

LECTURE IX

20 March 2012

TOPIC 10 (CONT.)

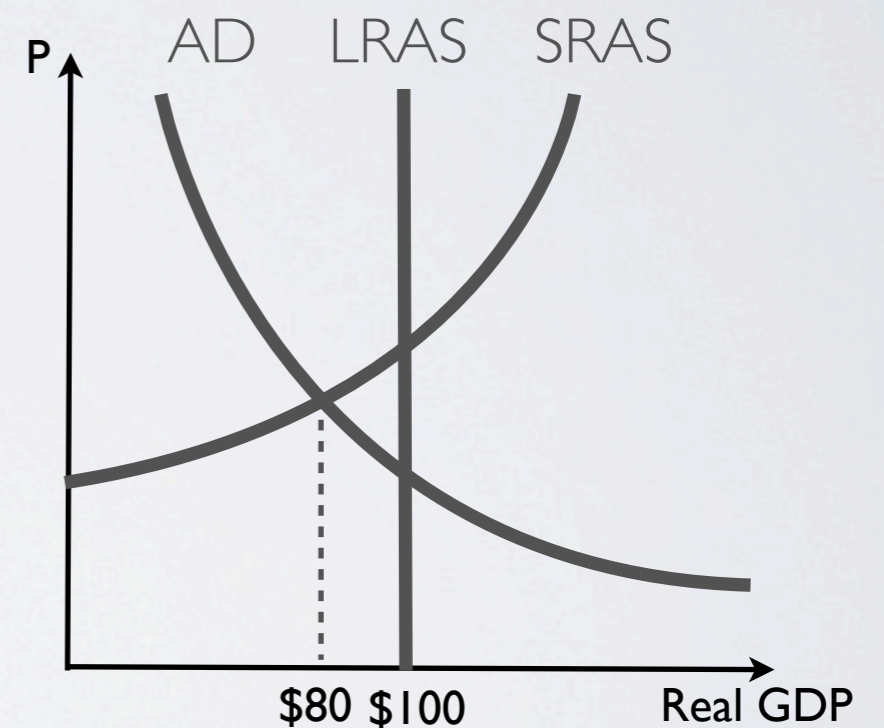
Monetary Policy

REVIEW

- Expansionary v. Contractionary policy
- Tools of the Central Bank
 - Reserve Ratio
 - Open Market Operations
 - Discount Rate / Term Auction Facility

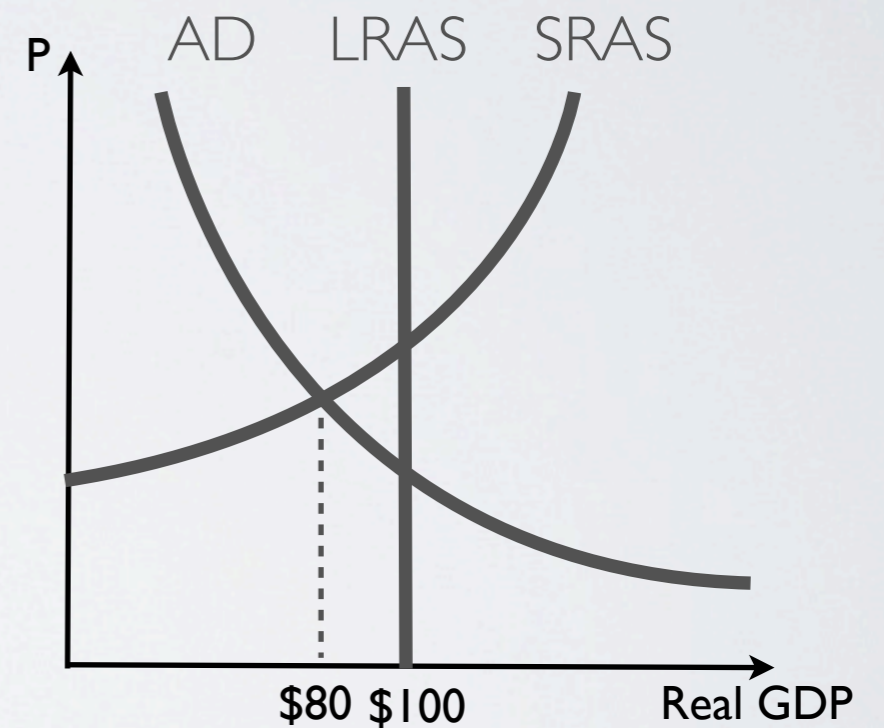
NUMERICAL EXAMPLE

- Recession! (perhaps an oil shock)
 - What kind of policy should the Fed implement?
 - Expansionary policy can impact consumption and investment (boosts both), but we will focus on **investment**
 - Why is consumption change difficult to predict?



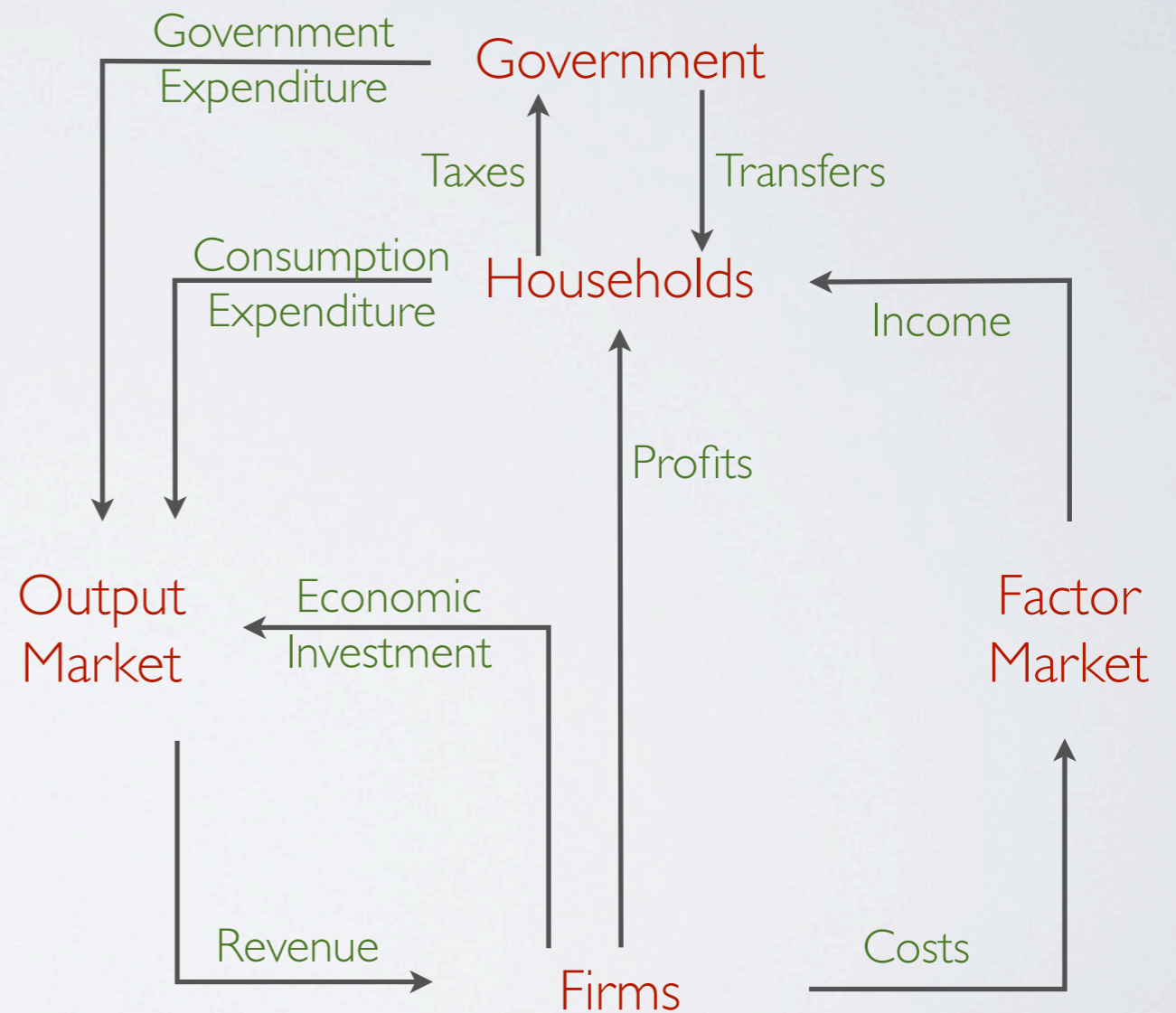
NUMERICAL EXAMPLE

- Recessionary gap of \$20
 - Like fiscal policy, want to close the gap
 - So raise GDP by \$20 through investment
- How much should we try to increase investment by?



NUMERICAL EXAMPLE

- Like changing spending or taxes, altering investment is fed back to households
- Households spend, which is translated to revenue and back into money for households
- SO:

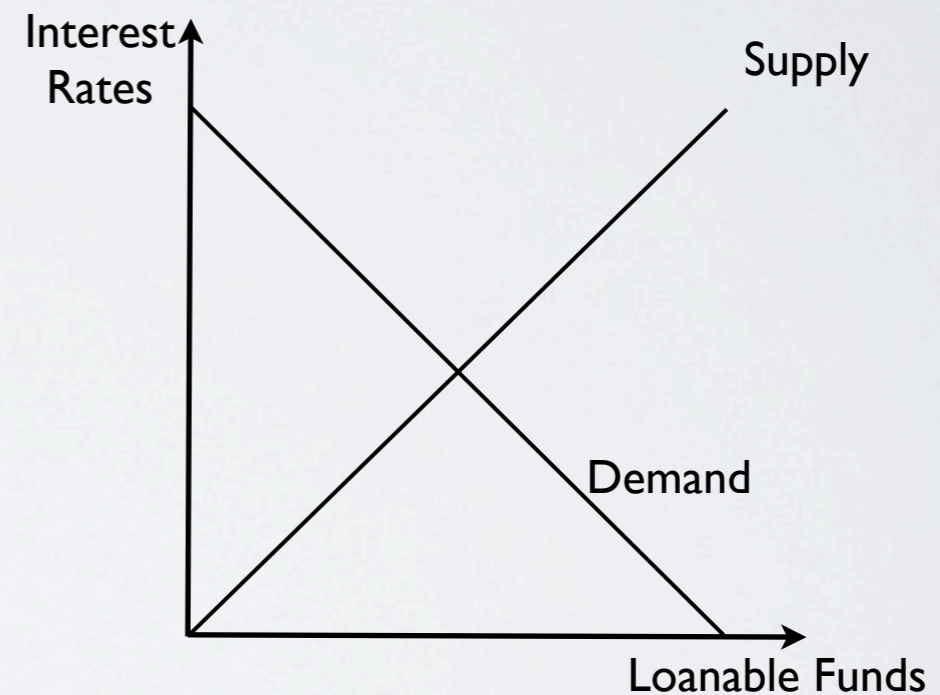


NUMERICAL EXAMPLE

- Need to use the aggregate demand multiplier (assume MPC = .5) :
 - Change in GDP = $(1 / 1 - \text{MPC}) * \text{CISOM}$
 - $20 = (1 / 1 - .5) * \text{CISOM}$
 - $\text{CISOM} = \$10$
- So we need to change investment by \$10

NUMERICAL EXAMPLE

- How can the Fed change investment by \$10?
- Need to know **initial conditions**:
 1. Original money supply
 2. Original interest rates
 3. Original demand for investment
- Where do we want to be (**desired conditions**):
 1. New demand for investment
 2. New interest rate
 3. New money supply
- **Decide the appropriate tool** (will change reserve ratio or use OMOs)



NUMERICAL EXAMPLE

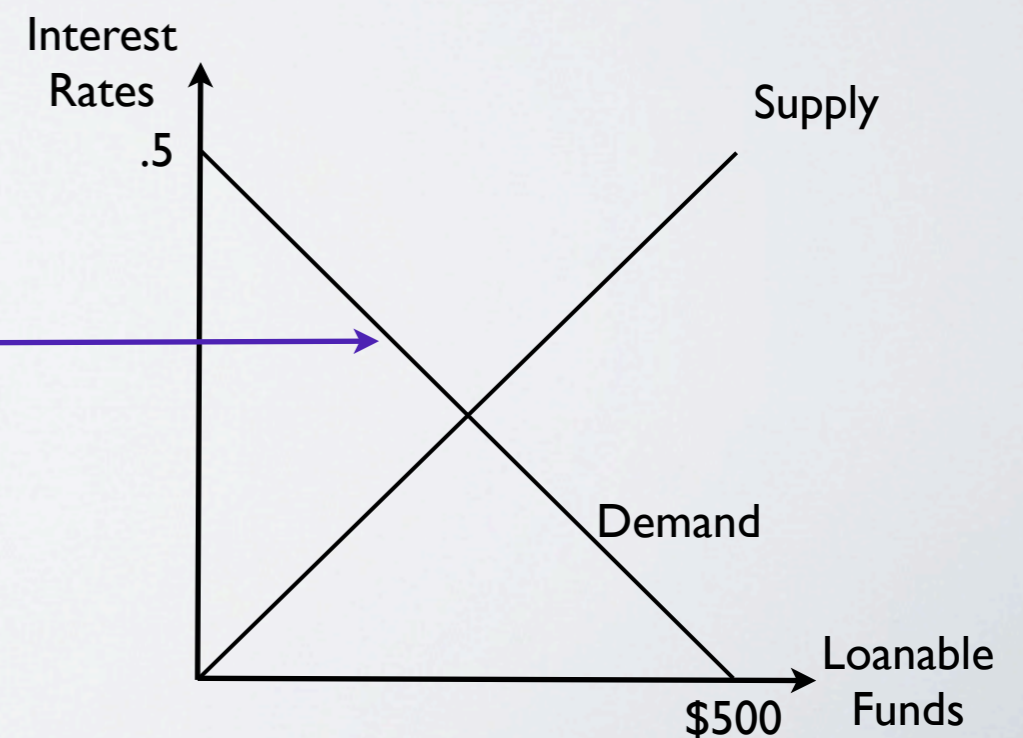
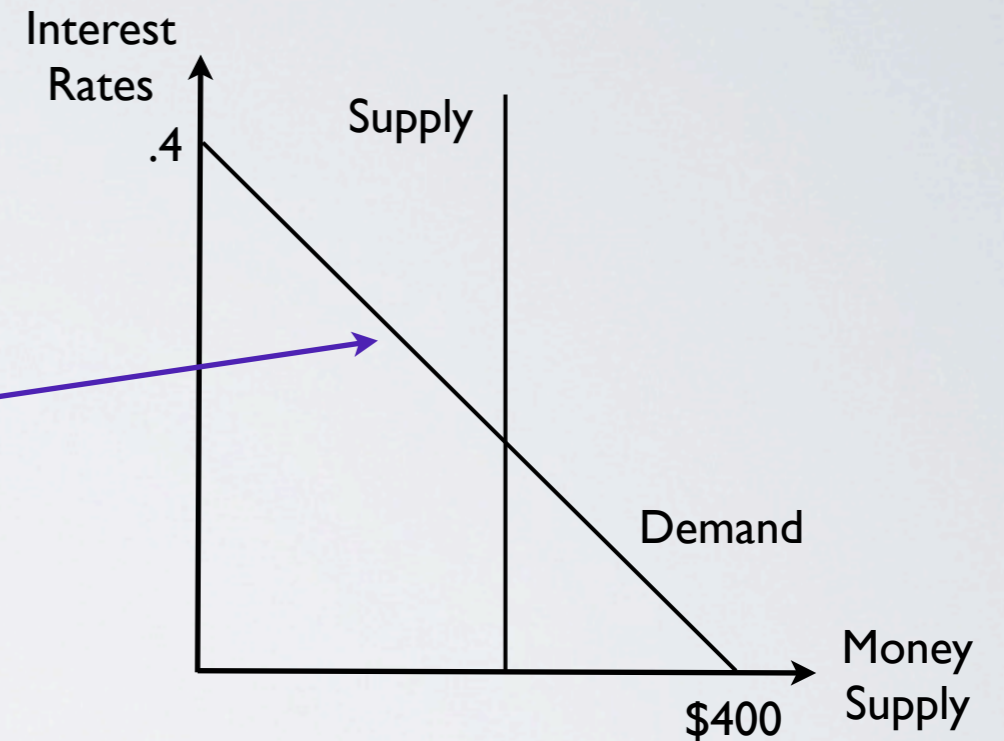
- **Assume:**

- Money demand : $400 - 1000i$

- Initial Reserves: \$50

- Initial RR: .20

- Demand for loanable funds: $500 - 1000i$



NUMERICAL EXAMPLE

- **Initial Conditions:**

- Money supply:

- Money multiplier = $1/RR = 1 / .2 = 5$

- Money supply = Multiplier*Reserves = $5*\$50 = \250

- Interest Rates:

- Money Supply = Money Demand (why?)

- $\$250 = 400 - 1000i \rightarrow i = .15$

- Original demand for investment:

- $500 - 1000i \rightarrow 500 - 1000*.15 = \350

NUMERICAL EXAMPLE

- **Desired Conditions**

- Loanable funds increase by \$10 : $\$350 + \$10 = \$360$

- Interest rates:

- Back out from loanable fund demand

- $360 = 500 - 1000i \rightarrow i = .14$

- Money supply:

- Back out from demand equation for money (why?)

- $\text{Supply} = 400 - 1000i \rightarrow 400 - 1000*.14 = \260

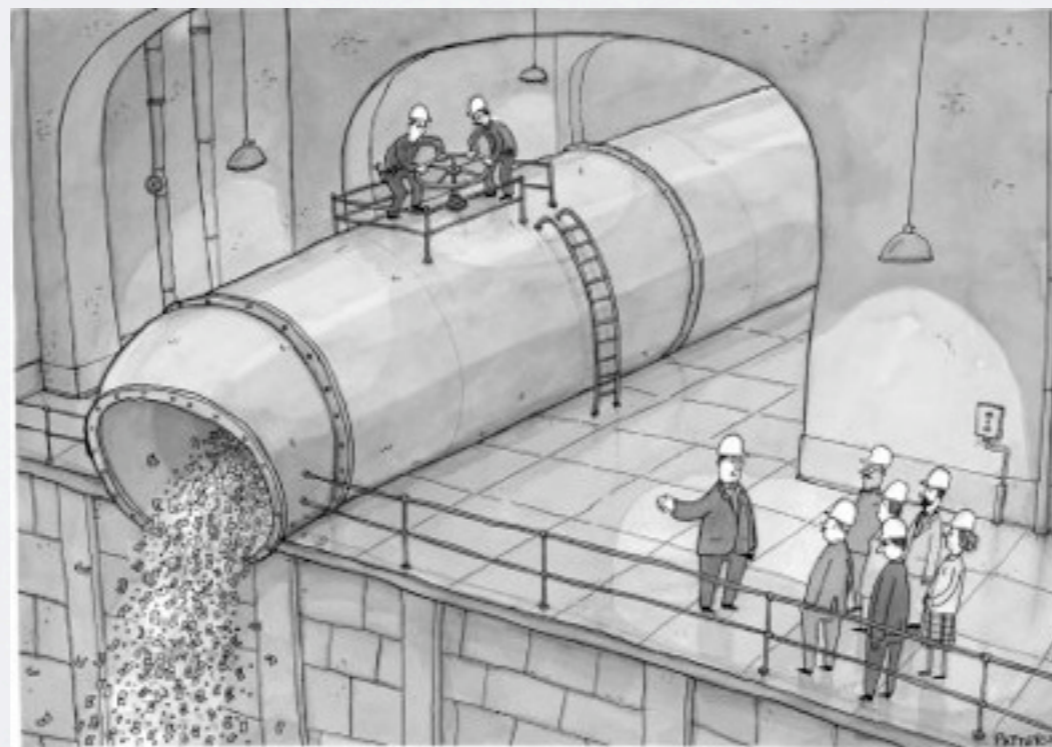
NUMERICAL EXAMPLE

- **So we want a money supply of \$260**
 - Reserve Ratio method
 - $MS = MM * \text{Initial Reserves}$
 - $260 = MM * 50$ so need $MM = 5.2$
 - Set RR to .1923
 - Open Market Operations
 - $\text{Change in MS} = MM * \text{Change in deposits}$
 - $\$10 = 5 * \text{Change in deposits}$
 - Change deposits by \$2 by buying bonds

EXAMPLE REVIEW

- Like Congress the Fed can target recessionary gaps to shorten recession times
- The Fed indirectly changes aggregate demand and GDP through manipulation of the money supply
- Given initial conditions and the amount of investment we need:
 - Figure out the new target interest rate from the demand for investment
 - Use a tool of the Fed to achieve that interest rate

EVALUATION OF MONETARY POLICIES



+ - ↻ *“And this is where we adjust the interest rate.”*

STRENGTHS AND DRAWBACKS

- Strengths

- More flexible and speedier than fiscal policy
- Fed decision-makers are largely isolated from political pressure

- Problems

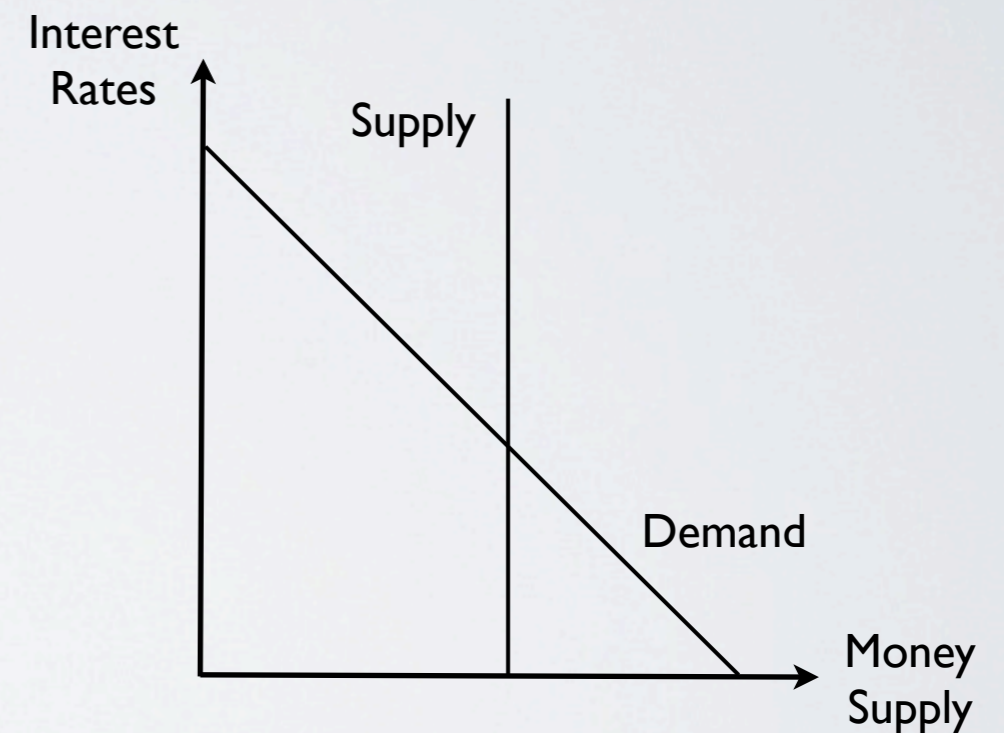
- Still recognition and significant operational lags
- Restrictive policies can curb inflation but expansionary policies not as effective as fiscal expansionary policy (see Japan)

RULE VERSUS DISCRETION

- In favor of rule (not status quo)
 - Policy by rule less susceptible to a Fed that might be swayed by politics
 - Discretion opens room for expectation of economic actors to counter Fed policy
- For discretion
 - Little flexibility in case of unforeseen events
 - Policy goals (i.e. low inflation) achievable without restrictive rules

WHAT ARE WE MISSING?

- Interest rates can also be impacted by demand
- Assumed maximum compliance of banks in lending money, what if there is a credit crunch?
- Overall, monetary policy assumes **well-functioning banking system**



REVIEW

- Monetary policy is movement of the money supply by one of the tools of the Federal Reserve Bank
- Ultimately, expansionary monetary policy has the same goal as expansionary fiscal, and so with contractionary
- Monetary policy impacts aggregate demand through manipulation of interest rates, while fiscal policy is more direct

COMPARE FISCAL AND MONETARY POLICY

- Monetary Policy
 - Controlled by the Fed
 - Theoretically, expansion / contraction result is not ambiguous (i.e. no crowding out)
 - Apolitical
- Fiscal Policy
 - Established by the government
 - Crowding out can diminish effectiveness of spending
 - Entirely a political process

RECESSION SIMULATION!



- Donald Trump is announced as the Republican nominee!
- Consumer confidence falls so savings rise and spending falls, firm investment falls
- The Fed has estimated this has caused a recessionary gap of \$100
- Fulfill your roles while trying to come up with a fiscal and monetary plan to deal with the crisis