

# Lecture 8: Monetary Policy

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**Course:** Macroeconomics 201

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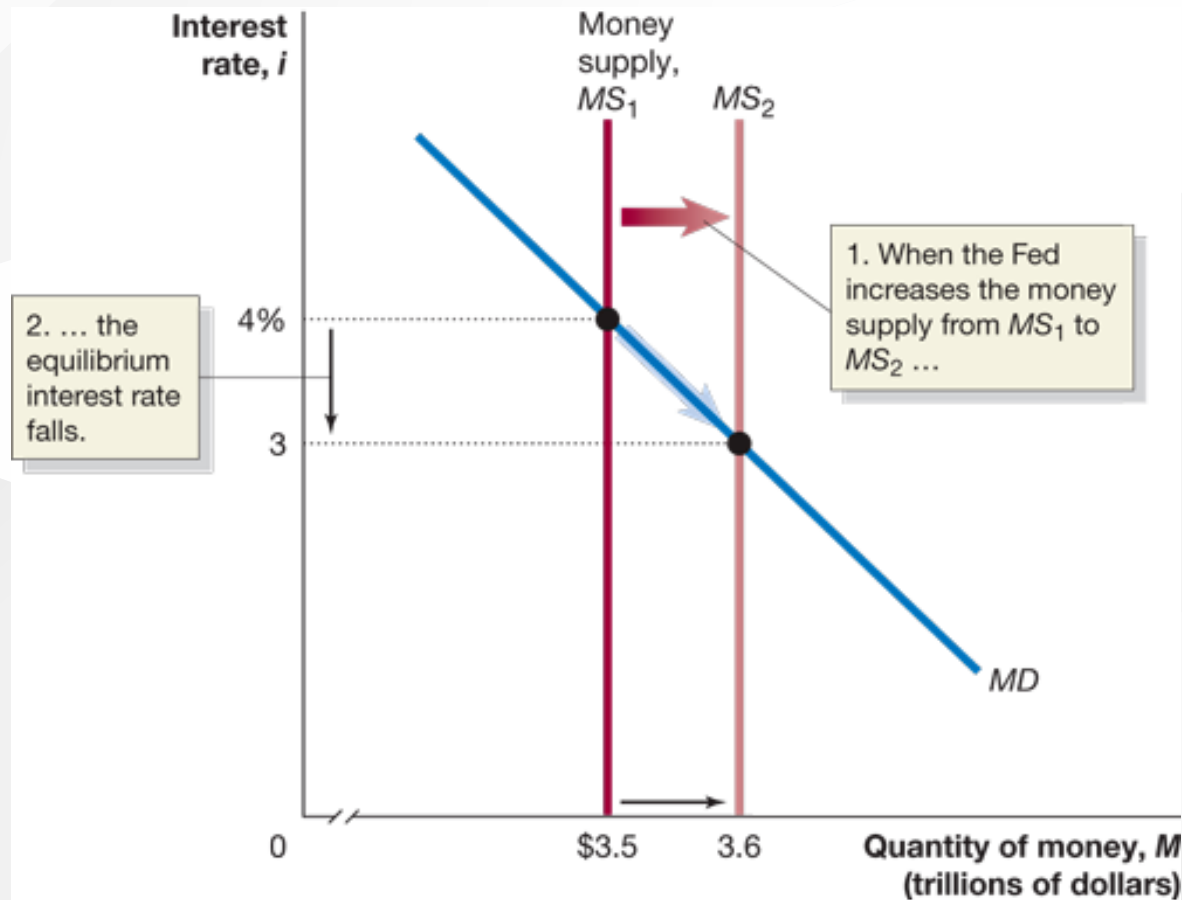
## The Road Ahead

1. What Is Monetary Policy
2. Money Market and Federal Funds Rate
3. Monetary Policy and Economic Activity

## What Is Monetary Policy?

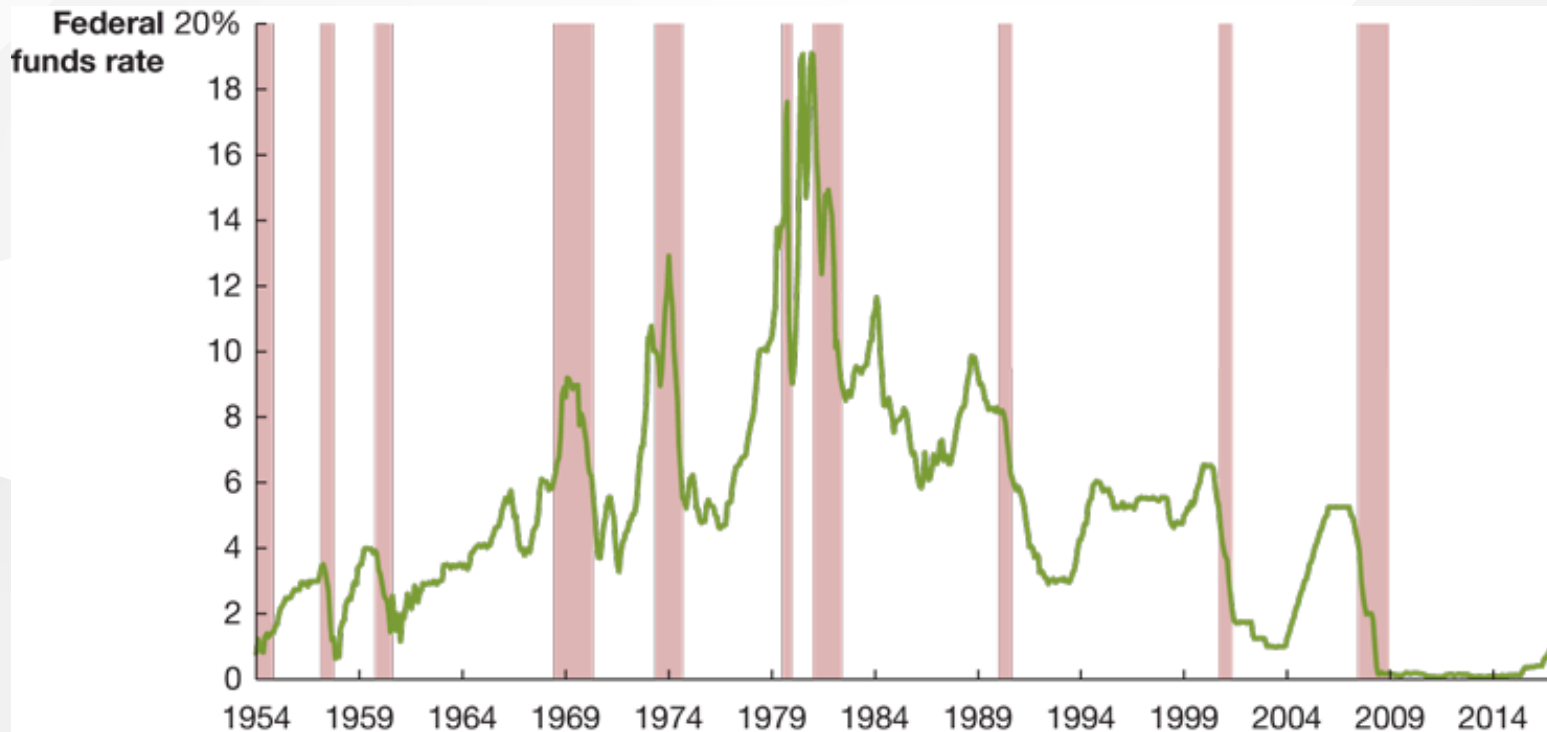
- Federal reserve system
  - established in 1914 as lender of last resort to prevent panics
  - central bank in U.S., bankers' bank
  - make discount loans to banks, charge discount rate
- Nowadays Fed manages policy targets (money supply & interest rates) to achieve macro objectives
  - **dual mandate**: price stability & high employment
  - stability of financial markets & institutions
  - long-run economic growth
- Fed's conventional policy tools, e.g. open market operations, discount policy, reserve requirements

## Money Market Equilibrium Revisited



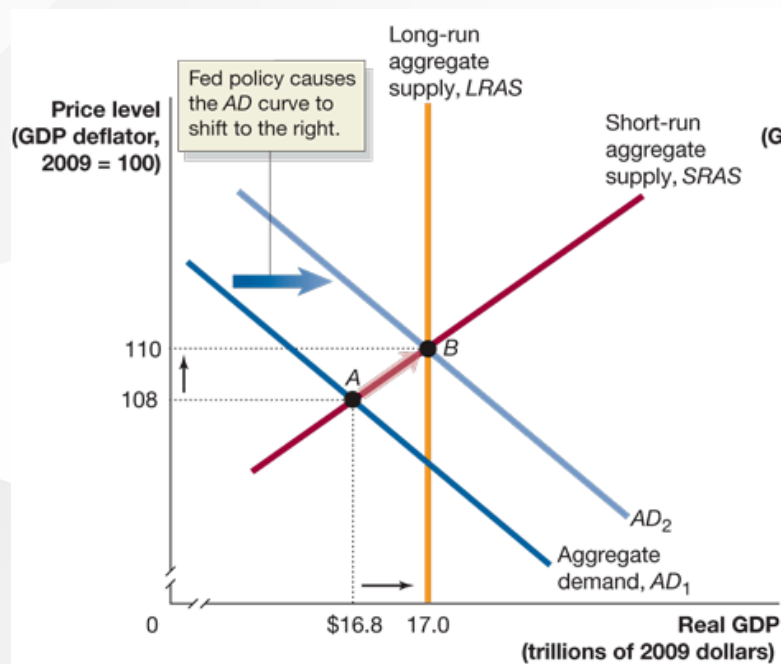
- $M^s \uparrow \Rightarrow M^d < M^s \Rightarrow i \downarrow$  to restore equilibrium
- Short-term nominal rate v.s. long-term real rate

## Federal Funds Rate

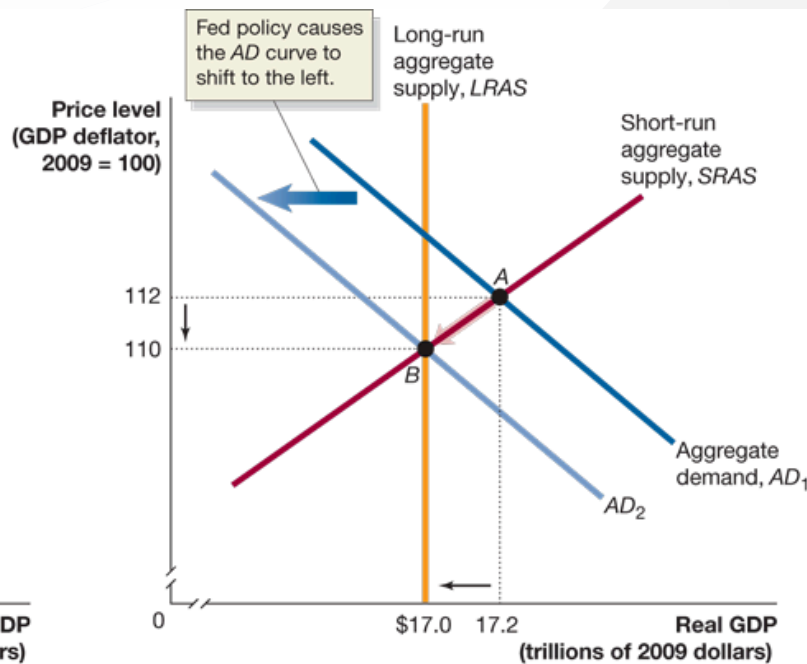


- Interest rate banks charge each other for overnight loans
- Target rate (Fed) v.s. effective rate (federal funds market)
- Open market purchase (sale)  $\Rightarrow$  reserves supply  $\uparrow$  ( $\downarrow$ )  $\Rightarrow$  effective rate  $\downarrow$  ( $\uparrow$ )  $\Rightarrow$  other short/long-term rates  $\downarrow$  ( $\uparrow$ )

# Effects of Monetary Policy



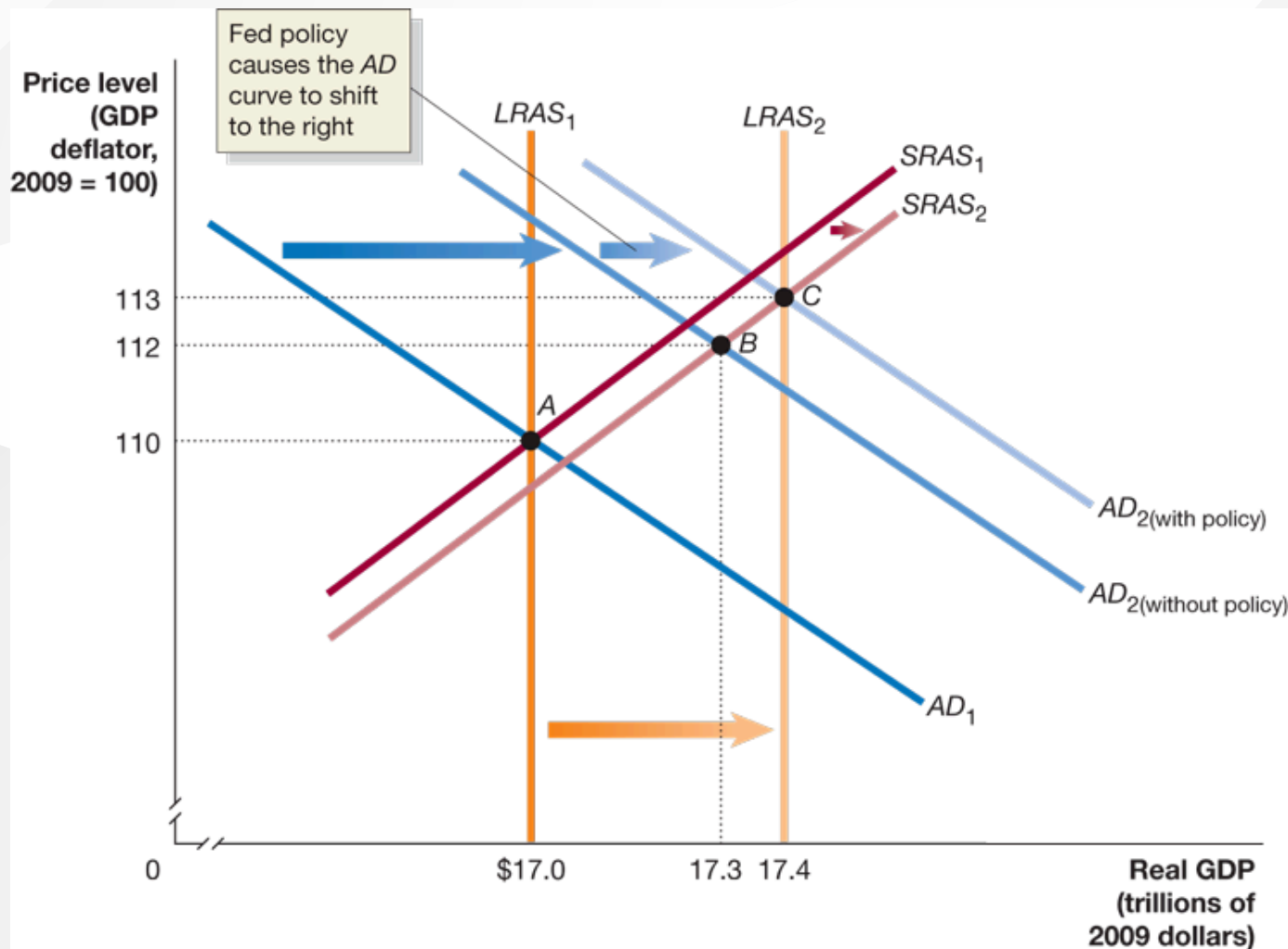
(a) Expansionary monetary policy



(b) Contractionary monetary policy

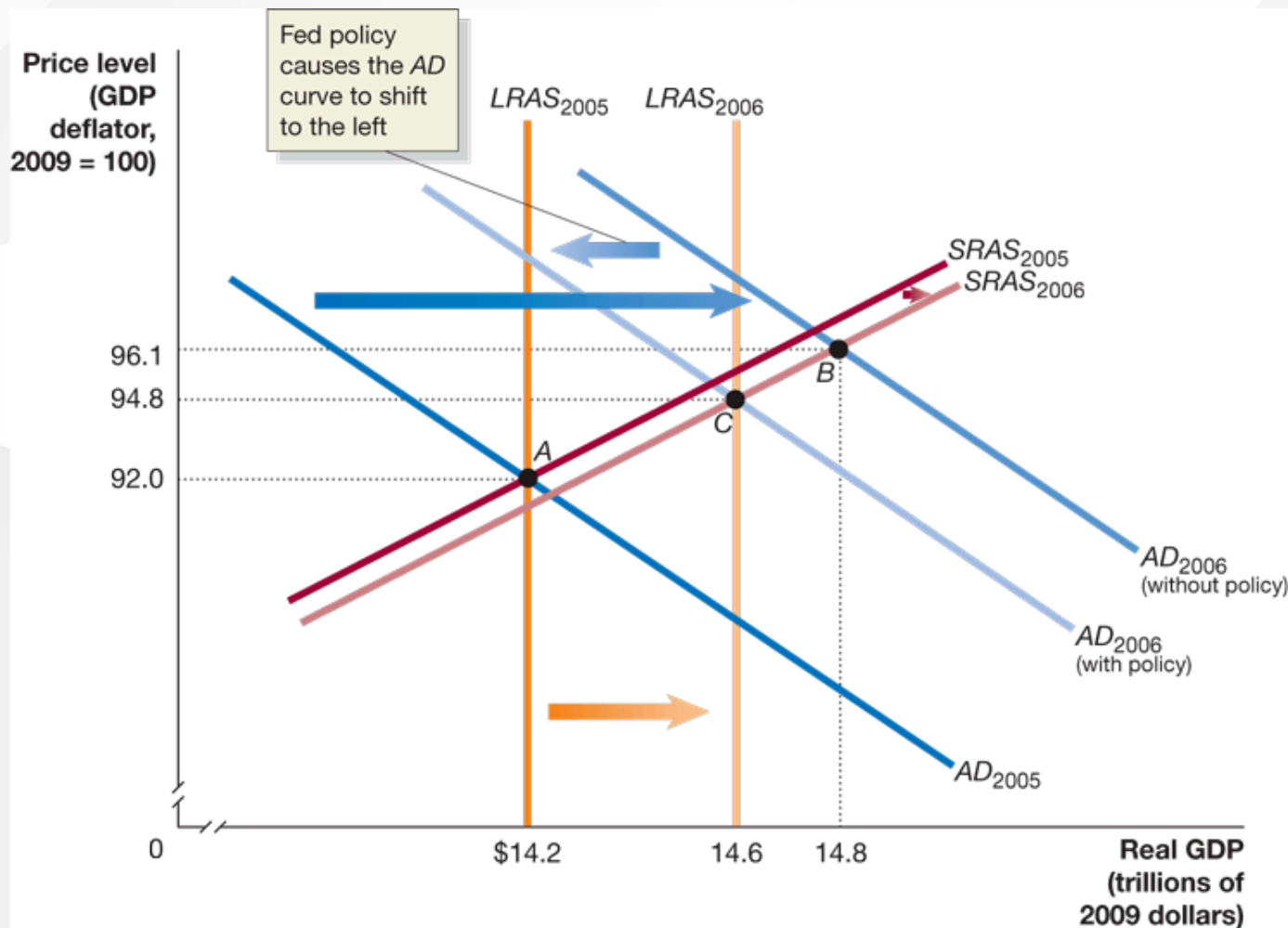
- Expansionary (contractionary) monetary policy
  - $i \downarrow (\uparrow) \Rightarrow$  borrowing cost  $\downarrow (\uparrow) \Rightarrow C, I \uparrow (\downarrow)$
  - $i \downarrow (\uparrow) \Rightarrow$  \$ depreciates (appreciates)  $\Rightarrow NX \uparrow (\downarrow)$
- AD curve shifts to right (left)

## Effects of Monetary Policy (Cont'd)



- Expansionary/loose monetary policy to fight recession

## Effects of Monetary Policy (Cont'd)



- Contractionary/tight monetary policy to fight inflation



# Monetary Policy Rule

## Taylor rule

$$\begin{aligned} i_t^* &= r_n + \pi_t + a(\pi_t - \pi^*) - b(u_t - u_n) \\ \Rightarrow i_t^* &= r_n + \pi^* + (a + 1)(\pi_t - \pi^*) - b(u_t - u_n) \end{aligned}$$

### Some remarks

- suggested by John Taylor for setting target rate  $i_t^*$
- $r_n$ : natural real rate, consistent w/ potential GDP
- $\pi_t - \pi^*$ : gap b/w inflation and target
- $u_t - u_n$ : gap b/w unemployment and natural rate
- counter-cyclical policy:  $a > 0$  and  $b > 0$
- Taylor principle:  $\pi_t \uparrow \Rightarrow i_t^* \uparrow$  more than one for one

## Readings & Exercises

- Readings
  - HO: chapter 15
  - BJ: lecture 20 (supplementary)
- Exercises
  - HO: problem 1.2, 2.5, 3.6, 4.4, 4.5, D15.2
  - Write down Taylor rule and discuss how it explains implementation of monetary policy.