Alternative monetary operating procedures

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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 rates)

- Central bank offers to pay rate $i_D$ on reserves held with 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!
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 demand for reserves increased or supply 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 is not a floor on fed funds rate!
Interest on excess reserves and fed funds rate
Why is ff below IOER?

• If bank borrows at fed funds rate and earns IOER, seems like arbitrage profit
• But 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
• Banks borrow fed funds up to point where IOER minus ff rate equals marginal nonpecuniary costs of balance-sheet expansion
Fed funds equilibrium (current)

Interactions:
- Fed funds equilibrium
- Interest rate
- Supply of reserves
- Fed funds borrowed or lent
- Nonpecuniary cost of ff borrowing
- Fed funds borrowed (foreign banks)
- Fed funds lent (GSEs)
- Market ff rate

Legend:
- IOER
- Fed funds borrowed or lent

Graph:
- Interest rate vs. Market ff rate
- Fed funds borrowed (foreign banks)
- Fed funds lent (GSEs)
- Nonpecuniary cost of ff borrowing
Reverse repo rate puts floor under rate at which MMF lend
But there is a huge surge in reverse repo volume from end-of-quarter window dressing.
Very different from historical system of letting market rate reflect pressures
Current system requires huge buffer of excess reserves to accommodate volatile RRP and Treasury balance

Federal Reserve liabilities (billions of dollars)
What puts ceiling on rates in current system?
Conclusion

- Current system relies on supersaturation of reserves
- Not clear how would function with excess reserves under $500 B