Deposit Insurance Premiums and Arbitrage

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Disclaimer

- The views expressed herein are those of the authors and do not necessarily represent the views of the Federal Reserve Board or its staff.
Motivation

- Deposit insurance premiums are critical for monetary policy.

- The Fed uses interest on excess reserves (IOER) as its main tool for monetary policy implementation.

- When the IOER rate rises, IOER arbitrage—borrowing short-term wholesale funds and holding more excess reserves—becomes more profitable.

- Deposit insurance premiums reduce IOER arbitrage profitability.
IOER Arbitrage Profitability

- Effective federal funds rate
- Average unconstrained initial base assessment rate
- Interest on excess reserves (IOER) rate

Basis points


0 10 20 30 40 50 60
Motivation

- Establishing a causal effect of deposit insurance premiums on reserve demand and interbank lending is difficult.

- Correlation or causality?
  - Domestic U.S. banks pay deposit insurance and most foreign banks don’t, but domestic and foreign banks differ in many other ways.
  - Insurance premiums vary with bank risk, but risk also affects reserve demand and interbank lending.

- Solution: We use a kink in the schedule of deposit insurance premiums.
Institutional Background

- The Federal Deposit Insurance Corporation (FDIC) insures deposits at U.S. banks to maintain stability and confidence in the financial system.

- The Deposit Insurance Fund (DIF) is maintained through banks’ contributions known as “assessments.”

- Quarterly “assessment rates” are multiplied to the “assessment base,” broadly defined as total assets minus equity.

- During our sample period following the recent financial crisis, assessment rates range from 5 to 35 basis points.
Institutional Background

- For small and safe banks, assessment rates are equal to a sum of bank variables multiplied by their respective coefficients.

- These variables and their coefficients are derived from an econometric bank failure model.

- These rates are subject to a minimum of 5 basis points and to a maximum of 9 basis points.
Kinks in Initial Base Assessment Schedule
Empirical Strategy

- We examine how the following bank characteristics...
  - Excess reserves
  - Federal funds sold
  - Federal funds purchased

- ...change as the slope of the assessment rate changes at the 5 b.p. minimum
Distribution of Assessment Rates

Number of observations

Initial base assessment rate (basis points)
Effects of Assessment Rates on Excess Reserves

![Graph showing the relationship between initial base assessment rate (basis points) and excess reserves (ln $ thousand). The graph indicates a negative trend as the assessment rate increases.]
Effects of Assessment Rates on Excess Reserves

- A 1-basis point increase in the assessment rate decreases excess reserves of the average bank in the sample from $5.6 million to $800 thousand.

- Our finding that assessment rates lower reserve demand holds when we use quarter-end or quarter-average reserve balances and total reserves or excess reserves.
Effects of Rates on Federal Funds Sold
Effects of Rates on Federal Funds Purchased

Federal funds purchased (ln $ thousand)

Initial base assessment rate (basis points)
A 1-basis point increase in the assessment rate makes the amount of federal funds sold by the average bank in the sample jump from $3.7 million to $16.7 million.

We find weak evidence of an effect of assessment rates on federal funds purchased.
- Smaller banks borrow federal funds less frequently.

We do find some evidence of a decrease in other types of short-term funding.
Conclusion

- We showed evidence that deposit insurance premiums reduce demand for reserves and increase supply of federal funds.

- The Fed must take these effects into account when implementing monetary policy using the IOER.

- Optimal deposit insurance pricing may depend on the effects of insurance premiums on monetary policy implementation.
THANK YOU FOR YOUR ATTENTION

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