

Monetary Policy

ECO 120: Global Macroeconomics

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Goals

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- Specific Goals

- Describe the Federal Reserve System and the tools they use to conduct monetary policy.
- Identify factors that affect money demand.
- Describe and illustrate how changes in money supply affect 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.
- LO5: Use the model of aggregate demand and supply to evaluate the short-run and long-run impacts of fiscal and monetary policy on production, employment, and the price level.

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Reading and Exercises

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- Supply and demand for money: Module 40
- Monetary Policy and AS/AD: Module 41
- **Canvas Quiz due Wednesday 11:59 PM.**
Multiple-choice, 10 questions, unlimited attempts allowed, only best score counts
- **Homework/In-class Exercise due Friday 11:59 PM.** We will work together in class on Thursday.

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What is money?

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- 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.
- Money has three important functions:
 - Medium of exchange
 - Unit of account
 - Store of value.

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Functions of money

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- Medium of exchange: eliminate the need for a double coincidence of wants.
- Unit of account: an agreed measure for stating the relative prices of goods and services.
- Store of value:
 - Money can be held and used for later consumption.
 - Money is not unique in this aspect. Stamps, baseball cards, houses, even computers and TV's can be stores of value.
 - With inflation, the value of money falls. Therefore currencies that undergo hyper-inflation cannot meet this function.

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Official Measures of money

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- Two primary forms of money: Currency and Deposits.
- Two measures of money called **M1** and **M2**
- M1: currency + demand deposits (eg: checkable deposits) + other liquid deposits (eg: savings accounts).
 - These are immediate means of payment
- M2: M1 + time deposits + 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.

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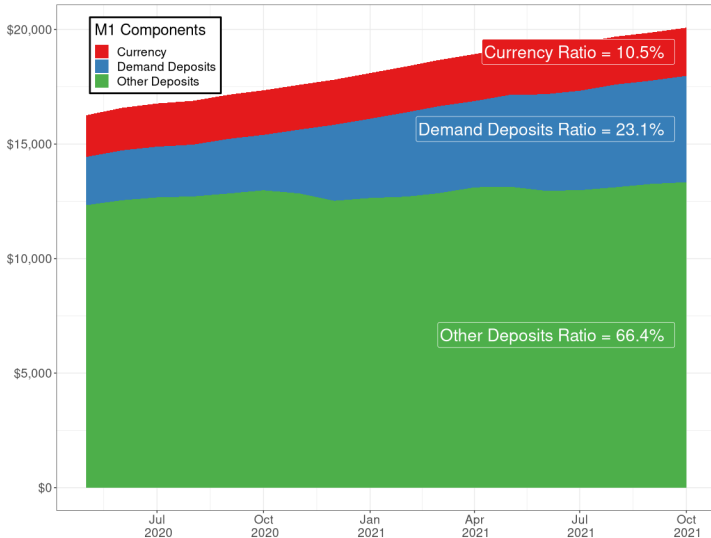
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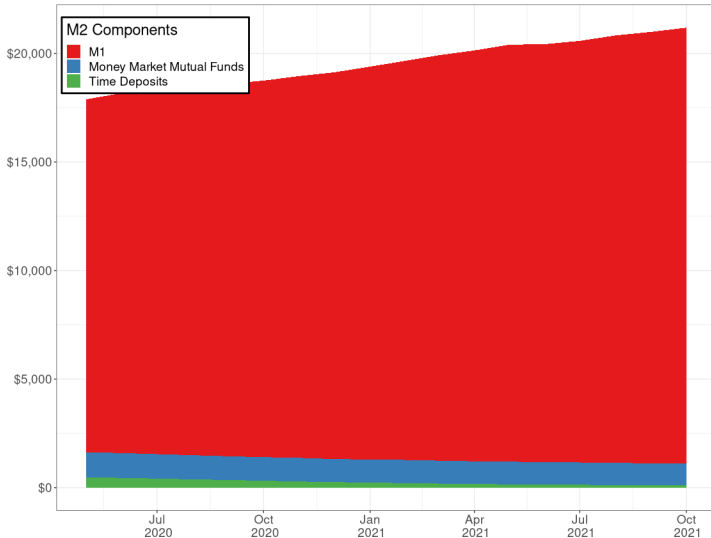
Official M1 Measures of Money

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Official M2 Measure of Money

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What is not included in money

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- 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.

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What is the Federal Reserve?

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- 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**.
- Regulate a country's depository institutions
- Control the money supply
 - Used to control the inflation rate, real GDP, exchange rate, maybe other things?

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Structure of the Federal Reserve

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- 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.

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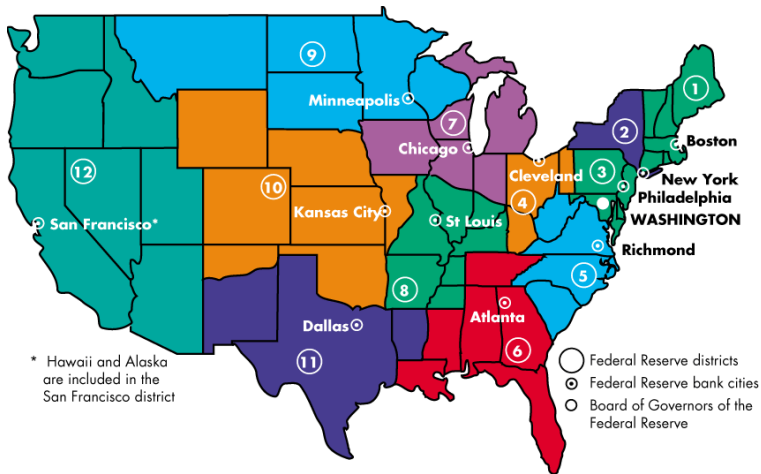
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Federal Reserve Districts



Federal Reserve Districts

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Monetary Policy

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- Primary policy tool: Open market operations
 - Fed owns U.S. government securities.
 - What would happen if the Fed sold some of these securities.
 - 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.

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 - President of the New York Fed
 - Four presidents of the other regional feds.

Monetary Policy

14 / 28

- Primary policy tool: Open market operations
 - Fed owns U.S. government securities.
 - What would happen if the Fed sold some of these securities.
 - 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
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Real vs. nominal money

15 / 28

- **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?
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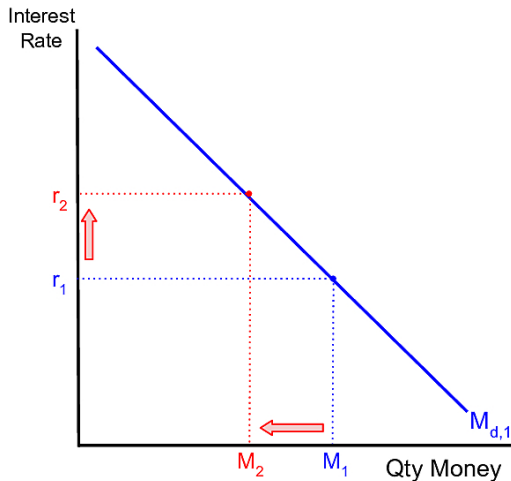
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Real money demand

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Influences of money holding

17 / 28

- 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?

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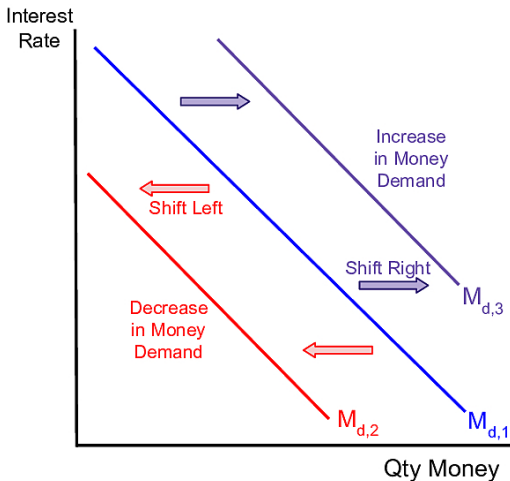
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Shifts in money demand

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Money Supply

19 / 28

- Federal Reserve determines nominal money supply.
- What about real money supply?
- In the short run the price level is fixed.
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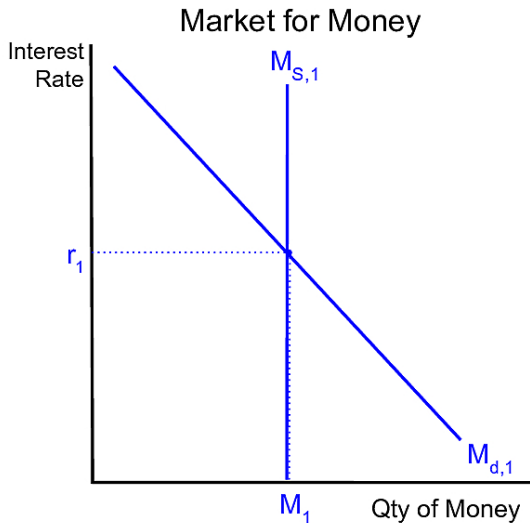
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Money market equilibrium

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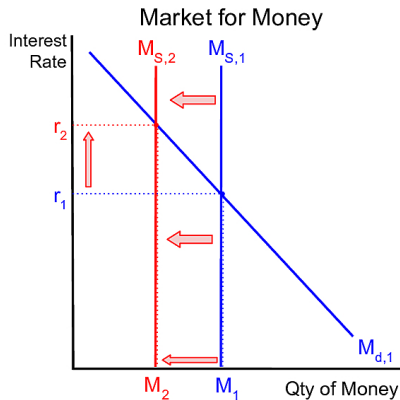
Monetary policy

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Contractionary Monetary Policy

- A decrease in money supply
- Fed conducts an open market _____ of bonds
- Shifts money supply left
- Leads to an increase in the interest rate

Decrease in Money Supply



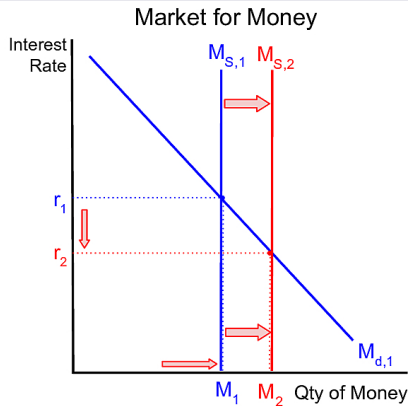
Monetary policy

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Expansionary Monetary Policy

- An increase in money supply
- Fed conducts an open market _____ of bonds
- Shifts money supply right
- Leads to a decrease in the interest rate

Increase in Money Supply



Ripple effects of the interest rate

23 / 28

Suppose the Fed decreases interest rates.

- 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.

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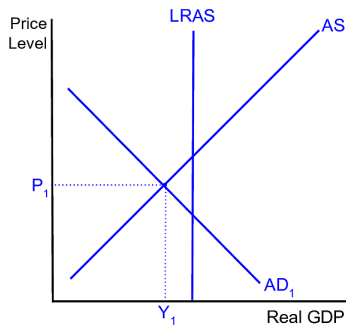
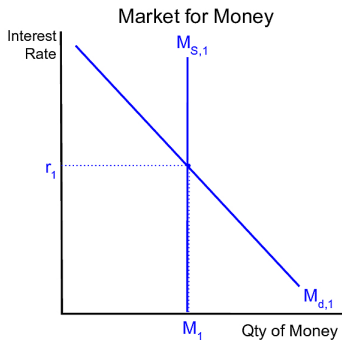
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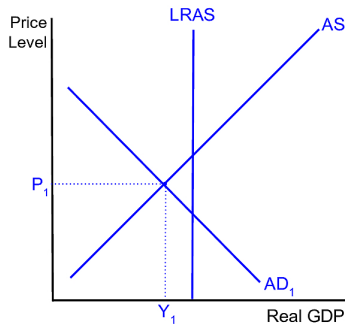
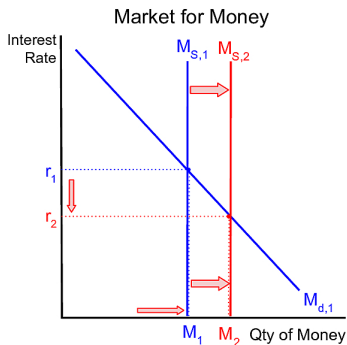
Stimulating Real GDP

24 / 28



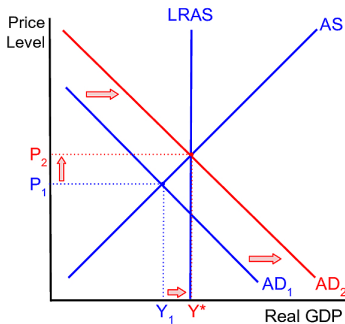
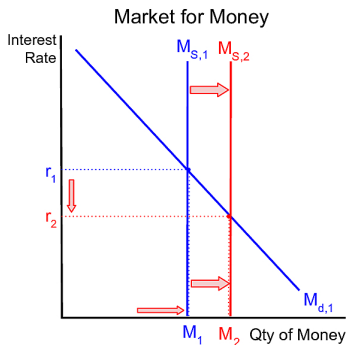
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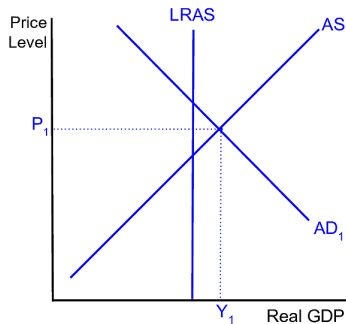
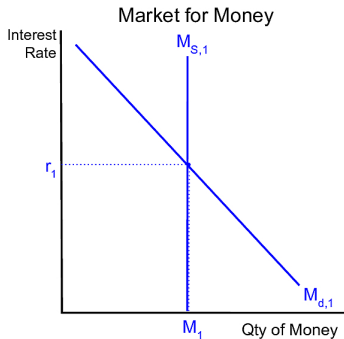
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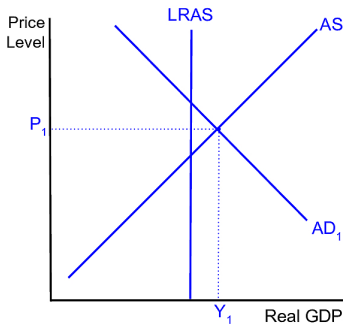
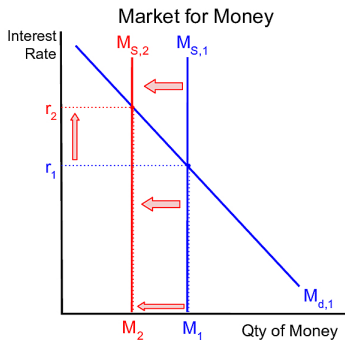
Controlling the inflation rate

25 / 28



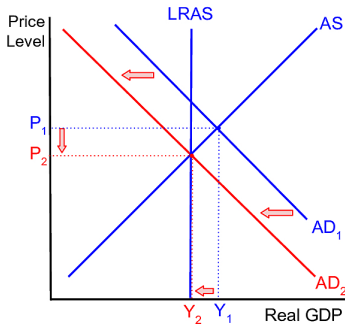
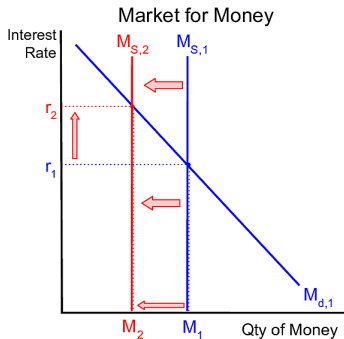
Controlling the inflation rate

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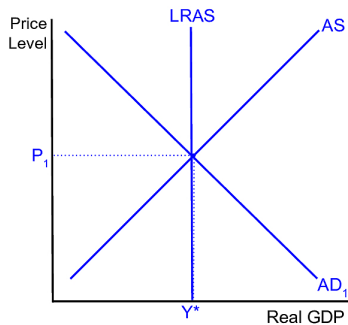
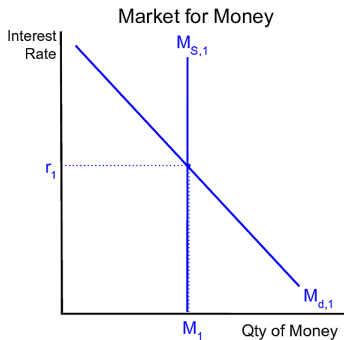
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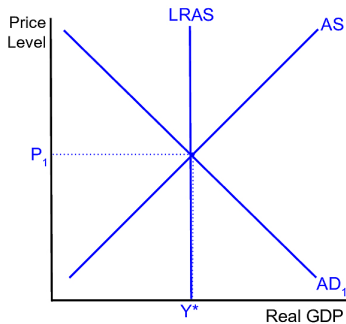
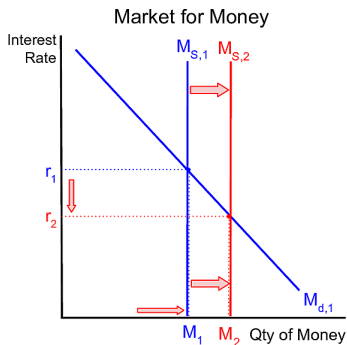
Long-Run Impact on Monetary Policy

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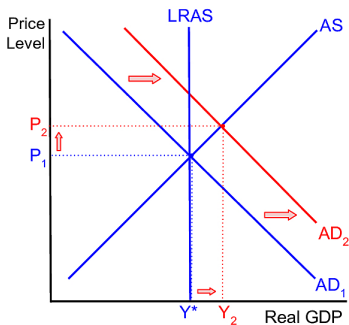
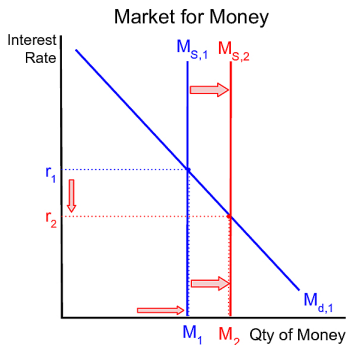


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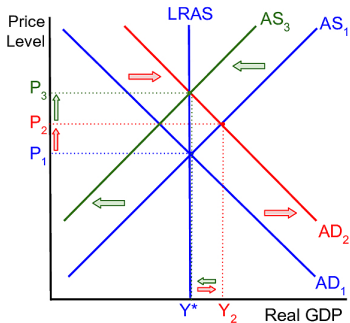
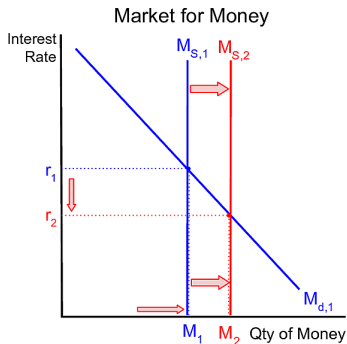


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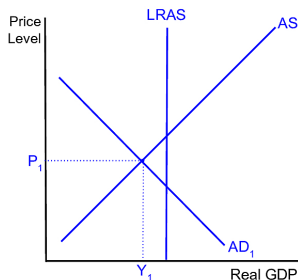
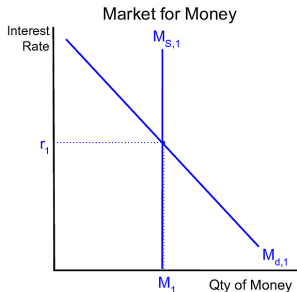
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Problems: Recession

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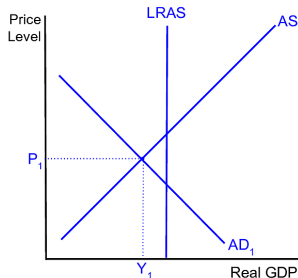
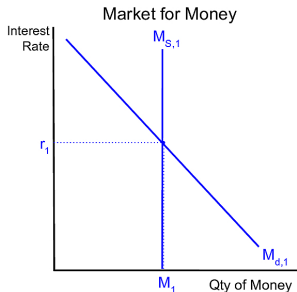
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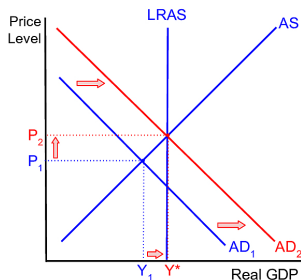
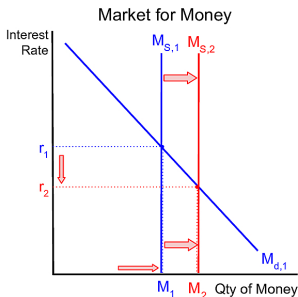
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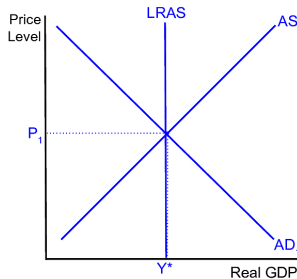
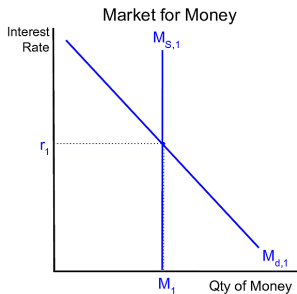
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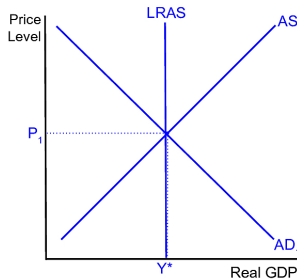
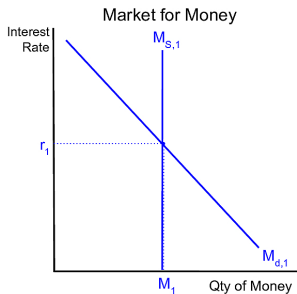
Problems: Financial innovation

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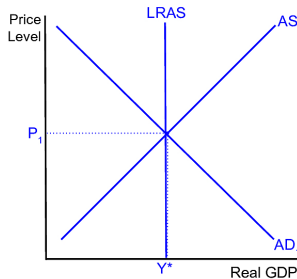
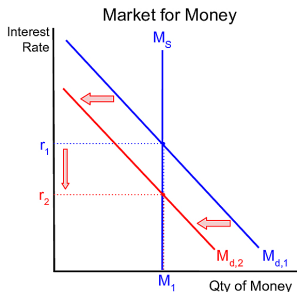
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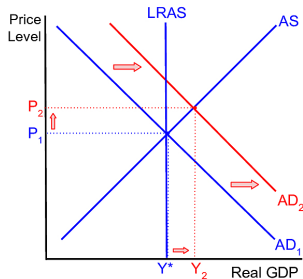
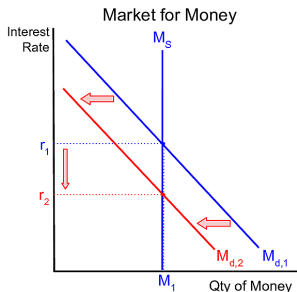
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