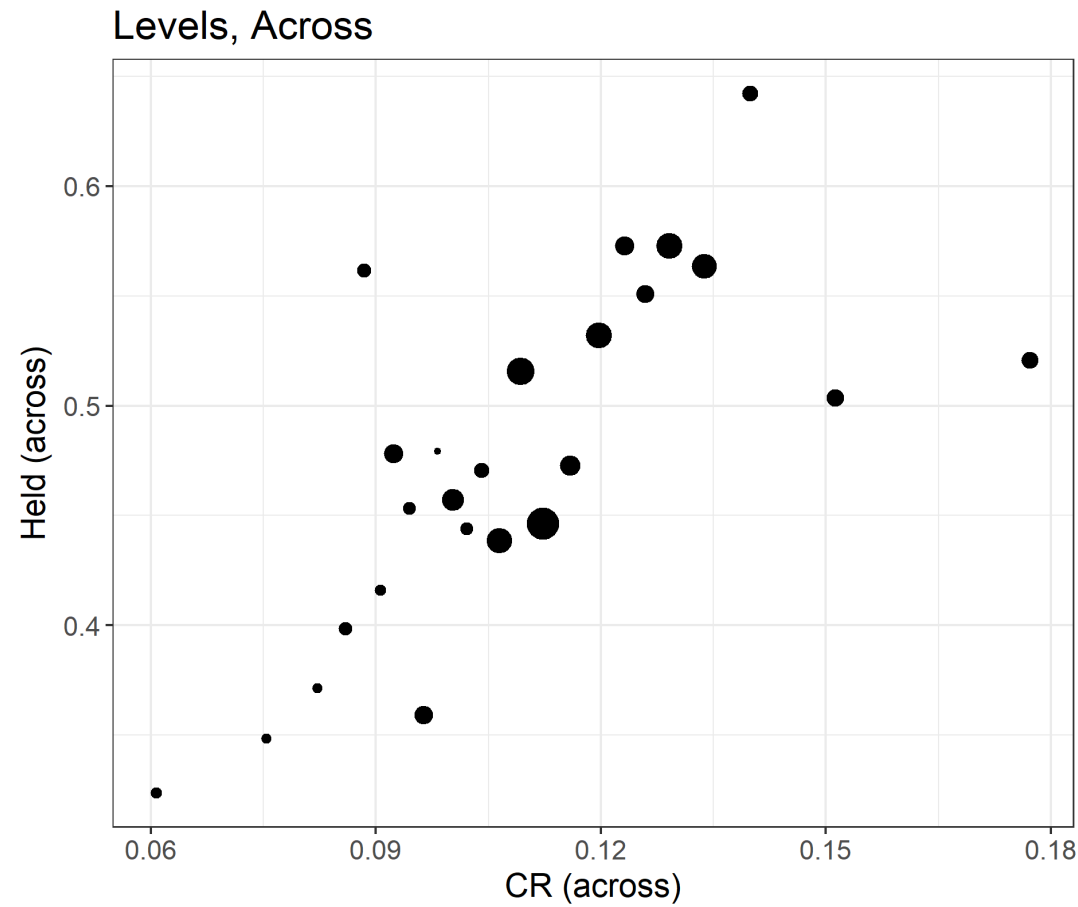
BUSINESS MODEL

Where are the loans?

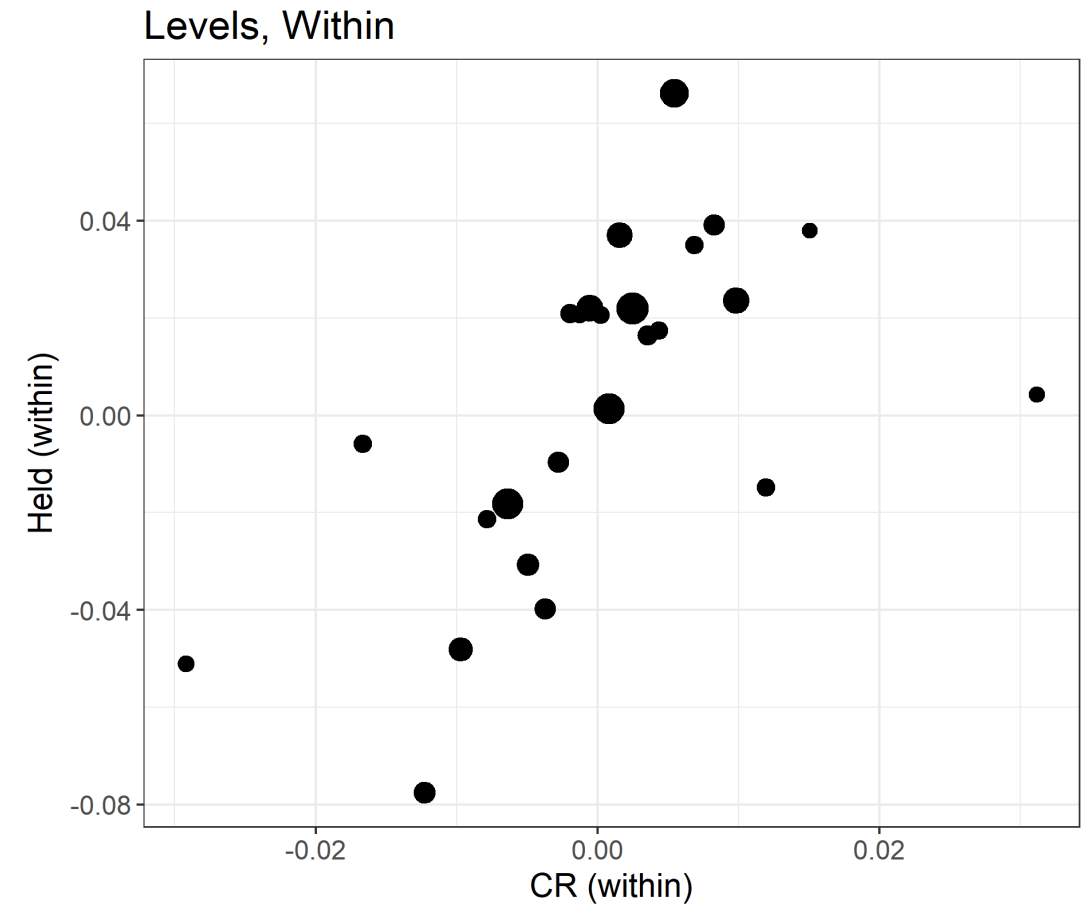


Bank Capitalization and Balance Sheet Retention

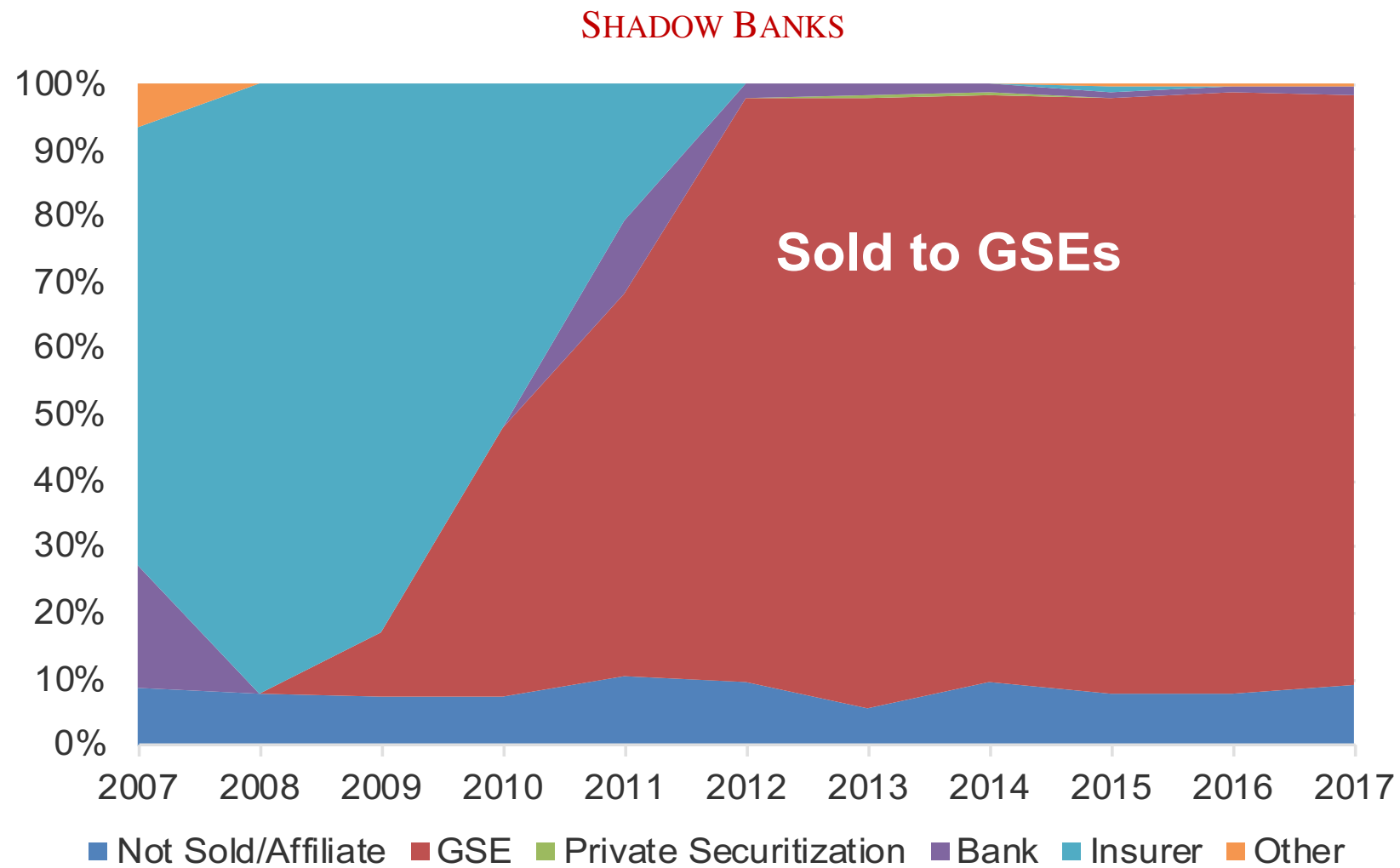
ACROSS LENDERS



WITHIN LENDERS



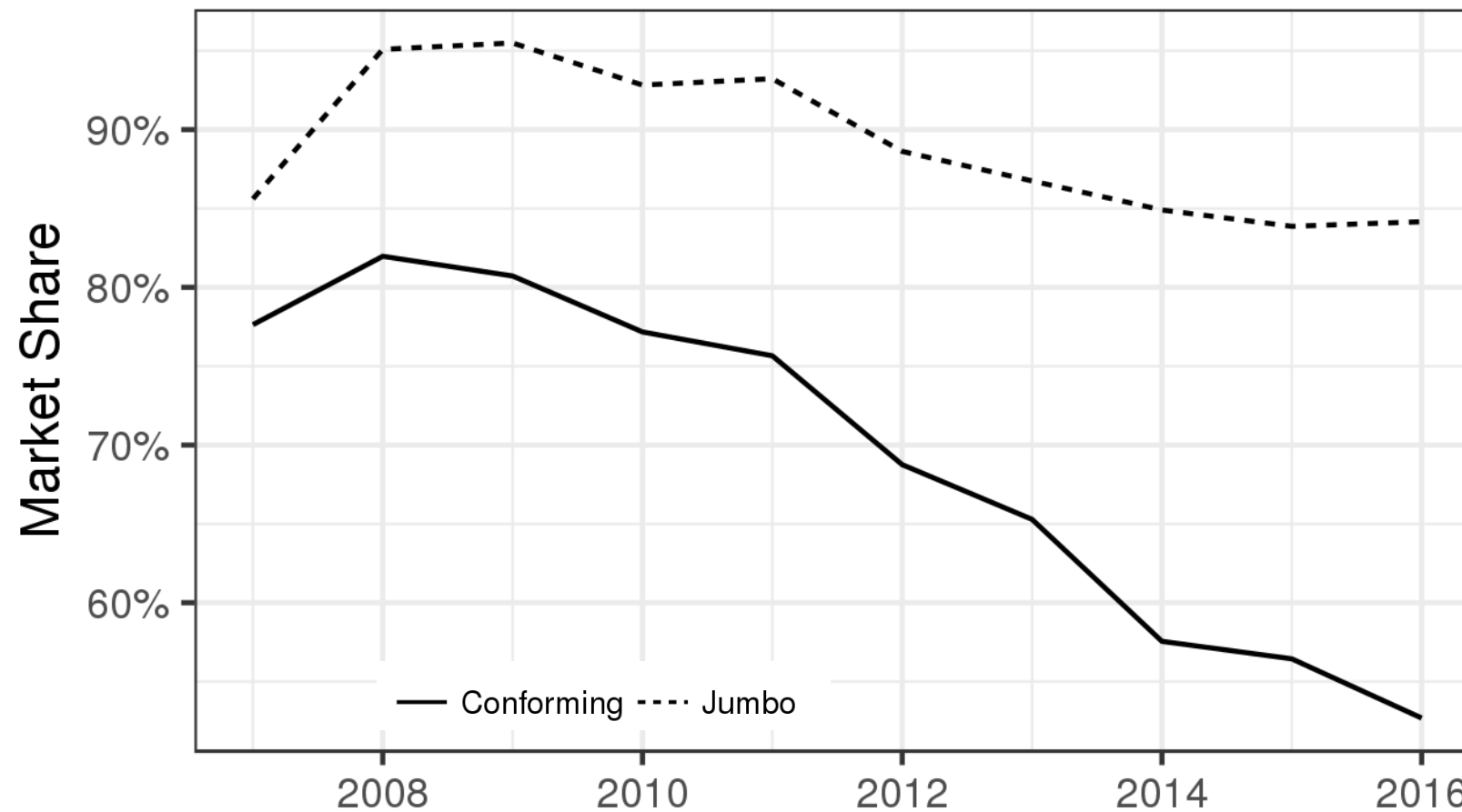
Where are the loans?



INDUSTRIAL ORGANIZATION

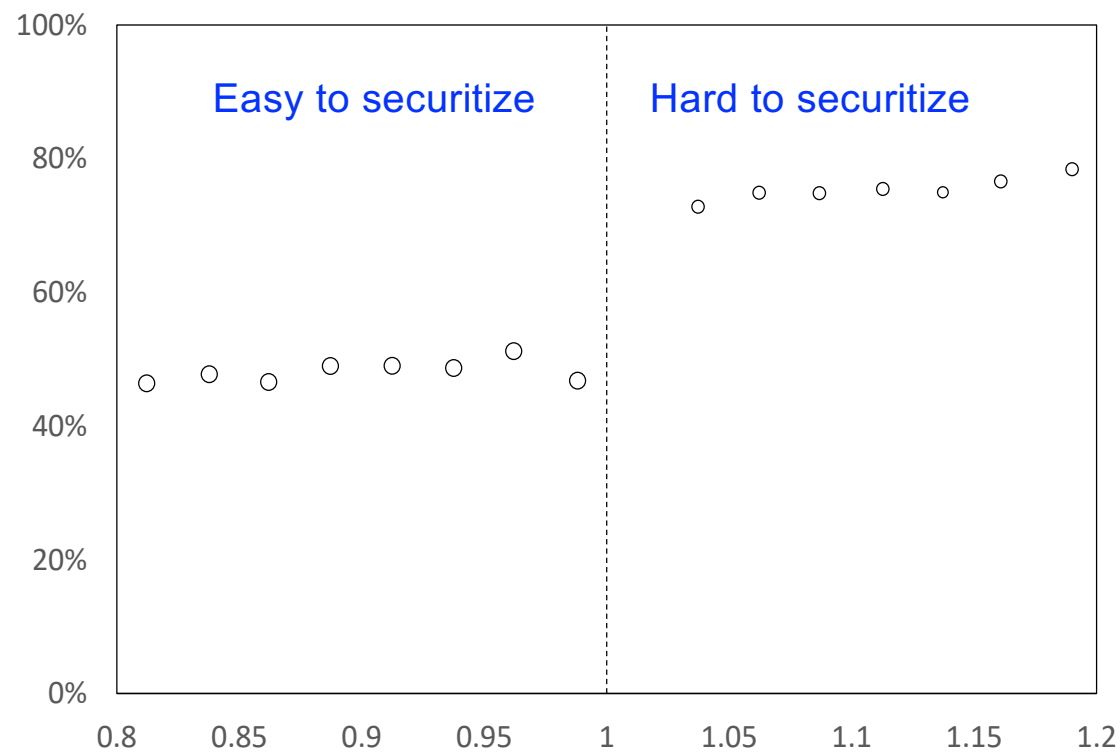
Penetration of Shadow Banks Not Uniform

TRADITIONAL BANK MARKET SHARE

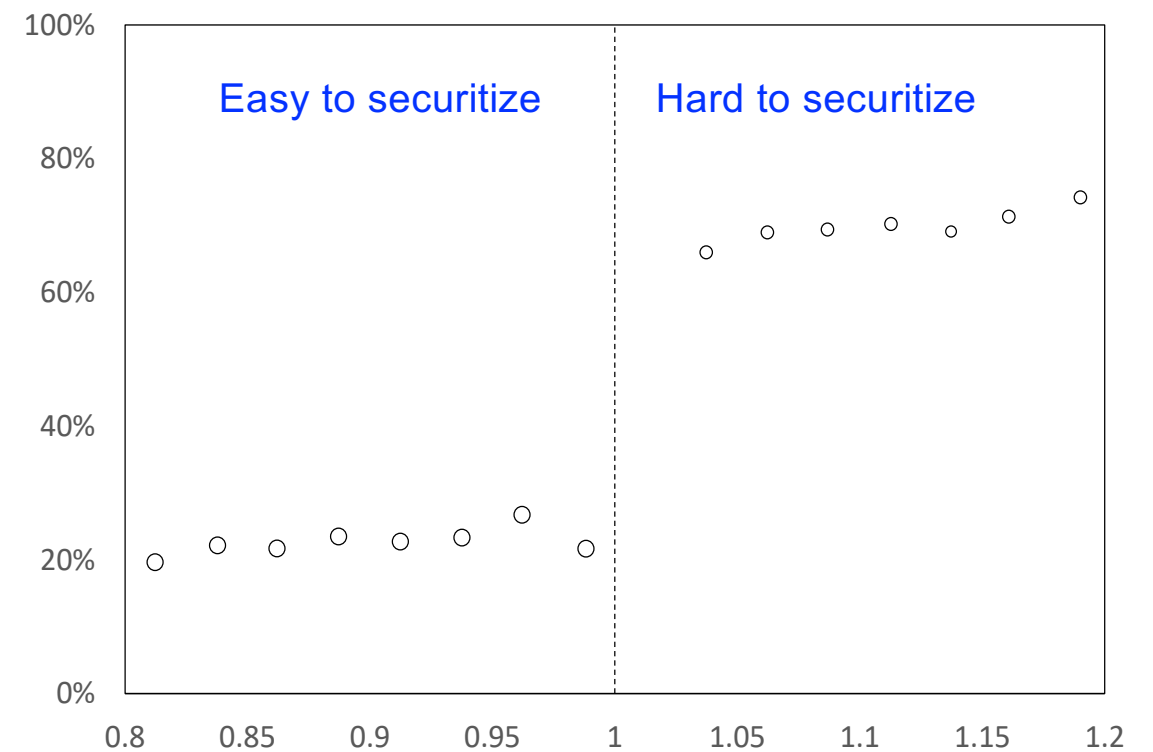


Market Segmentation and Financing

TRADITIONAL BANK MARKET SHARE



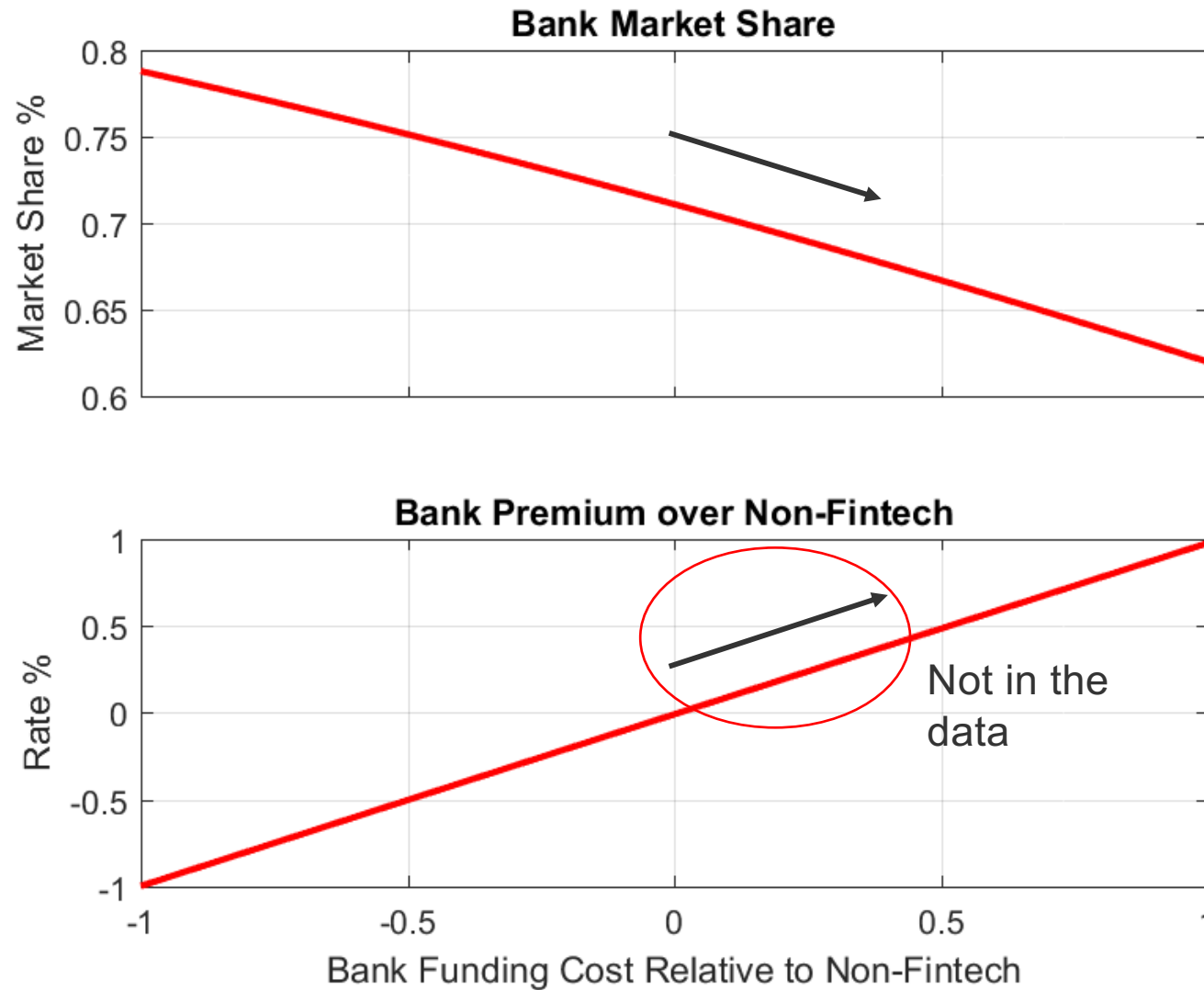
BALANCE SHEET FINANCING



EQUILLIBRIUM

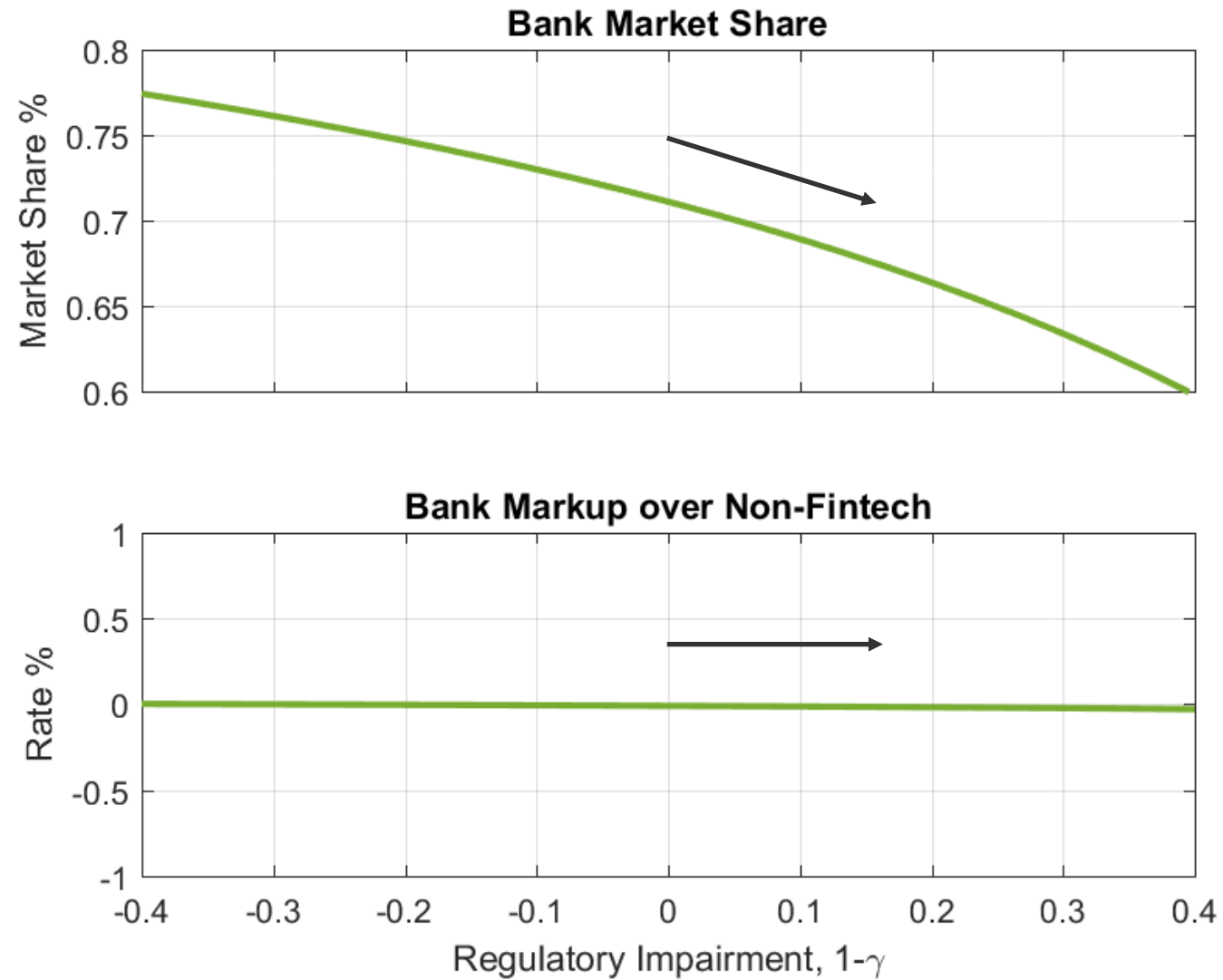
Banks Lose Market Share

Funding Costs?



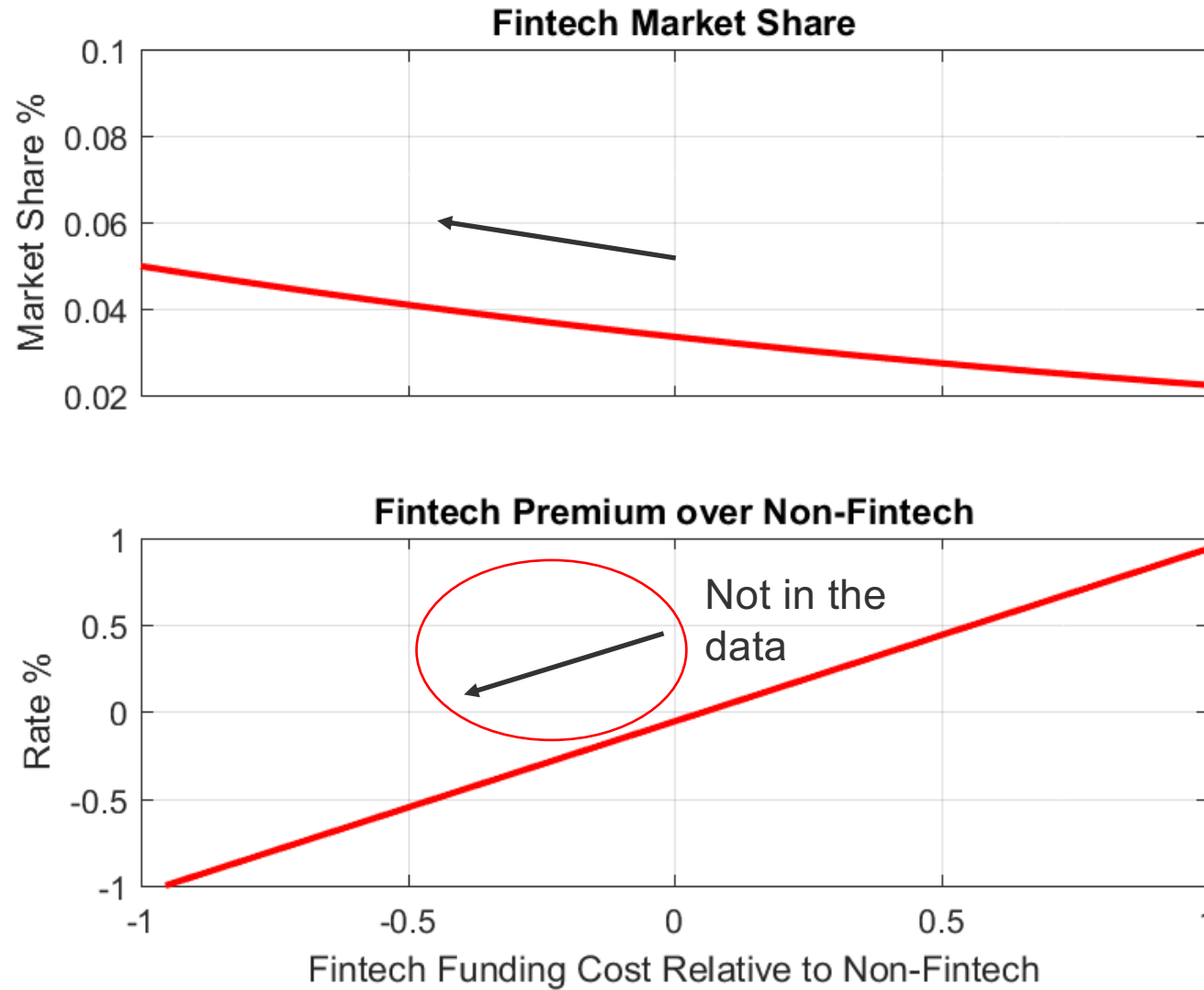
Banks Lose Market Share

Regulation?



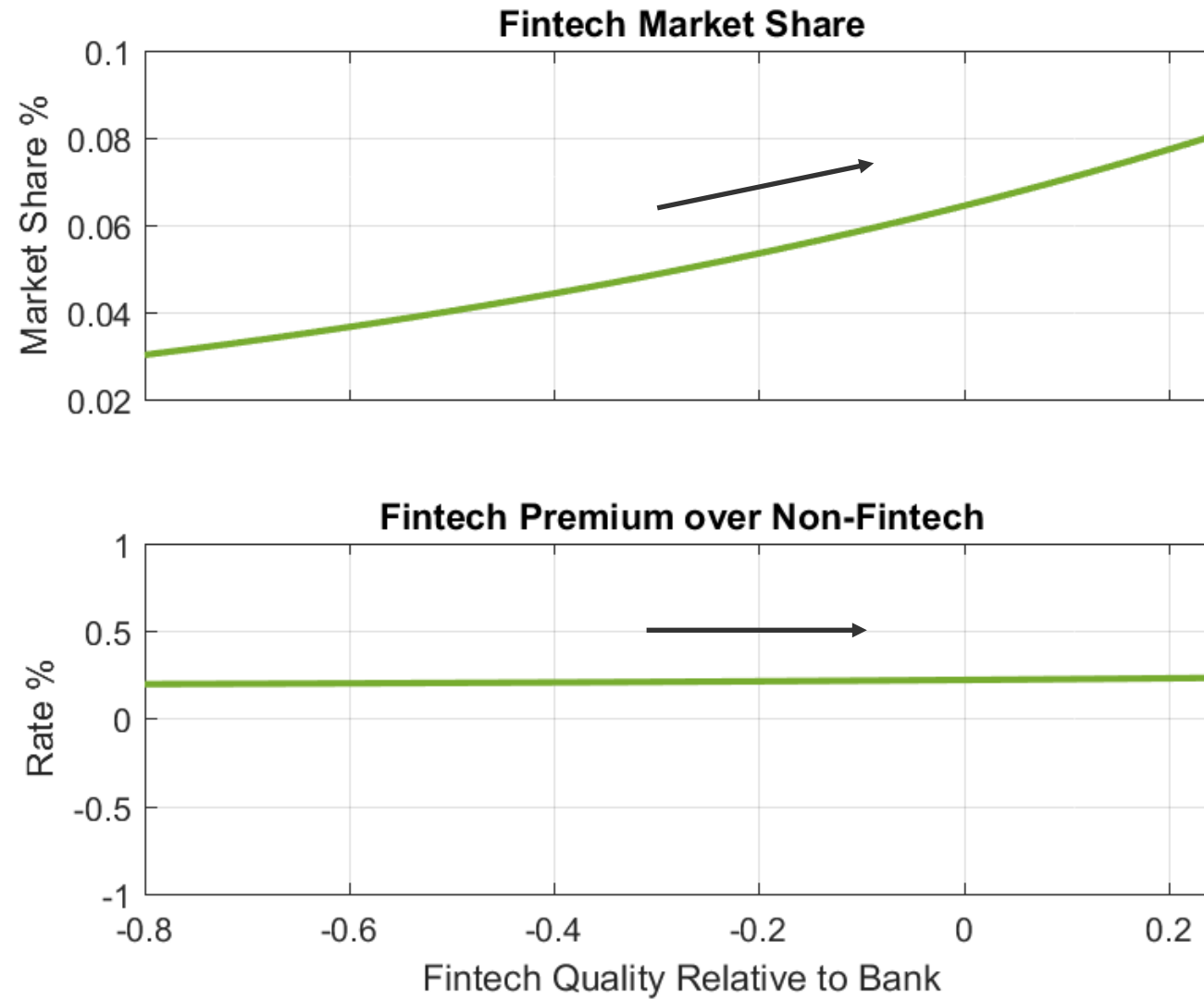
FinTech Gain Market Share

Funding Costs?



FinTech Gain Market Share

Quality?



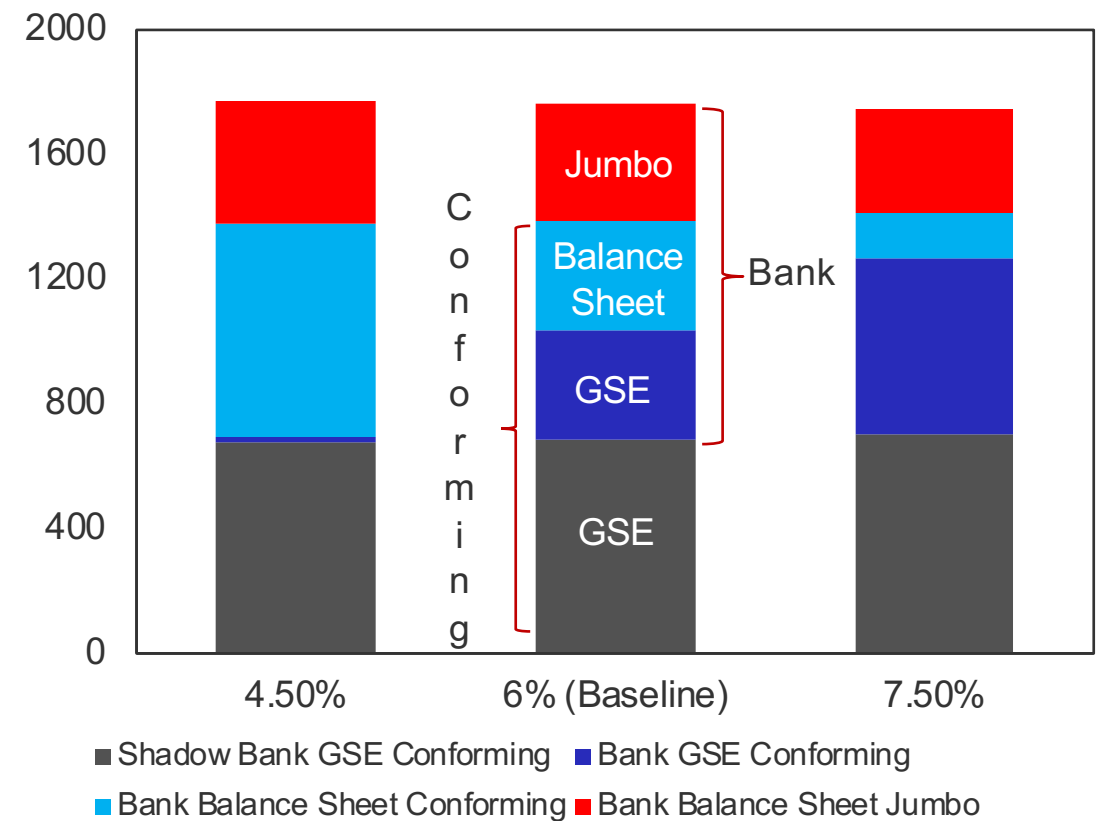
COUNTERFACTUALS

Counterfactuals: Capital Ratios

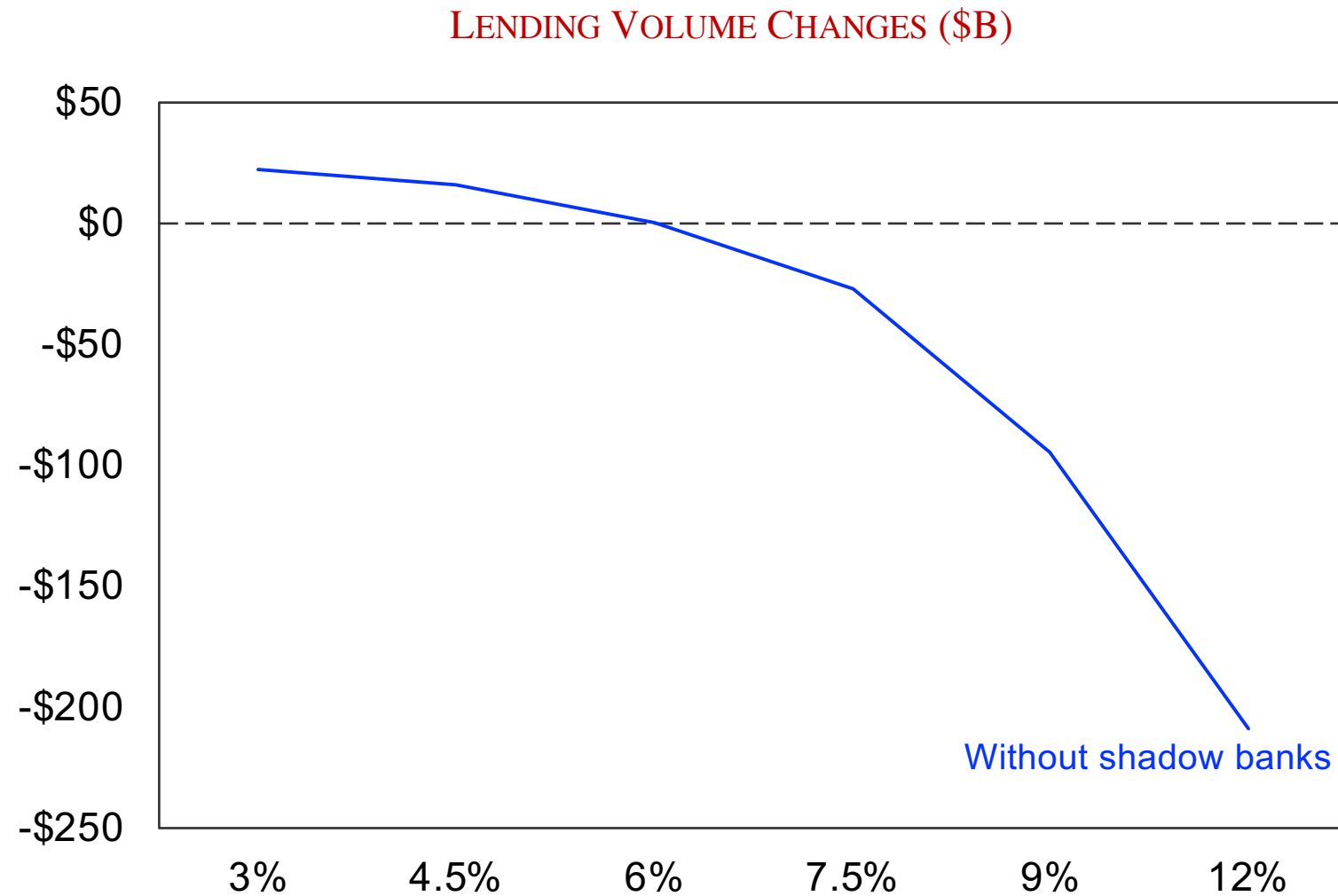
CAPITAL REQUIREMENTS 6% → 7.5%

Lender	Loan Type	Financing Source	Change
Total	-	-	-\$13b
Bank	Jumbo	Portfolio	-\$38b
Bank	Conforming	Portfolio	-\$204b
Bank	Conforming	GSE	+\$215b
Shadow Bank	Conforming	GSE	+\$14b

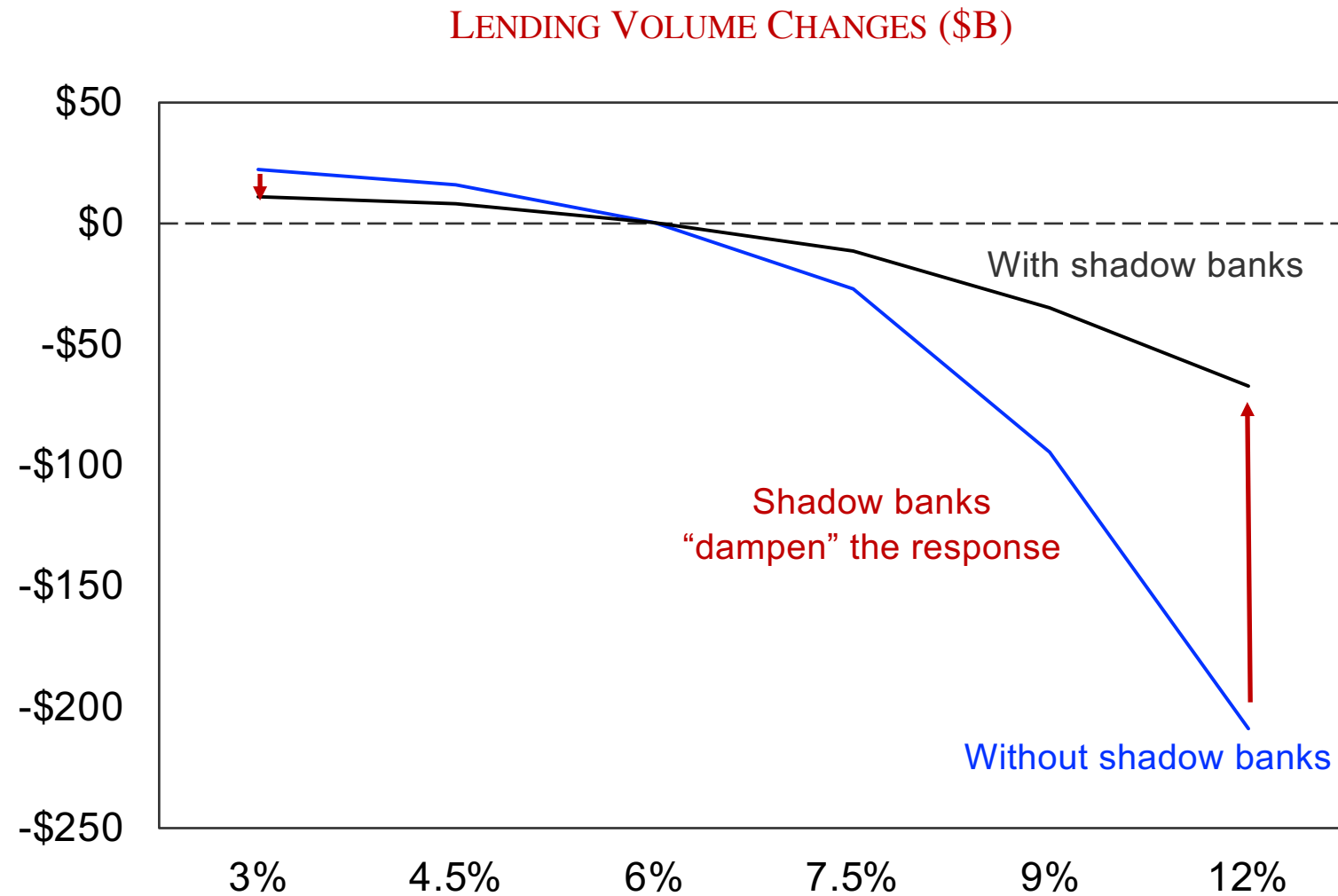
LENDING VOLUMES (\$B)



Counterfactuals: Capital Ratios



Counterfactuals: Capital Ratios

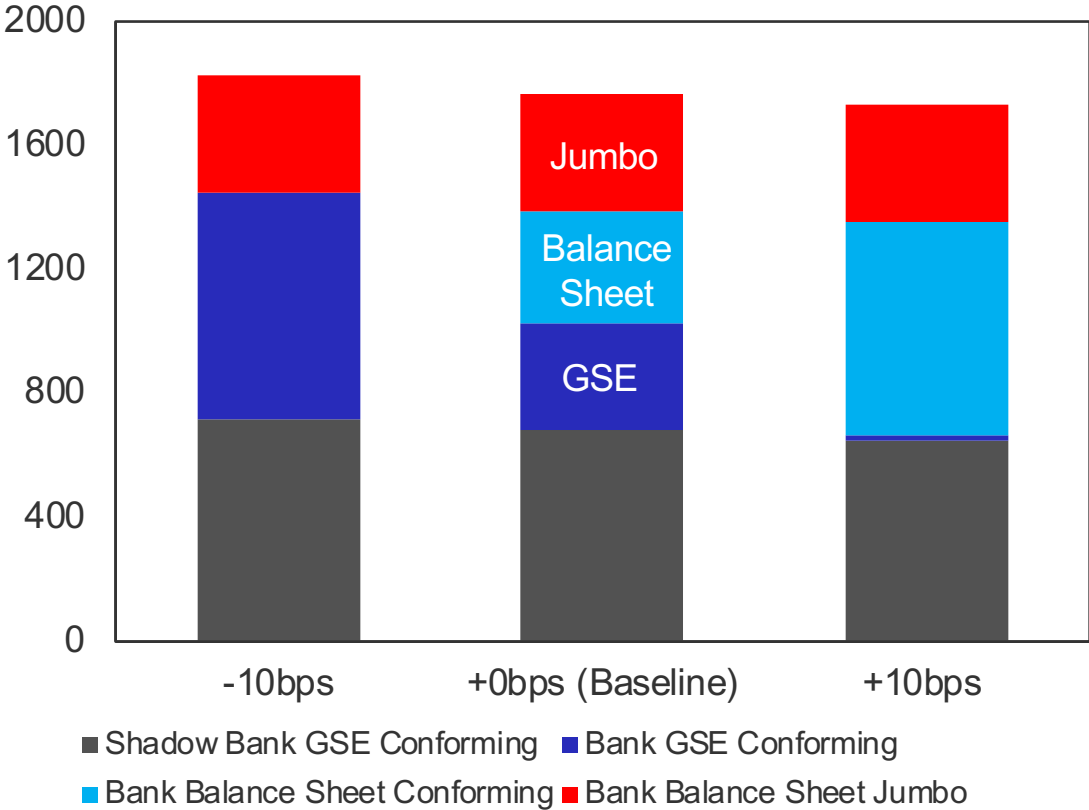


Counterfactuals: QE

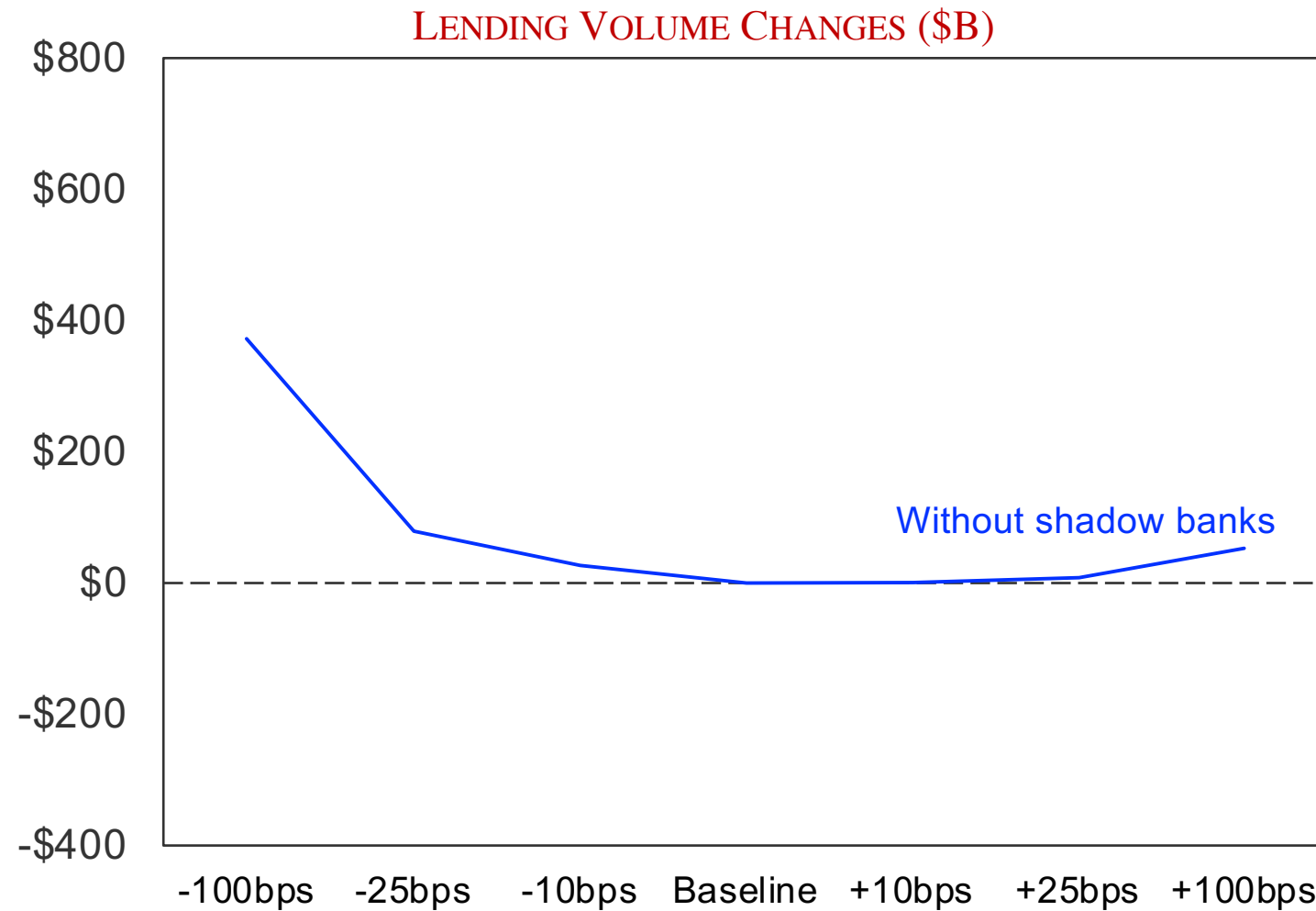
GSE FINANCING COST -10BPS

Lender	Loan Type	Financing Source	Change
Total	-	-	+\$61b
Bank	Jumbo	Balance Sheet	-\$4b
Bank	Conforming	Balance Sheet	-\$357b
Bank	Conforming	GSE	+\$389b
Shadow Bank	Conforming	GSE	+\$33b

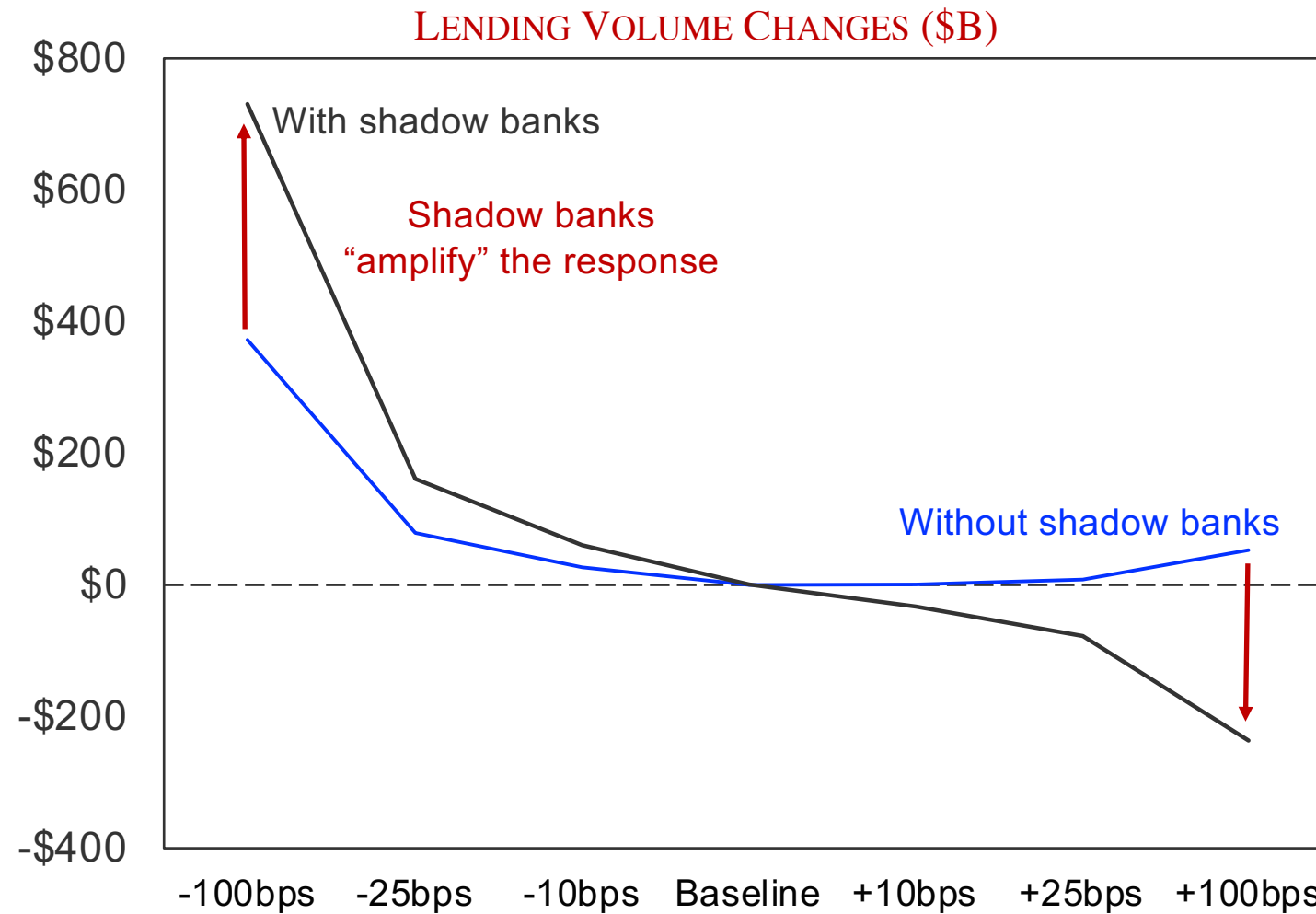
LENDING VOLUMES (\$B)



Counterfactuals: QE



Counterfactuals: QE



IMPLICATIONS

Interlinkages

TYPICAL SHADOW BANK BALANCE SHEET

A	L
Cash =10	ST Debt from Banks = 75
Mortgages for Sale =70	Equity = 25
MSR =15	
IT =5	