Perspectives on U.S. Monetary Policy Tools and Instruments

James D. Hamilton
University of California, San Diego
Fed’s current primary policy tools and instruments:
  – Balance sheet
  – Fed funds rate

My conclusions:
  – Balance sheet currently matters from liabilities side, not asset side
  – Fed funds rate control will become increasingly difficult as excess reserves shrink
Balance sheet: Fed holdings of securities (billions of $)
Interest rate on 10-year Treasury bonds
How do other central banks control short-term interest rate? Corridor system (ECB)

• Central bank offers to lend banks as much as they want at some fixed rate \( i_L \)
  – Banks won’t pay more to borrow from someone else (\( i_L \) puts ceiling on interbank lending rates)

• Central bank offers to pay rate \( i_D \) on deposits with central bank
  – Banks won’t lend for less to other banks (\( i_D \) puts floor on interbank rates)
ECB marginal lending rate (orange), rate paid on deposits (blue), and interest rate on loans between banks (gray).
Historical U.S. system

• Federal Reserve set discount rate at which banks could borrow from Fed
• But often this was a floor, not a ceiling on interbank loans!
Shaded areas indicate U.S. recessions

Sources: Board of Governors, IMF
Why was this a floor?

• Borrowing at discount window had nonpecuniary costs
  – Other banks would see my bank as weak
• Banks preferred to borrow fed funds from other banks at more than discount rate
• If supply of nonborrowed reserves decreased:
  – Banks forced to borrow more at discount window and incur more nonpecuniary costs
  – Increased the spread between fed funds and discount rate
Fed funds equilibrium (historical)
Current U.S. system

- Fed pays interest on excess reserves
- But this until recently was a ceiling, not a floor on fed funds rate!
In 2017 fed funds rate was fixed amount below IOER with end-of-month seasonal
Why wasn’t IOER a floor?

• Fed fund lending was primarily by institutions that couldn’t earn IOER (government sponsored enterprises, Federal Home Loan Banks)

• But why didn’t banks that could earn IOER borrow infinite amounts from FHLBs at fed funds rate and drive FF to IOER with arbitrage?
• By borrowing fed funds, bank’s total assets expand, exposing it to
  – Higher FDIC fees
  – Costs of meeting capital requirements
  – These are lower for foreign banks
  – But foreign bank costs higher last day of month due to Basel requirements
• Banks borrow fed funds up to point where IOER minus ff rate equals marginal nonpecuniary costs of balance-sheet
Fed funds equilibrium (2017)

Interest rate

IOER

Market ff rate

Supply of reserves

Nonpecuniary cost of ff borrowing

Fed funds borrowed (foreign banks)

Fed funds lent (FHLBs)

Fed funds borrowed or lent
• Money market funds, Federal Home Loan Banks can’t earn IOER
• But can lend to Fed with reverse repos
• Alternatively could lend to private party with repo collateralized by Treasuries
• Reverse repo rate puts a floor under Treasury General Collateralized Finance rate
But IOER does not put a ceiling on GCF
As GCF moved above IOER, the IOER-FF gap vanished.
What changed? Drop in volume of fed funds lending

Source: https://apps.newyorkfed.org/markets/autorates/fed%20funds
Federal Home Loan Banks are finding better alternatives to lending fed funds

Source: FHLB end-of-quarter financial reports
• What Fed policy tool is putting ceiling on interest rates currently?
• Huge volume of excess reserves may be one factor
Federal Reserve Liabilities (billions of $)
Conclusions

• Size of balance sheet seems imprecise tool for controlling interest rates
• As reserve balances shrink, Fed control of short-term interest rate may become more difficult
• May want to shift focus from fed funds to another short-term rate
• May want to revive stigma-free discount window to get effective ceiling on short rates