Discussion of:

"Trade Dynamics in the Market for Federal Funds"

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Why care about the fed funds market?

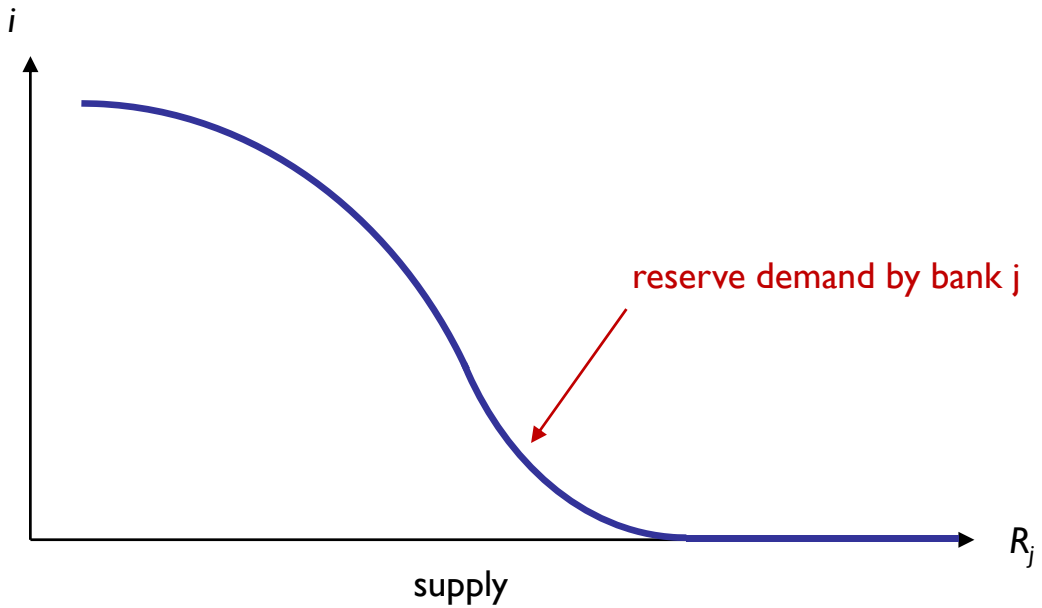
- An interesting example of an over-the-counter market
  - might be useful for understanding OTC markets in general
  - unusually good data is available (for an OTC market)

In addition:

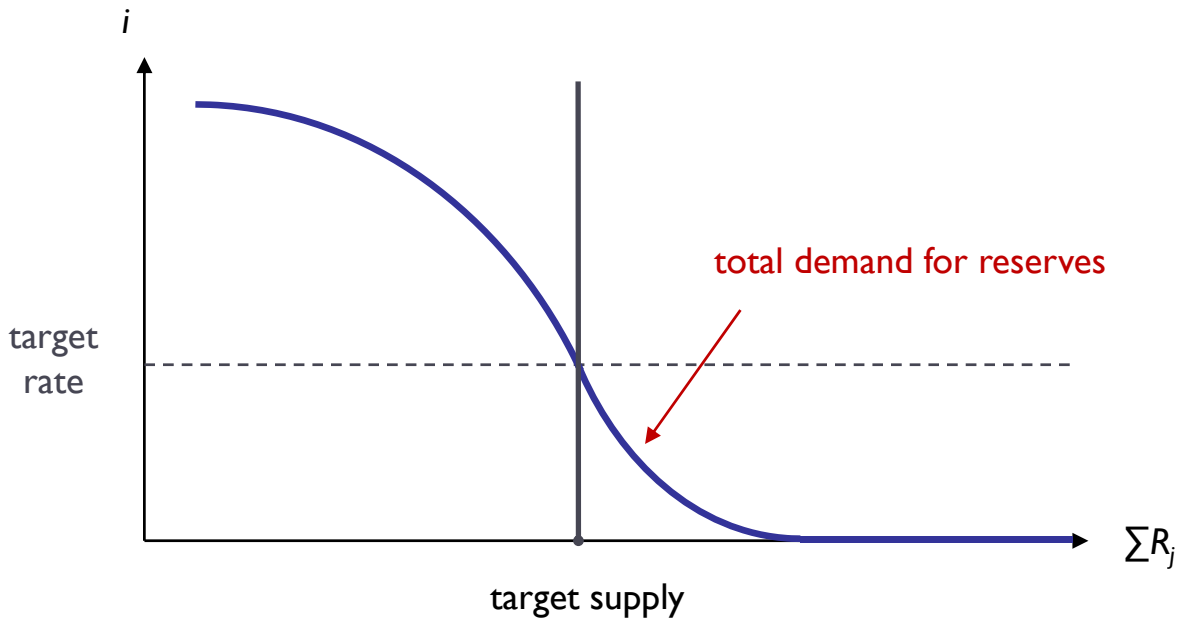
- The Federal Reserve implements monetary policy by intervening in this market
  - FOMC chooses an interest rate it wishes to prevail in this market
  - Open Market Desk needs to implement this decision
- Effective implementation requires understanding how this market works

The "standard" view of the fed funds market

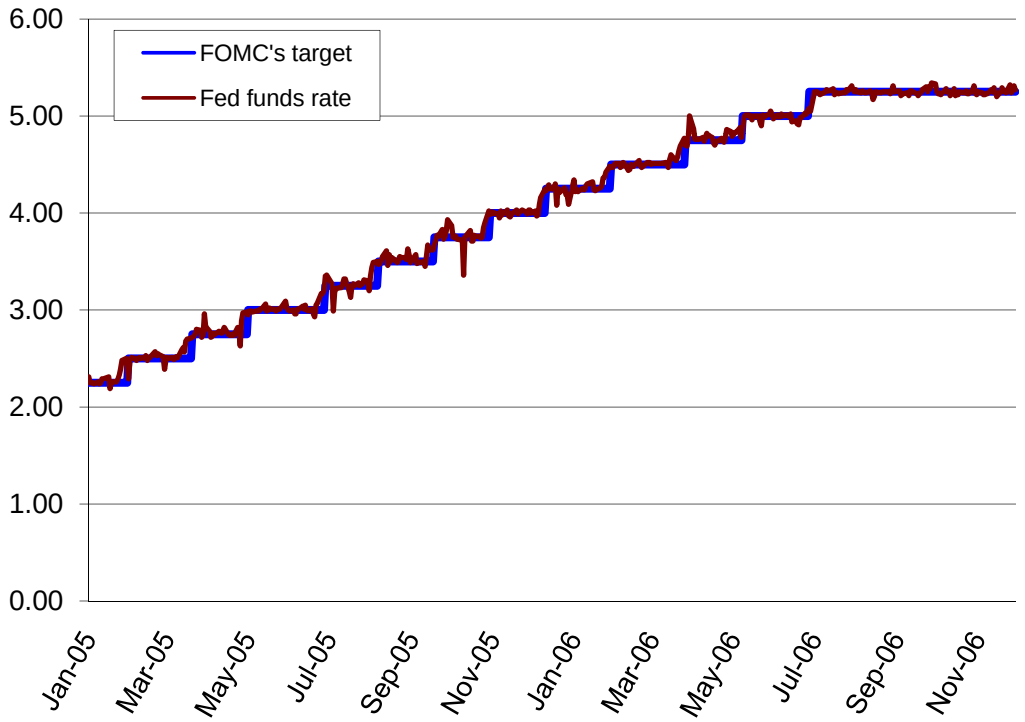
- Banks hold reserve balances to meet requirements, make payments
- Suppose there is a frictionless interbank market
  - each bank chooses R_j, depending on the market interest rate i



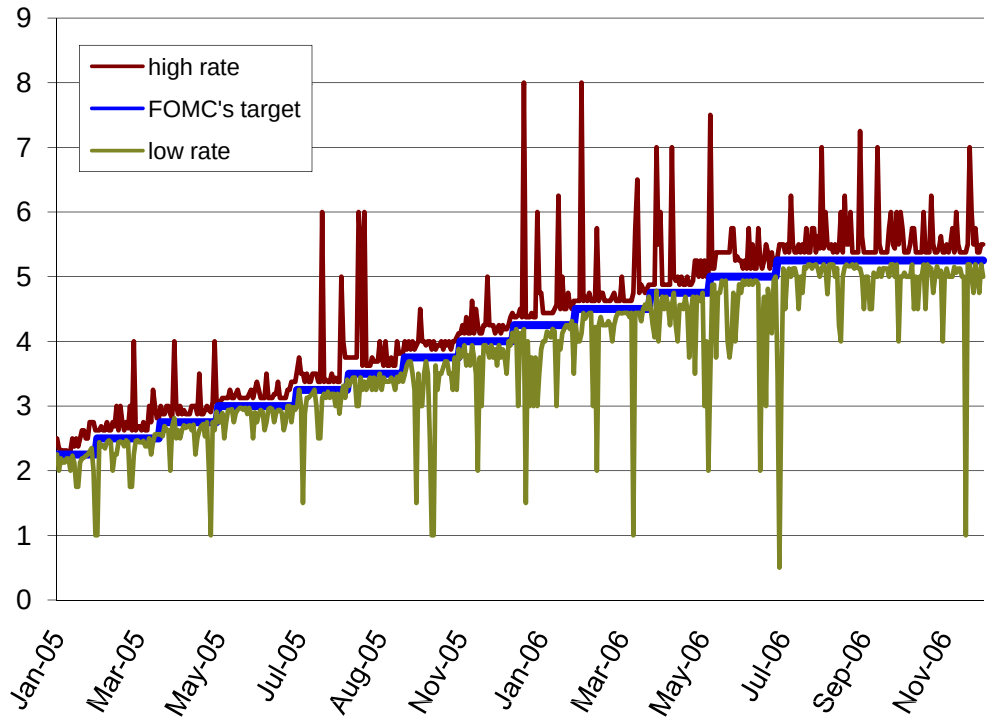
- Aggregate individual demands to obtain total demand for reserves
- Open Market Desk uses OMOs to change supply of reserves
  - aim to hit a "target supply"



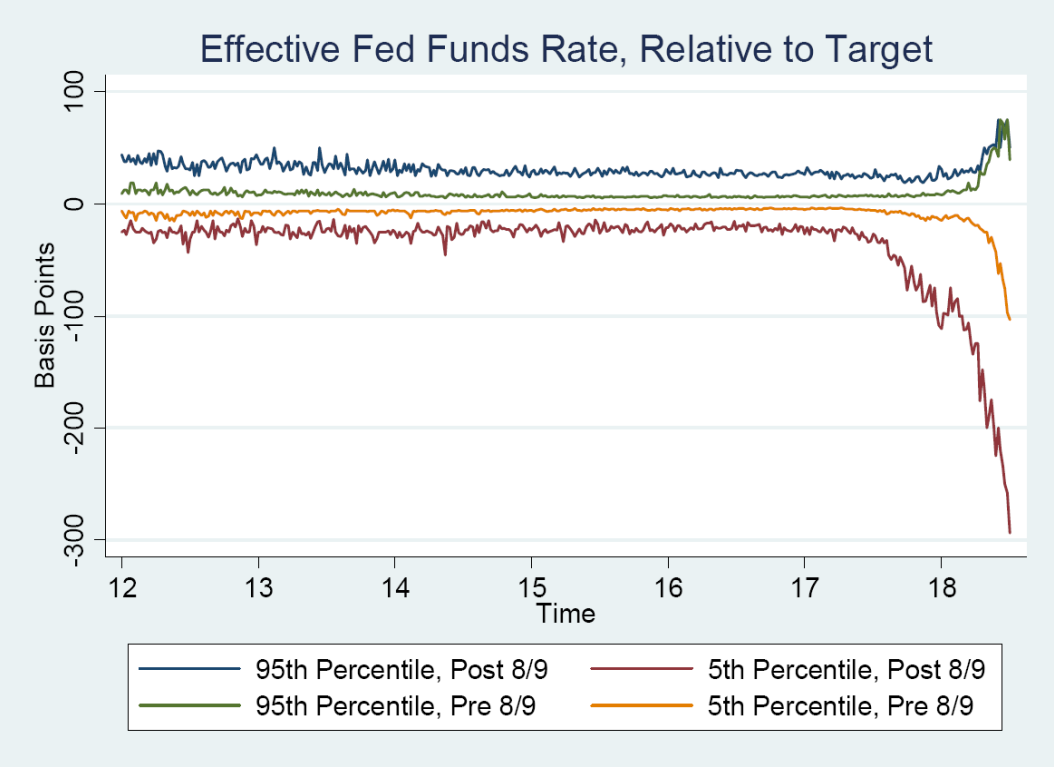
- This model has served policymakers reasonably well



- We know some aspects of reality are missing, of course
  - example 1: dispersion of rates on any given day



- We know some aspects of reality are missing, of course
  - example 2: dynamics of rates within a day



Source: Ascraft, McAndrews, and Skeie (2009)

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⇨ Interesting to try to understand/model these features

  - studying this market might also teach us about modeling trading frictions

- … but policy makers seemed to have a good working model

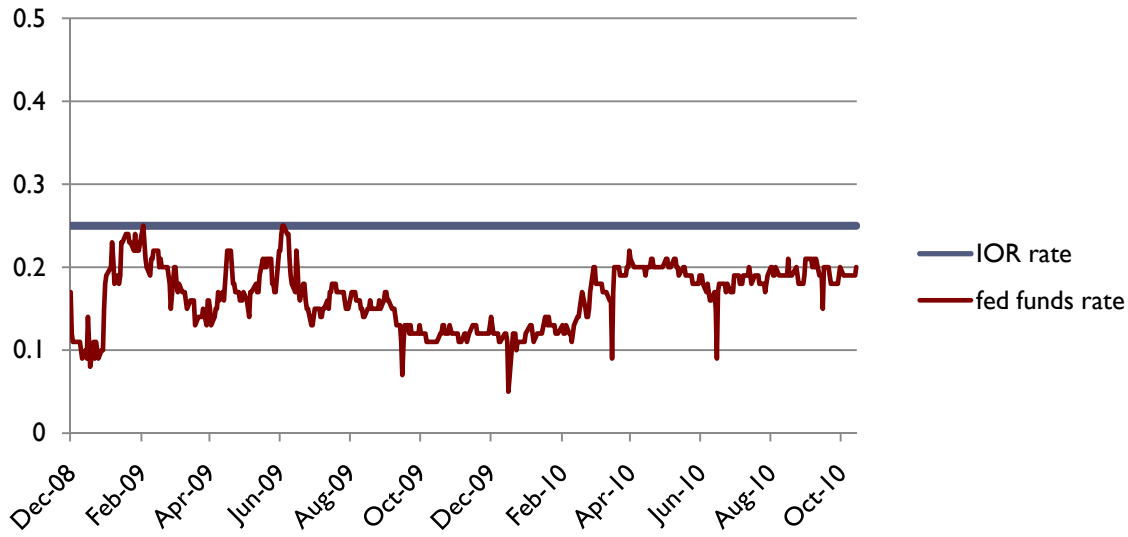
  - could anticipate the effects of different policy actions
  - knew how to achieve desired outcomes in this market

Current situation

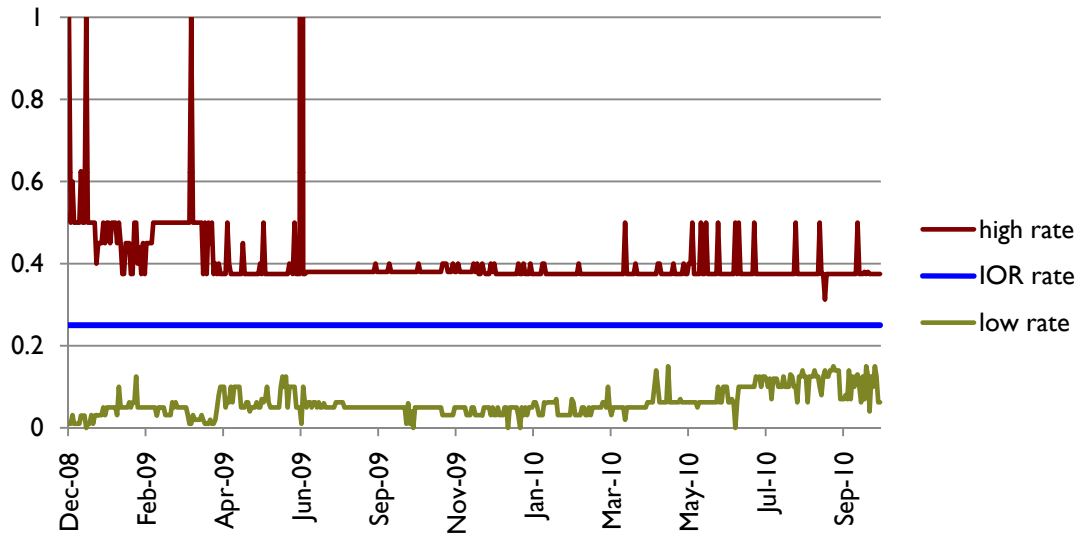
- The market has changed dramatically since Sept. 2008
  - importance of trade frictions has become very evident
- Reason 1: counterparty credit risk became a larger concern
- Reason 2: changes in Fed policy, balance sheet
  - facilities and asset purchases have greatly increased reserve balances
    - August 2008: $12 billion
    - August 2010: $1 *trillion* (increased more than 80-fold)
  - in addition, Fed began paying interest on reserve balances

The standard model has become less useful

- "Puzzle": Fed pays 0.25% on reserves held by depository institutions
  - arbitrage should imply a market rate of at least 0.25%
  - average market rate has ranged between 0.12% and 0.20%



- Dispersion of rates within a day has also increased



➡ Policymakers no longer have a good working model of this market

Why it matters

- Suppose the Fed were to raise the interest rate it pays to 1%
- What would happen to the market interest rate?
  - between 0.88% and 0.95%? (constant spread)
  - between 0.50% and 0.75%? (constant ratio)
- This is an critical question for the "exit strategy"
  - when the FOMC decides to raise the target interest rate …
  - … how should this be done?
- Difficult to answer without a good model

Afonso-Lagos

- Paper provides the first model of the fed funds market that takes trading frictions seriously
- Setup is fairly natural
  - decentralized trade
  - friction = takes time to find a counterparty
  - Nash bargaining within a match
  - some initial distribution of reserves across banks
- Solving the model (rigorously) is hard work

- For the baseline case of identical banks, solution is clear & intuitive
  - banks exit a match with the same reserve position
- Captures many things that are missing from the standard model
  - dispersion of interest rates, intraday dynamics, intermediation
- Extensions: introduce ex ante heterogeneity
  - important for many reasons
  - large vs. small banks; "natural" lenders and borrowers;
    banks vs. other participants (GSEs)
  - work in progress; seems promising

Comments

(1) Credit risk

- What generates the dispersion of interest rates in the data?
  - model: result of idiosyncratic matches, heterogeneous histories
- Some argue this dispersion actually reflects credit risk
  - lenders demand a risk premium if loan may not be repaid
- How can we tell which mechanism is more important in reality?
  - I think the paper has it right
  - banks do not make "risky" fed funds loans
- Important to have a convincing justification for the basic approach

(2) Credit risk (part b)

- Even if no risky loans are make, credit risk may still be important
- Participants set restrictions on who they will lend to and how much
  - these restrictions create at least some of the trading frictions
    - need to find a counterparty who is willing to lend *to you*
- Could/should this feature be incorporated into the model?
  - think of credit limits as exogenously specified
  - exercise: what happens when credit limits are cut?
  - is this the same as changing alpha? Or different?

(3) Imperfect arbitrage

- Paper talks about "intermediation"
  - a bank may both borrow and lend over the course of a day
- Can also think of this activity as arbitrage
  - why would a bank with high balances borrow more of them?
  - it might be able to lend the funds later on at a higher interest rate
- Arbitrage here is *imperfect* because of the trading frictions
  - arbitrage opportunities exist, but are difficult to act on
- Model should be able to replicate the "puzzle":

market interest rate < interest rate paid by Fed

(4) What I would like to see

- A quantitative model for policy analysis
- Requires solving the model with a fair amount of heterogeneity, but
  - reasonably good data available for calibrating parameters
  - … and for testing the implications of the model
  - very different policy regimes will also be a good test of the model
- Answer some pressing policy questions:
  - what is the relationship between IOR and market interest rates?
  - what is the most effective way to steer interest rates in this market?