LECTURE VIII

6 March 2012

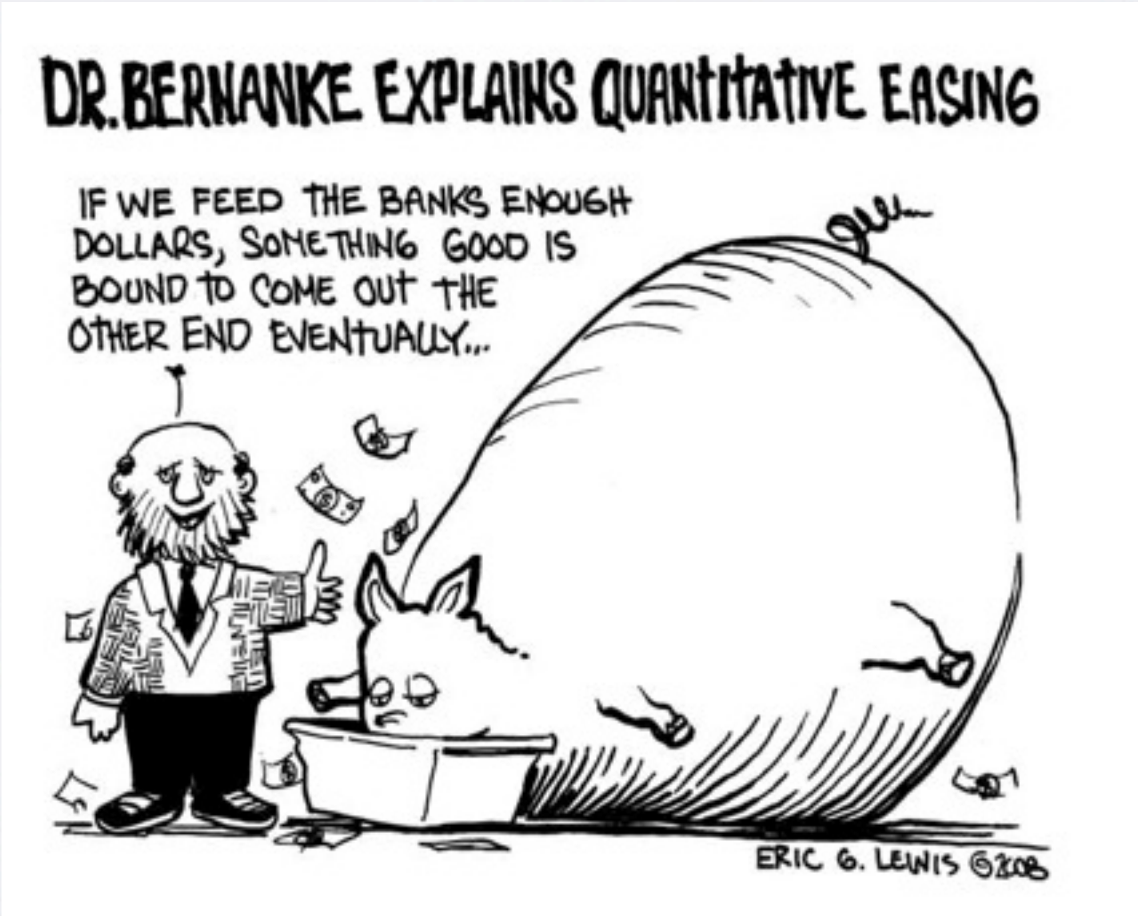
TOPIC 10

Monetary Policy

BIG PICTURE

- What is monetary policy?
- How does the Fed use monetary policy (link to brief movie on Fed)?
- What tools does the Fed have to achieve its policy goals?
- What role *should* monetary policy play in stabilizing the economy?

WHAT IS MONETARY POLICY?

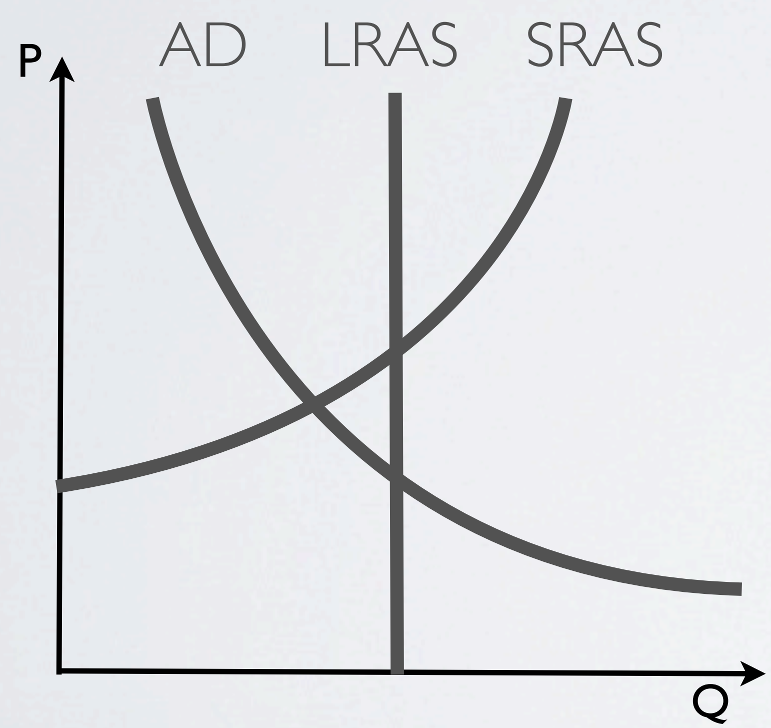


MONETARY POLICY

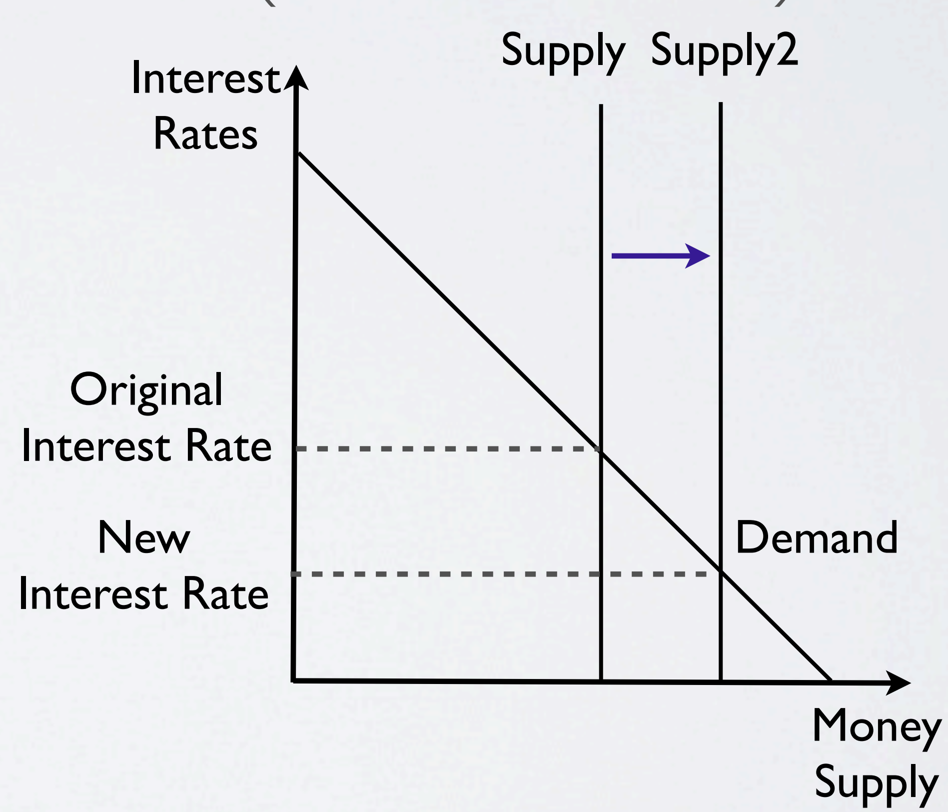
- **Monetary policy**: Changes to the money supply made by the Central Bank to impact the macroeconomy
  - **Expansionary monetary policy**: Increases the money supply, lowers interest rates, and expands aggregate demand
  - **Contractionary monetary policy**: Decreases the money supply, increases interest rates, and contracts aggregate demand

HOW DOES THIS WORK...

1) We are in recession



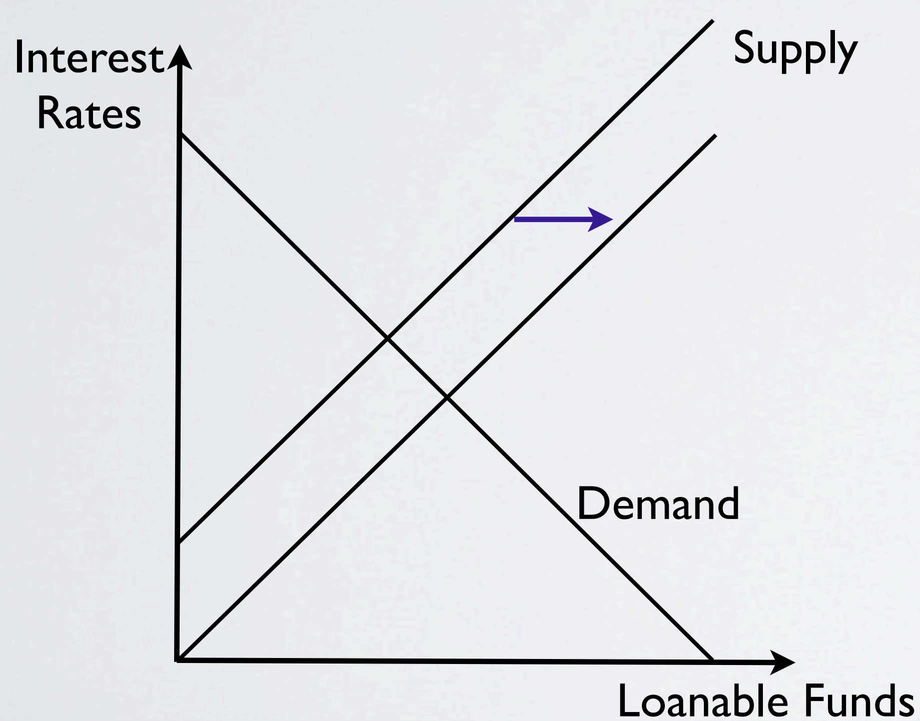
2) Fed implements *expansionary policy*, so money supply increases (decrease RR?)



So interest rates fall

HOW DOES THIS WORK...

3) In another market, lower RR increases supply of loans



So investment increases

- So decreasing the RR has:
  1. Increased money supply by bank mechanism and lowered interest rates
  2. Lower interest rates increase consumption
  3. Lower interest rates and higher supply of loans increases investment
- So Aggregate demand has expanded!

TOOLS OF MONETARY POLICY

- Three main tools

   1. Reserve ratio (already studied): Regulation on minimum amount of reserves banks must hold (not that common in US, very common in China)

   2. Open Market Operations (OMO): Purchase and sale of government bonds by the Fed

   3. Discount Rate: The interest rate on loans that the Fed makes to other banks

- Each policy affects money supply *through private banks*

OPEN MARKET OPERATIONS

- **OMO**: buying and selling of government securities by a Central Bank for the purpose of carrying out monetary policy
- There are three kinds of securities, none of which are in the money supply (think of the definition of M1):
    - **Treasury bills**: matures in one year or less and does not pay interest until maturity
    - Treasury notes: mature in 2-10 years and pays interest every 6 months
    - Treasury bonds: mature in 10-30 years and pays interest every 6 months

CONNECTING T-BILLS AND MONEY SUPPLY

- When the Fed **buys** securities, they create money
- When it **sells** securities back to the public, they decrease the supply of money
- Suppose Steve inherits a $1000 T-bill:
  - Suppose Steve sells the bond on the bond market
  - Money supply has increased by $1000. Why? (hint: is a T-bill money?)
  - And if he deposits it in his bank?
  - Money supply could increase by the money multiplier dynamic
- In reality, chartered banks are obligated to buy and sell bonds in exchange with the Fed

DISCOUNT RATE

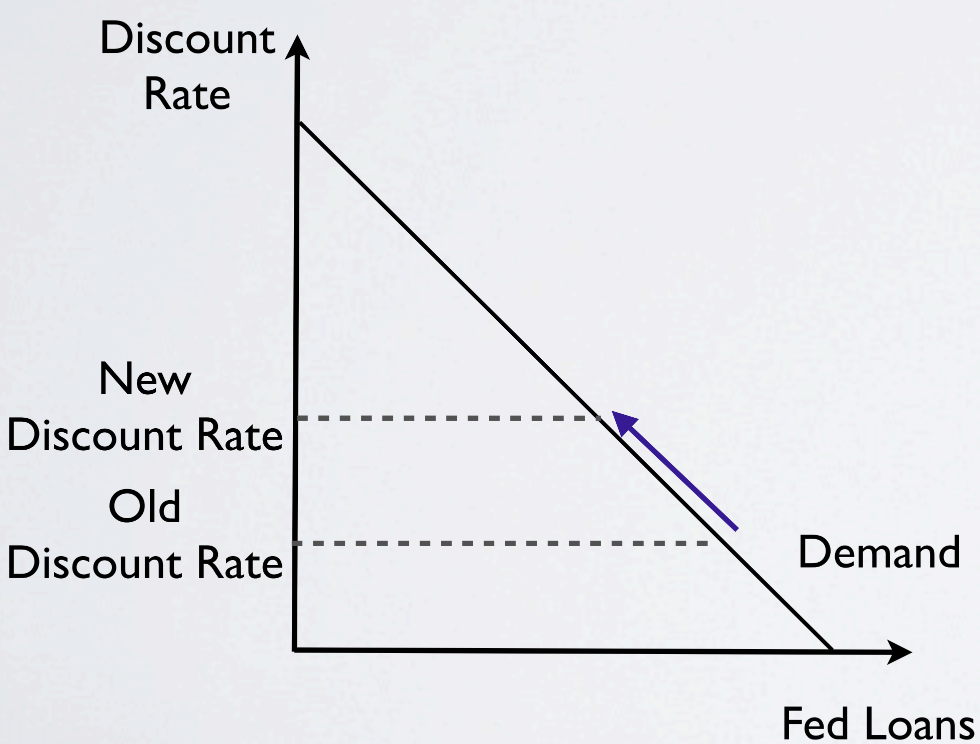
- Suppose TCF keeps $1000 on hand, but three of us go in, each requesting $500 from our accounts
  - TCF has to borrow money that today to cover excess demand
  - Fed is available for these loans
- **Discount rate**: the rate that the Fed charges on loans made to commercial banks and thrift institutions
- Money borrowed form the Fed is not actually subject to the reserve requirement so can be lent out in its entirety (or to cover withdrawal demand)

DISCOUNT RATE EXAMPLE

- Suppose Bank of America has $5000 in deposits and the RR is .10
  - Can lend out $4500 (.10*$5000=$500 are in reserves)
  - If interest rates on loans are 8% and the discount rate is 0% will the bank take a loan from the Fed?
  - If the discount rate is 15%
- As the discount rate increases, the Fed reduces supply of money by limiting private bank loans

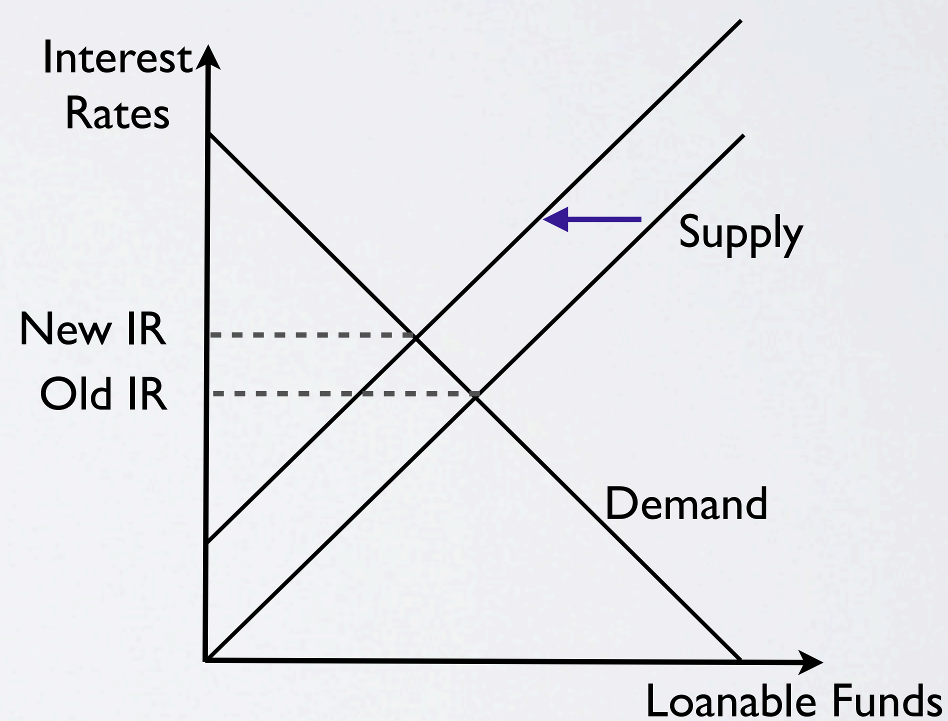
IMPACT ON THE ECONOMY

1) Fed controls discount rate directly



As discount rate increases...

2) Supply of loans decreases



...all interest rates increase.

TERM AUCTION FACILITY

- More recent (2007) alternative is TAF, in which Fed loans out specific quantity of money, versus discount rate, in which Fed can only target certain supply through the rate
  - Fed announces it will distribute $10 mil in loans
  - Banks submit bids for a certain quantity at certain interest rates
  - Bank with the willing to pay the most gets first cut, then second most willing gets second cut, etc.
  - The interest paid by all is the interest rate offered by the lowest winning bank
- Why does the actual rate not matter here?
  - The interest rate offered by lowest winning bank is obviously acceptable to all winning banks
  - The Fed only adjusts discount rate to control *money supply*, which it can do directly here