Monetary Policy

ECO 120: Global Macroeconomics

1

1.1 Goals

Goals

- Specific Goals
  - Understand the Federal Reserve System and the tools they use to conduct monetary policy.
  - Understand the money market and what determines money demand.
  - Understand how monetary policy affects interest rates, inflation, and real GDP in the short run and long run.
  - Ultimate goal: Be able to evaluate an economy's performance and suggest appropriate monetary policy.
- Learning Objectives
  - LO1: Apply the supply and demand model to predict quantity and price outcomes of a number of different markets.
  - LO9: Apply the model of aggregate demand and aggregate supply to evaluate the impact of fiscal and monetary policy on real GDP and price level in the short run and long run.

1.2 Reading

Reading

- What is money: Module 23
- Federal Reserve System: module 27
- Market for Money: Module 28
- Monetary Policy and AS/AD: Module 31

2 Money and the Federal Reserve System

2.1 Money

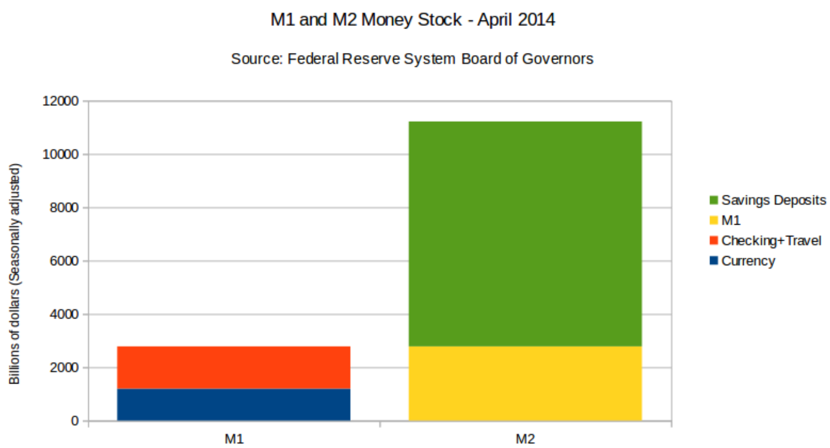
What is money?

- Money is a commodity or token that is generally acceptable as a means of payment.
- It may or may not have an inherent value.
  - Today the U.S. dollar has no inherent value.
  - In prisons cigarettes are sometimes used as money. Cigarettes have an inherent value.
  - From 1889-1932 and from 1946-1971 the U.S. would redeem dollars for gold. (Gold Standard).
  - Since the late 1970s no country in the world redeems their currency for anything of value.

Official Measures of money

- Two primary forms of money: Currency and Deposits.
- Two measures of money called **M1** and **M2**
- M1: currency + checking deposits and traveler's checks.
  - These types of assets can be used as immediate means of payment.
- M2: M1 + time deposits, savings deposits, and money market mutual funds.
  - The additional items in M2 can *quickly* be converted into a means of payment.
- **Liquidity**: the property of an asset being quickly converted to a means of payment.

Official Measures of Money



What is not included in money

- Checks are not money. The balances in the checking accounts are money.
- Credit cards are not money.
  - When you pay with a credit card to don't give the merchant money, the credit card company does.
  - Then after some time, you give the credit card company money to pay back the loan.

2.2 The Federal Reserve System

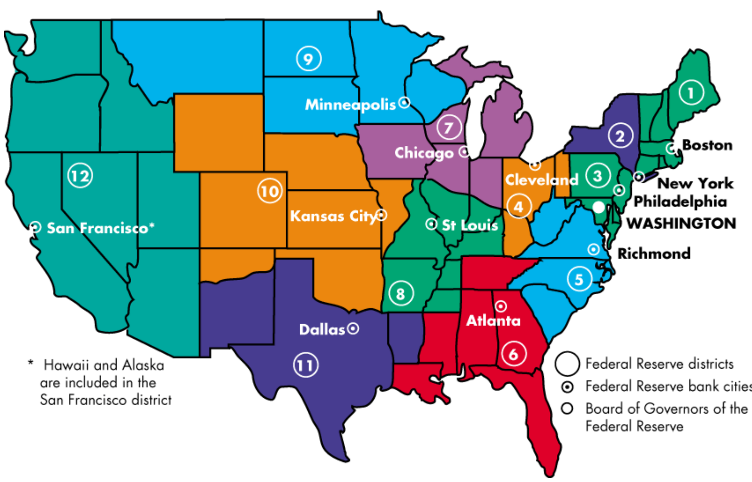
What is the Federal Reserve?

- The Federal Reserve, aka the **Fed**, is the United States Central Bank.
- A country's central bank is a bank for the banks.
  - Hold reserve accounts, provide check clearing services.
  - Lend to banks at the **Discount rate**.
  - Influence the **Federal funds rate**: the interest rate that banks charge each other for overnight loans.
- Control the money supply
  - Used to control the inflation rate, real GDP, exchange rate, maybe other things?

Structure of the Federal Reserve

- Board of governors.
  - Seven members appointed by the president and confirmed by the senate.
  - Each has a 14 year term. A new seat comes up every 14 years.
  - One chairman with a 4 year renewable term.
- Federal Reserve Districts
  - Twelve Federal Reserve Districts, each with a federal reserve bank.
  - New York Fed implements monetary policy.

Federal Reserve Districts



Federal Reserve Districts

2.3 Monetary Policy

Monetary Policy

- Primary policy tool: Open market operations
  - Fed owns (previously purchased) U.S. government bonds.
  - What would happen if the Fed sold some of these bonds.
  - This exchange takes money out of the economy, and more bonds into the economy.
- Federal Open Market Committee (FOMC)
  - Meet about every six weeks.
  - Board of governors
  - President of the New York Fed
  - Four presidents of the other regional feds.

3 Market for Money

3.1 Money Demand

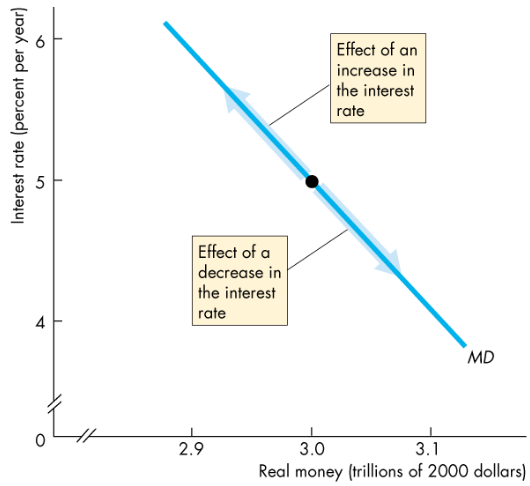
Real vs. nominal money

- **Nominal money**: quantity of money measured in dollars.
- **Real money**: real purchasing power of money.

$$\text{Real money} = \frac{\text{Nominal money}}{\text{Price level}}$$

- What should we use as a price for real money?
  What is the opportunity cost of holding money?
  Interest rate.
- What will be the shape of the money demand curve?

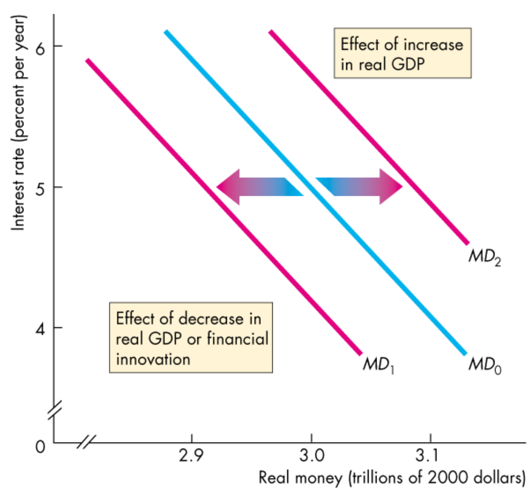
Real money demand



Influences of money holding

- The price level: only influences nominal money demand.
- The interest rate. Shift or movement?
- Real GDP.
  - How will an increase in real GDP affect the money demand curve?
- Financial innovation.
  - Examples: ATM's, online banking, automatic transfers between checking and savings accounts, credit and debit cards.
  - How do these affect the money demand curve?

Shifts in money demand



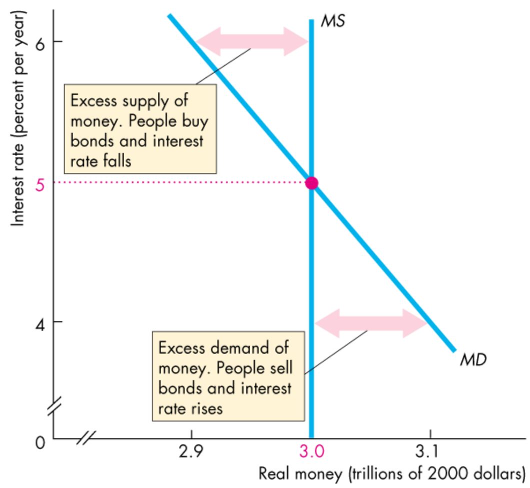
3.2 Money Supply

Money Supply

- Federal Reserve determines nominal money supply.
- What about real money supply?
- In the short run the price level is fixed.
- What is the shape of the money supply curve?

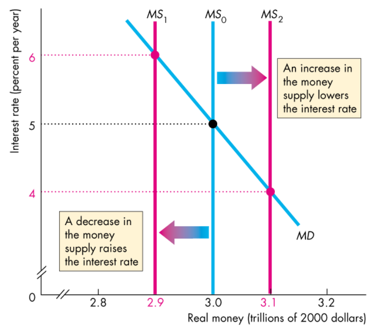
3.3 Money market equilibrium

Money market equilibrium



Monetary policy

- **Contractionary monetary policy**: decrease in the money supply.
  - Fed conducts an open market ________ of bonds.
  - Shifts money supply from $MS_0 \rightarrow MS_1$.
- **Expansionary monetary policy**: increase in the money supply.
  - Fed conducts an open market ________ of bonds.
  - Shifts money supply from $MS_0 \rightarrow MS_2$.



4 Monetary Policy

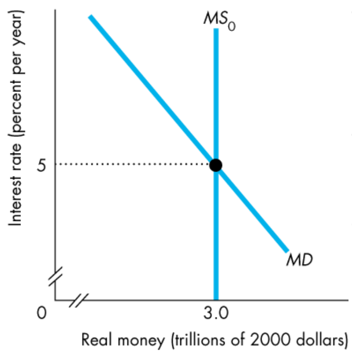
4.1 Short-run effects of monetary policy

Ripple effects of the interest rate

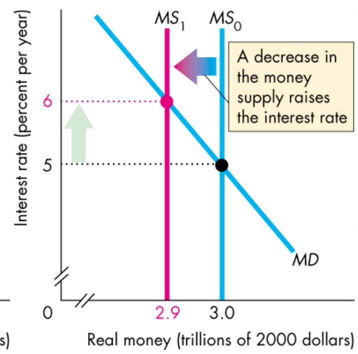
The Fed has recently lowered the Federal Funds rate to between 0% and 0.25%.

1. Investment increases.
2. Consumption increases.
3. Net exports increase.
   - What happens to demand for dollars vs. other currencies?
   - Lower return in the U.S., lower demand for dollars.
   - Value of the dollar falls.
     - U.S. residents buy fewer foreign goods → decrease in imports.
     - U.S. goods become relatively less expensive → increase in exports.
4. Multiplier effect What happens in the goods market?

Controlling the inflation rate



(a) Money market



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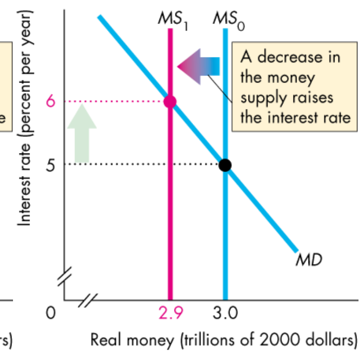

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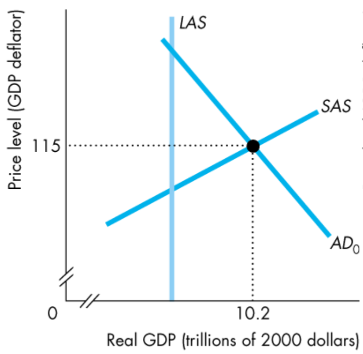
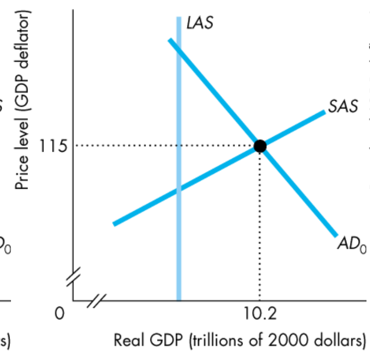


(c) Real GDP and the price level



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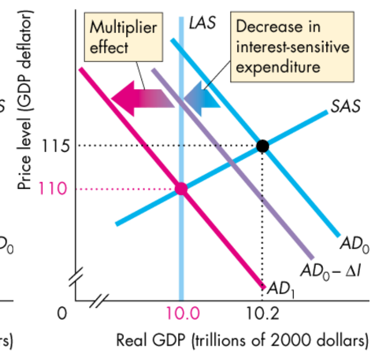
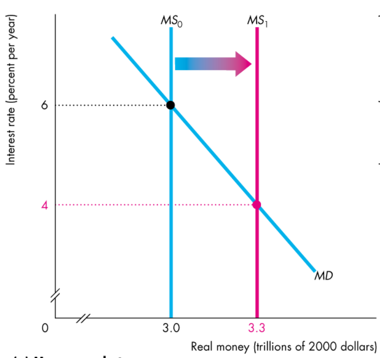


(c) Real GDP and the price level

4.2 Long run effects of monetary policy

Increase in money supply



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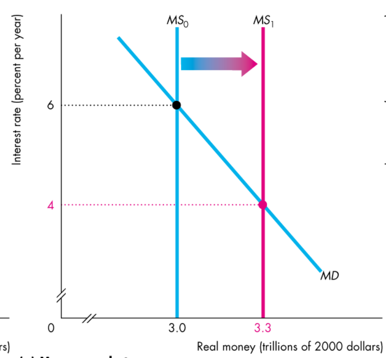

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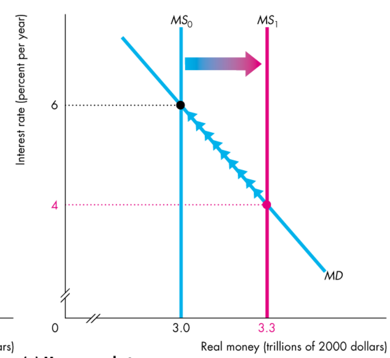

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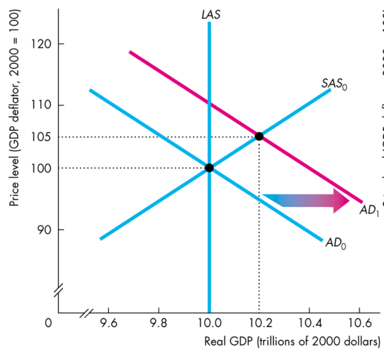
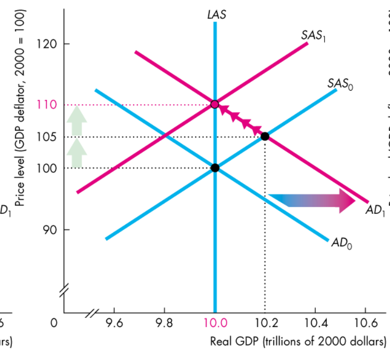


(b) ***AS–AD***



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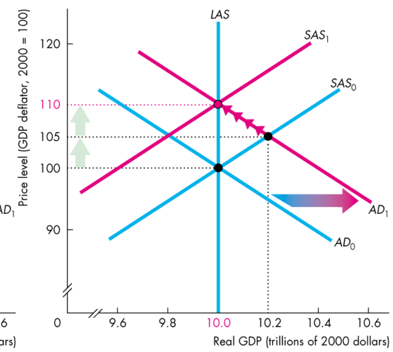

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