



FEDERAL RESERVE BANK *of* NEW YORK

The Use of Data for Policy and Research at Central Banks: Perspectives from Financial Markets at the New York Fed

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Outline

- Complementarities between policy and research and how to take advantage of them
- Research at the NY Fed
- Some successful collaborations between policy and research



Good policy needs good data

- Central bankers confront important policy questions
 - To make better decisions, they need better information, which often comes from the analysis of data
- How can central banks make the best use of their data?
- Policy/operational areas and Research complement each other in production of good information from data
 - Taking advantage of these complementarities can be tricky
 - Finding the right way to structure the interactions of research with policy areas can help



Complementarity between policy and research

- Policy areas have:
 - Important and interesting questions
 - Deep institutional knowledge
 - Data, some confidential
- Policy areas need:
 - Good analytical skills to make the most of their data
 - Creative thinking
- Research has:
 - Most up-to-date analytical skills
 - Training to think creatively
- Research needs:
 - Interesting questions on which to apply their skills
 - Understanding of institutional context
 - Good data



Some models of Research at central banks

- Full integration in policy areas – Economists are integrated into units with policy or operational responsibilities
 - Pros: Economists are in direct contact with policy questions; have direct access to data in their area
 - Cons: Policy or operational areas have tight deadlines, which reduces incentives to preserve research time
- Full separation from policy areas – Economists form their own unit(s) and are rarely included in cross-bank work
 - Pros: Research time is preserved
 - Cons: Economists may lack familiarity with policy questions and important institutional details
- There seems to be limitations to these extreme models



Taking advantage of the complementarities

- Research is different
 - Skills are often different than those of other CB staff
 - “Production function” can be difficult to understand
- Suggests benefits of having researcher in a separate unit

- Research should not be an island
 - Good analytical skills are not sufficient to produce information from data
 - Understanding the policy questions and the constraints imposed by the institutional context is essential
- Frequent interactions with policy and operational areas are beneficial



Goldilocks?

How to structure the relationship between Research and other policy or operational areas?

- Preserve incentives and time for research
 - Research is its own unit
 - Publications are rewarded
 - Economists report to someone with research experience, including having papers accepted at peer-reviewed journals
- Develop deep institutional knowledge and familiarity with policy issues
 - Economists interact frequently with policy and operational areas
 - Economists are included in cross bank work, as appropriate for their level of seniority



Research at the New York Fed

- About 60 Ph.D. economists and 45 Research assistants
 - Fields of interest of economists cover: macro, micro, international, regional, capital markets, financial intermediation, money and payments
 - RAs are college graduates, hired for two years. Many of them go on to get a Ph.D. in economics or finance
- Aim for 50% research time, on average, as part of the production function for policy work
 - All Researchers are expected to publish regularly
 - Involvement in policy work grows with seniority
 - There is some self-selection into policy work
- Economists are expected to remain research-active at all levels of seniority



Some successful collaborations

- Payments research
- Improving our understanding of the repo market
- Effect of Basel III regulation



Payments research

- Long tradition of collaboration between the Research department and the wholesale product office (WPO)
 - WPO runs Fedwire, a large-value payment system
- Research provides analysis to WPO on a range of issues, including understanding the impact of pricing on volumes
- Research gets access to data, which has been used in a number of papers



Effect of pricing on Fedwire volumes

- Copeland and Garratt (2015) study the effect of non-linear pricing of Fedwire volume
 - Marginal cost of payment sent decreases once sufficiently many payments have been made
- Surprising finding: Average user, which is small, behaves as if they care about average cost
 - Suggest some users who care less about immediacy and finality have substitutes to make payments
- Not enough variation in the data to measure if heavy users care about marginal cost

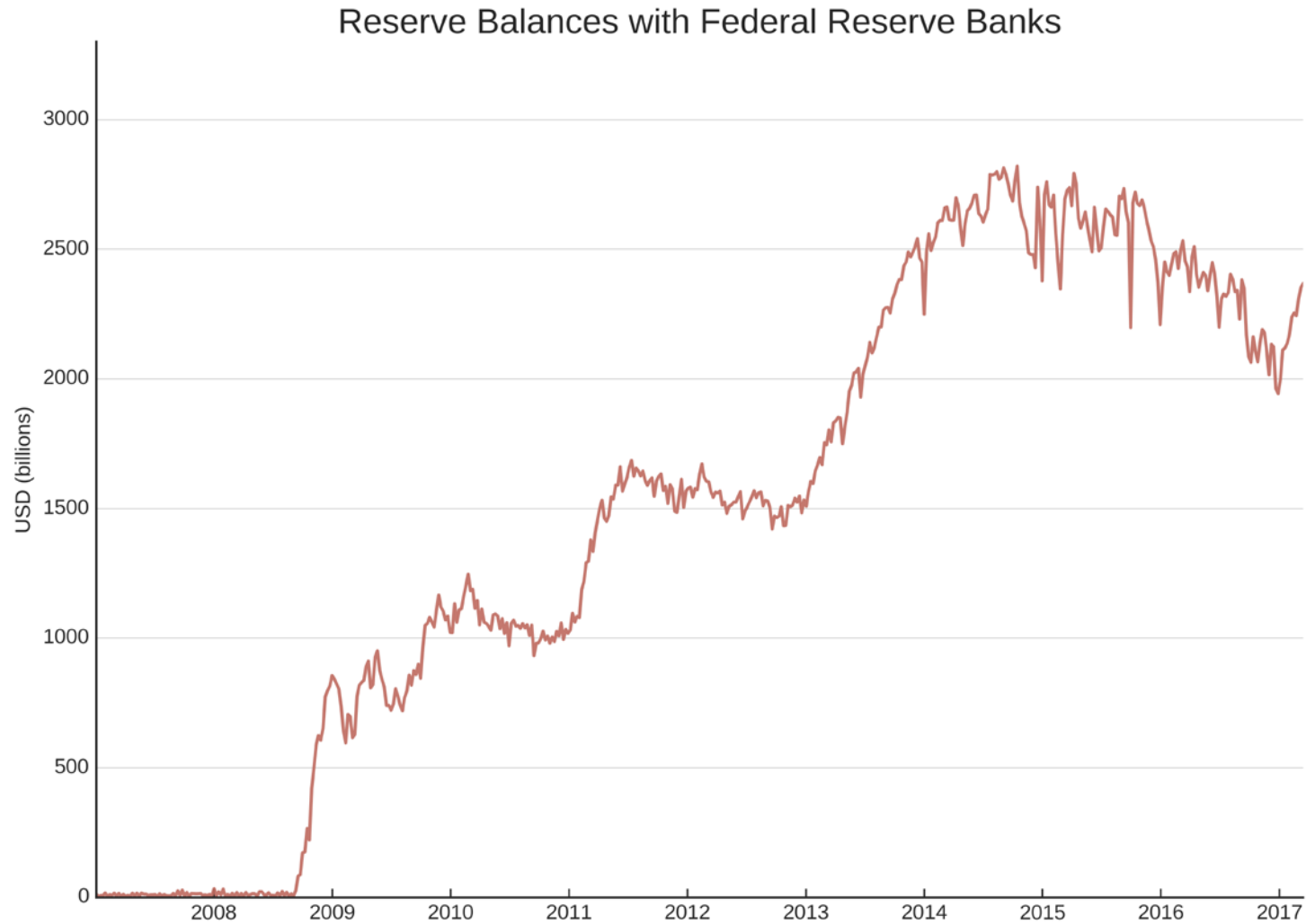


Monetary policy and the payment system

- Large-scale asset purchases since the crisis have led to a very large increase in the supply of reserves
 - From about \$20 Billion to more than \$2.5 Trillion
- The increase in the level of reserves has had a profound effect on Fedwire, the US large-value payment system

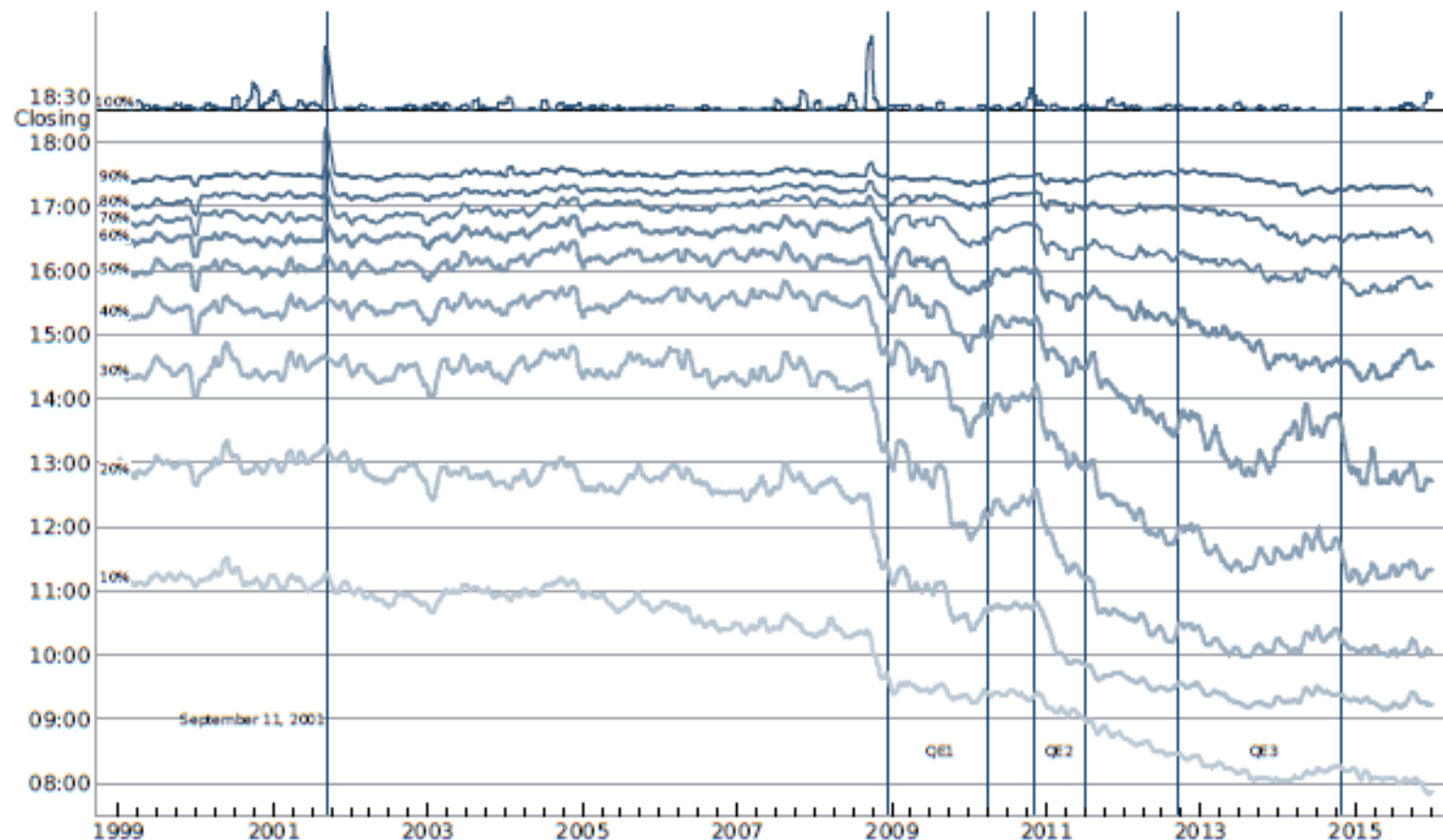


The crisis lead to a huge increase in reserves



Effect of reserves on timing of payments

Figure 1: Time Series of Settlement Liquidity

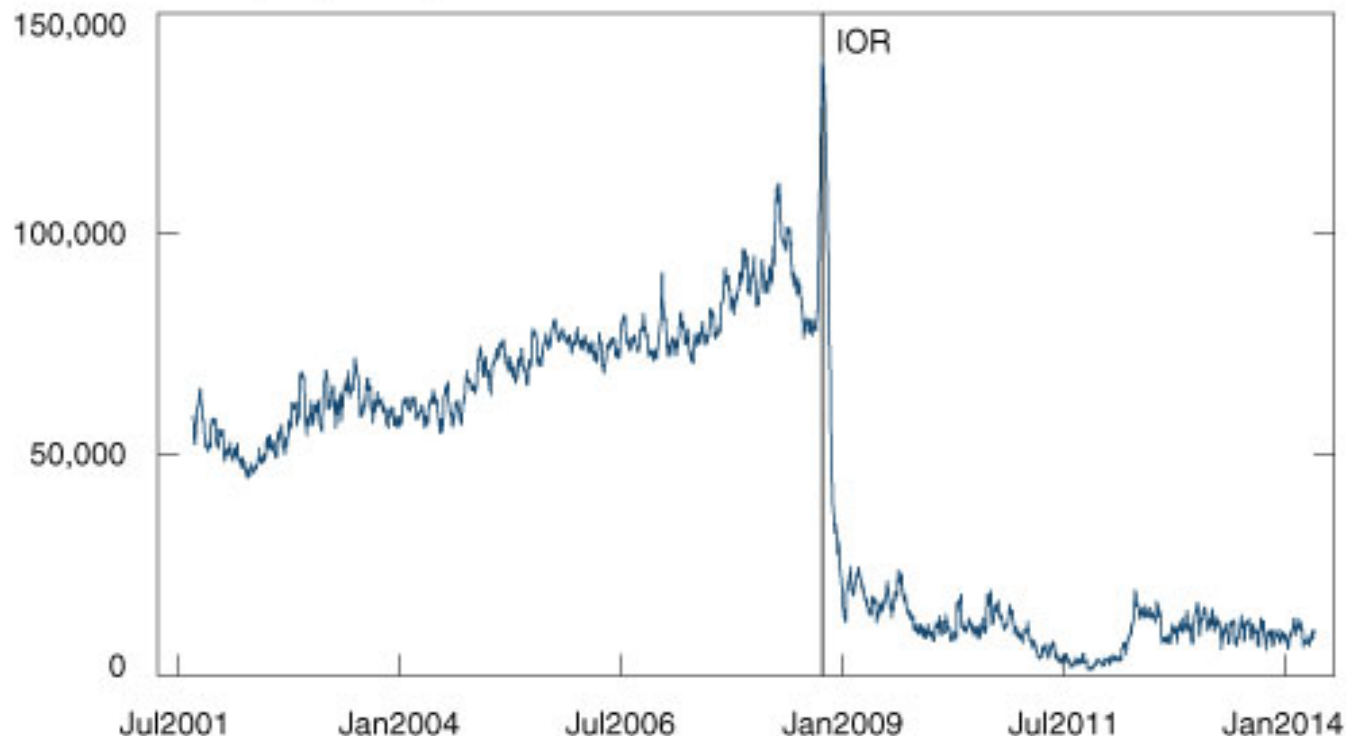


Notes: Twenty-one-day centered moving average.
Values exclude payments related to CHIPS, CLS, DTC, and P&I payment funding.
Sources: Federal Reserve Bank of New York, Authors' calculations.

Effect of reserves on daylight overdrafts

Value of Time-Weighted Aggregate Daylight Overdrafts in Fedwire Funds

Millions of dollars, weighted by duration



Source: Federal Reserve Bank of New York.

Note: The data series runs from September 4, 2001, to July 31, 2013.

Garratt, Martin, and McAndrews (2014)



The repo market

- The US repo market is a key funding market for large securities broker dealers
 - Market has several segments, notably bilateral and tri-party
- Repo market was at the center of the financial crisis
 - Loss of repo funding contributed to difficulties of Bear Stearns and Lehman Brothers
- This market was very opaque before the crisis; the NY Fed started obtaining data in summer 2008
 - The bilateral repo market remains quite opaque

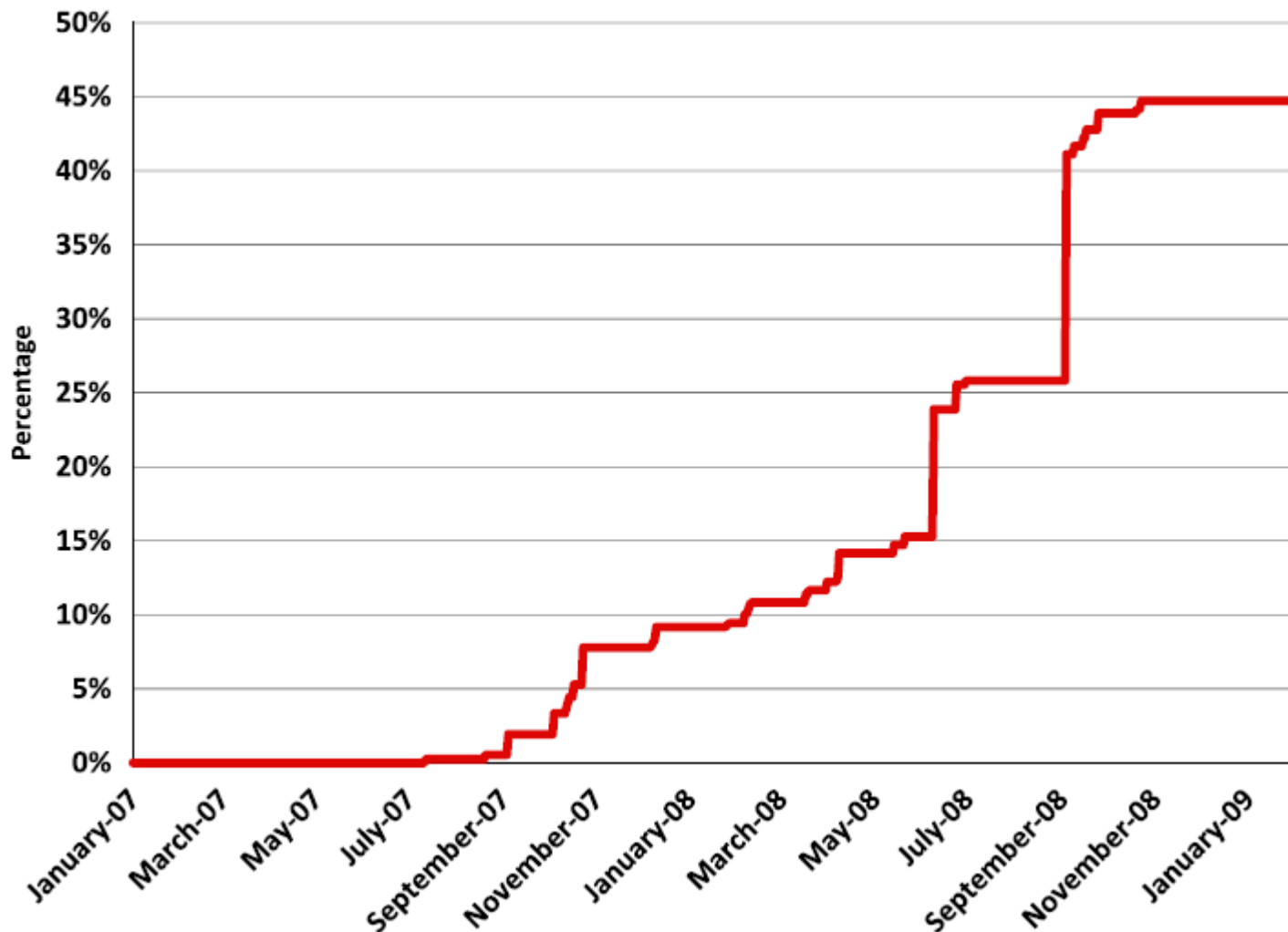


Repo runs

- In an influential paper, Gorton and Metrick (2011) argue that the repo market was subject to a run, in the form of a margin spiral
- The bilateral market, which Gorton and Metrick study, behaved very differently from the tri-party market
- In work with Copeland and Walker, we show that runs in the tri-party repo market were not margin spirals
 - Finding influenced the policy debate on how to keep repo market stable

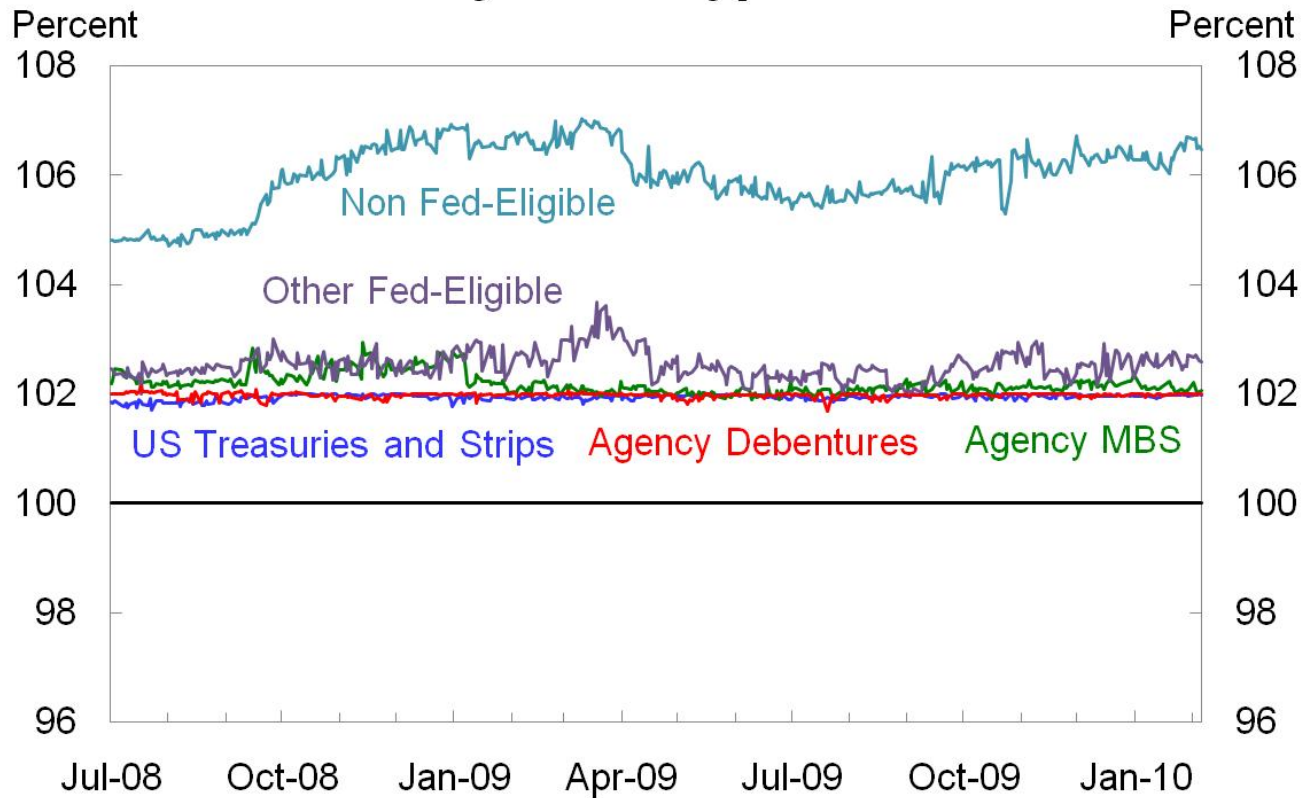


Gorton-Metrick: The (bilateral) repo-haircut index



Repo haircuts: Tri-party

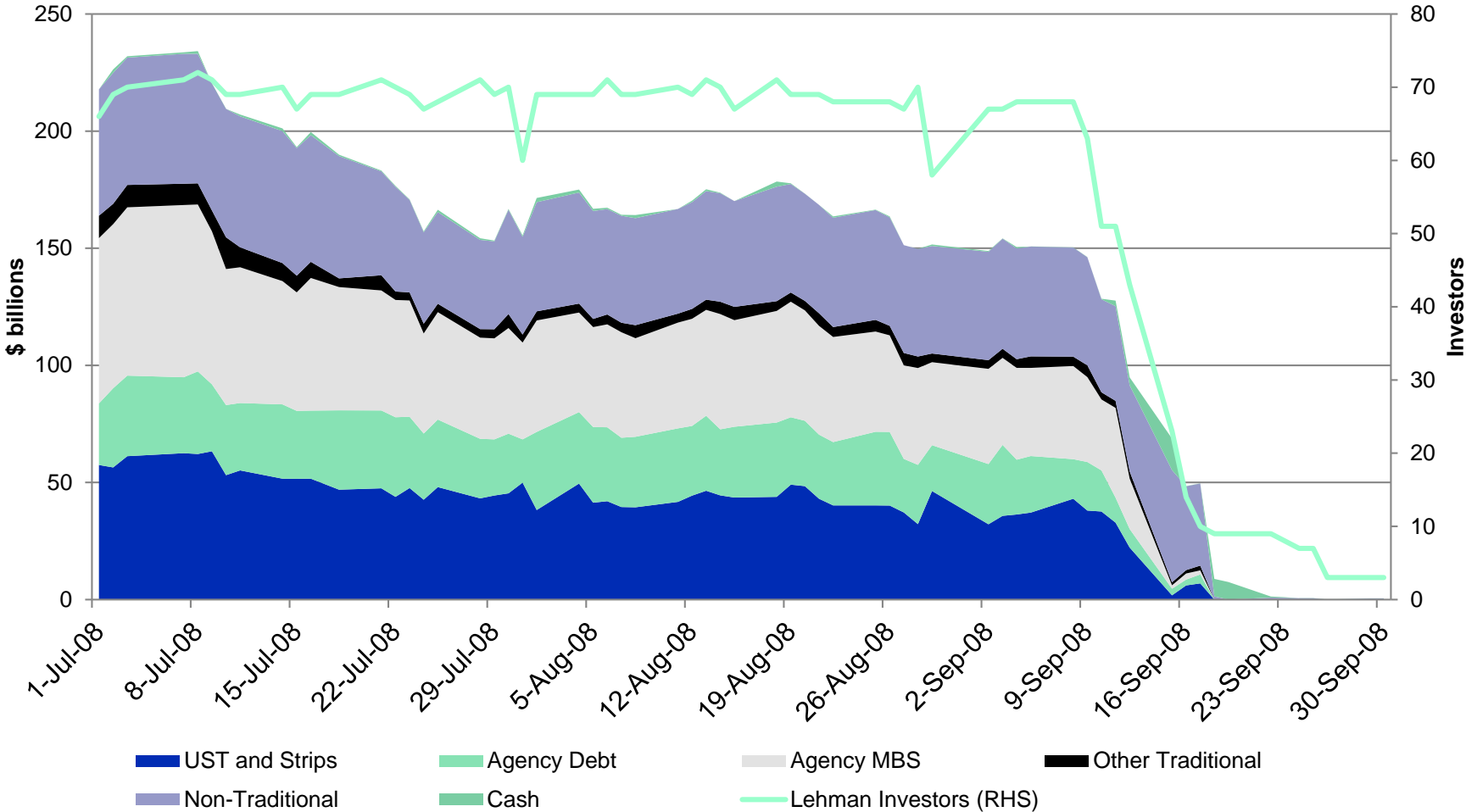
Median Haircuts by Asset Type



Source: FRBNY Calculations

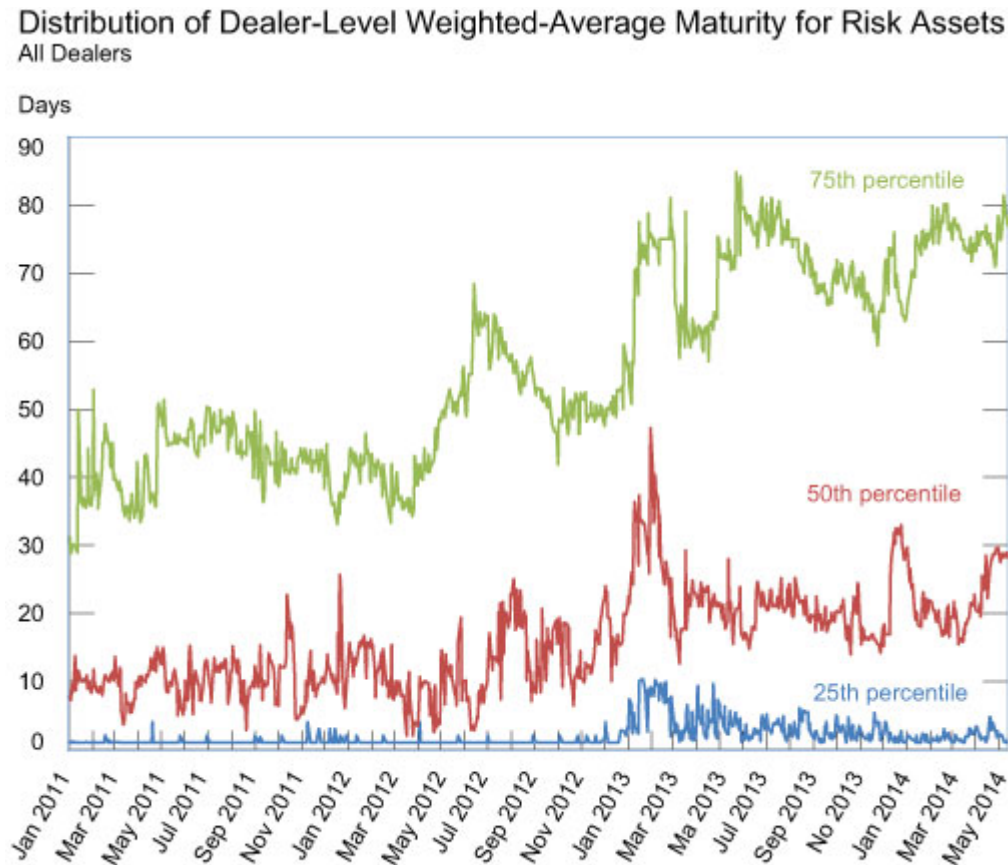
Lehman's tri-party repo book

Lehman Tri-Party Repo Assets and Investors in 2008



Taking Stock of Dealers' Funding Durability

- Copeland, Davis, and Selig (2014) document changes in the WAM of dealer's repo books backed by risk assets



Source: Federal Reserve Bank of New York.

Effect of Basel III regulation: leverage ratio

- Implementation of Basel III regulation differs across countries
 - In some, like the Euro area, regulated entities report a quarter-end snapshot
 - In others, like the US, entities report daily average, over the quarter
- Do these difference in implementation matter?
 - Focus on the leverage ratio

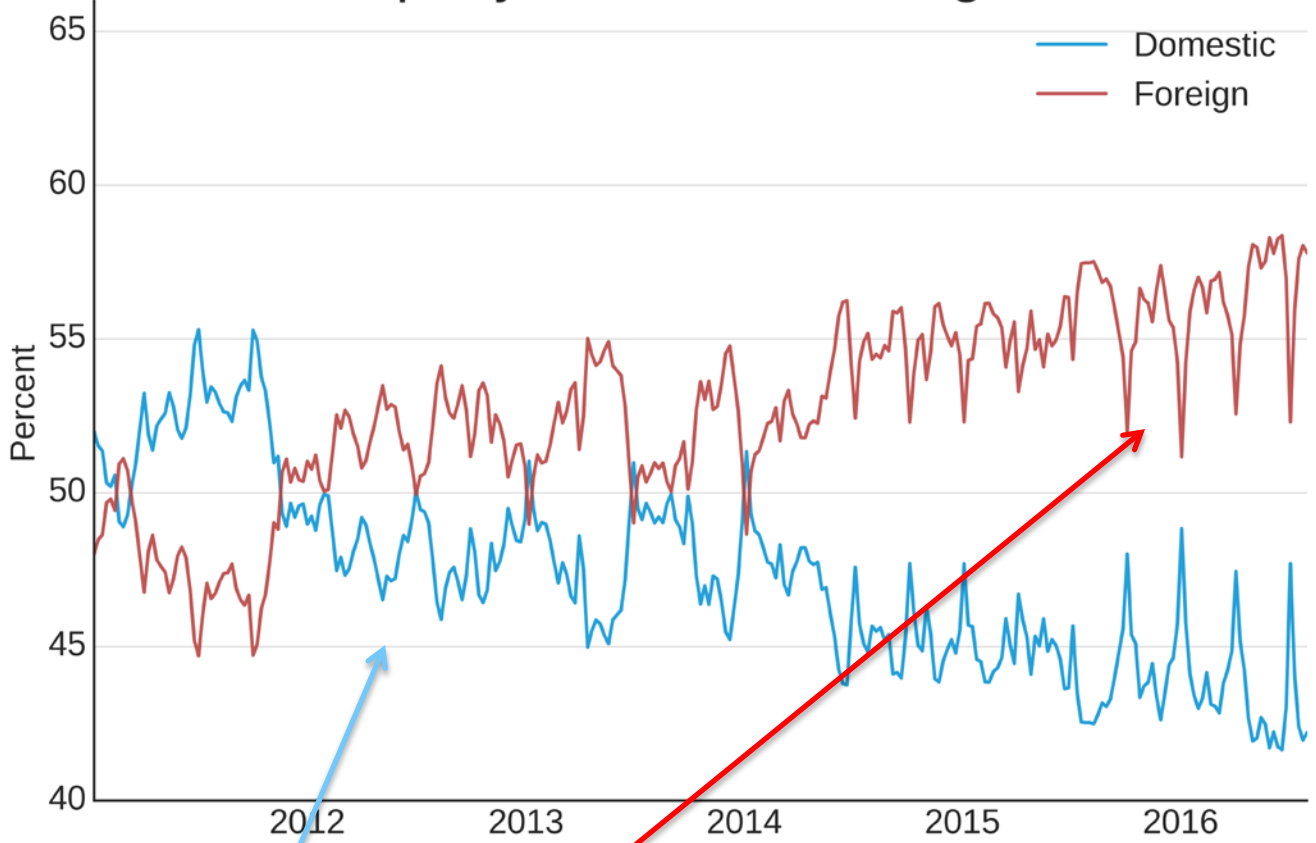


Expected effect of leverage ratio

- Leverage ratio is like a tax on intermediation activity that is proportional to the size of an intermediary's balance sheet
- A tax is expected to discourage activity being taxed
 - We should expect a decrease in market share for dealers who are subject to more stringent versions of the regulation
 - Because tax is not risk weighted, the impact should be more pronounced for safe than for risky assets

Market shares: Safer Assets

Triparty Shares - Fed-Eligible

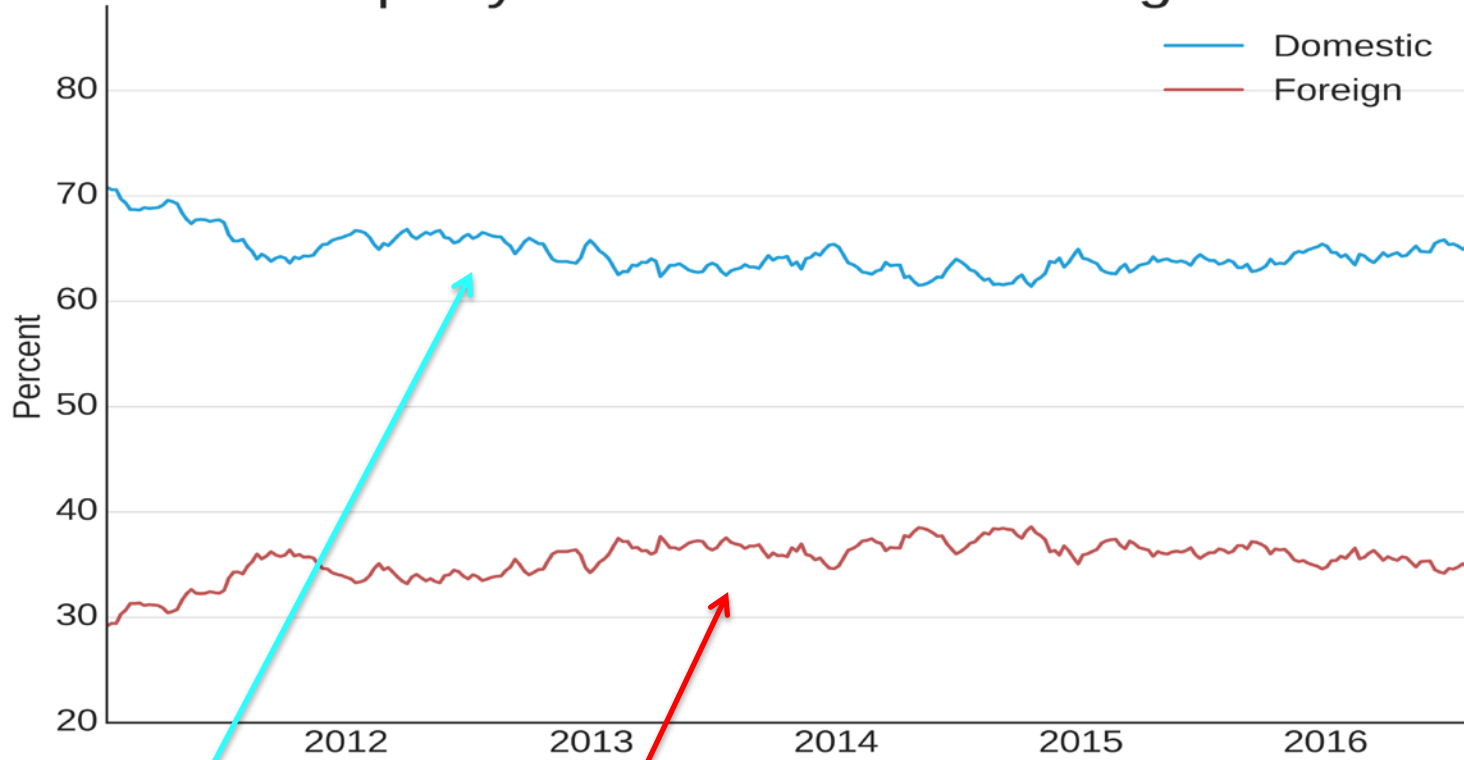


More regulated

Less regulated

Market shares: Risk Assets

Triparty Shares - Non-Fed-Eligible



More regulated

Less regulated

Conclusion

- Good policy decisions are based on good information
- Policy areas and research complement each other in producing good information from data
 - Policy areas can provide interesting questions, deep institutional knowledge, and data
 - Research can provide analytical, communication, and creative skills
- A good structure for the interactions of policy areas and research can help get the most of the complementarities