

Monetary Policy

ECO 120: Global Macroeconomics

Goals

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- 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.
- 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

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

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 + 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.

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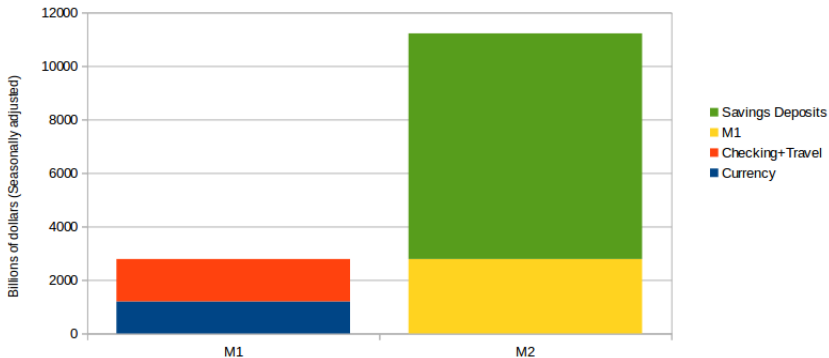
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M1 and M2 Money Stock - April 2014

Source: Federal Reserve System Board of Governors



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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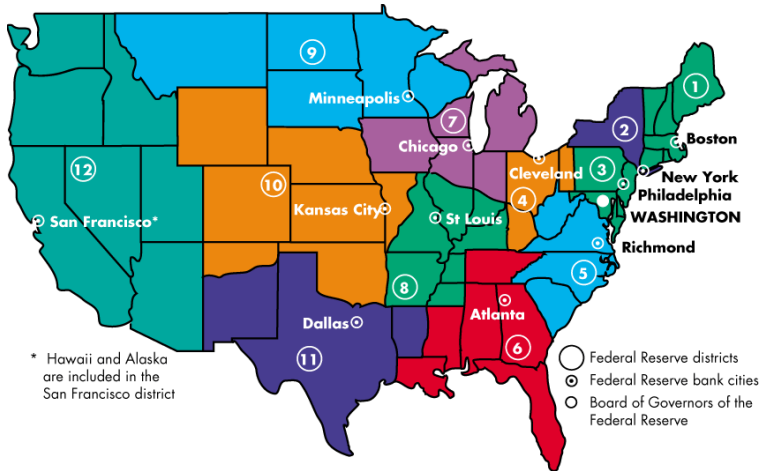
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Monetary Policy

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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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Federal Reserve Chairs

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- Current chair: Janet Yellen (Appointed by Obama in February 2014)
- Ben Bernanke (Office: 2006 - 2014)
 - Appointed by G.W. Bush in 2006 and reappointed by Obama in 2010.
- Alan Greenspan (Office: 1987-2006)
 - Appointed by Reagan in 1987. Reappointed by Bush in 1992, Clinton in 1996 and 2000, and by G. W. Bush in 2004.
- Paul Volker (Office: 1979-1983).
 - Appointed in 1979 by Carter, reappointed in 1983 by Reagan.
 - Charged with eliminating a high period of inflation in the U.S.
- George William Miller (Office: 1978-1979)
 - Very short term. Appointed by Carter in 1978, Resigned August 6th, 1979.
- Arthur Burns (Office: 1970-1978)
 - Appointed and reappointed in 1970, 1974 by Richard Nixon.
 - Very high inflation. The CPI rose by 74%

Federal Reserve Chairs

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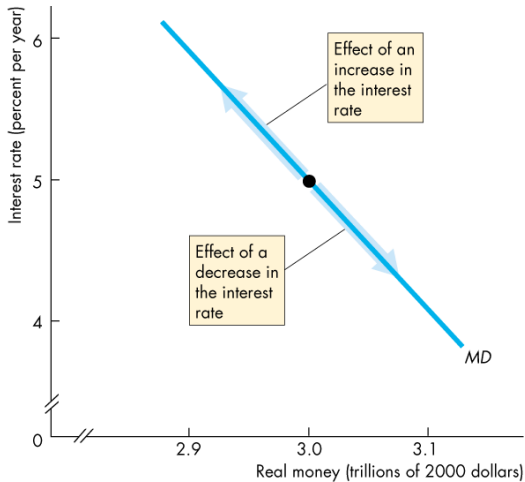
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Real money demand

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Influences of money holding

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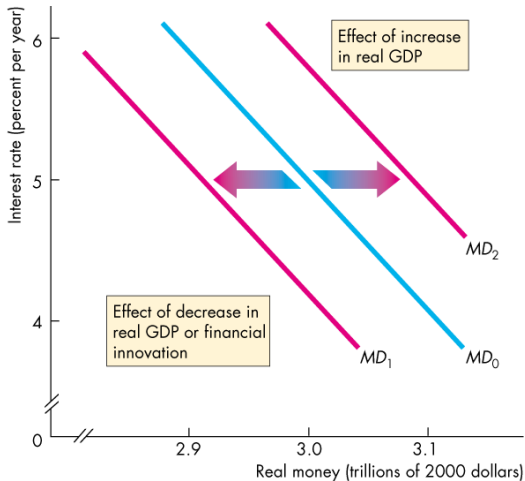
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Shifts in money demand



Money Supply

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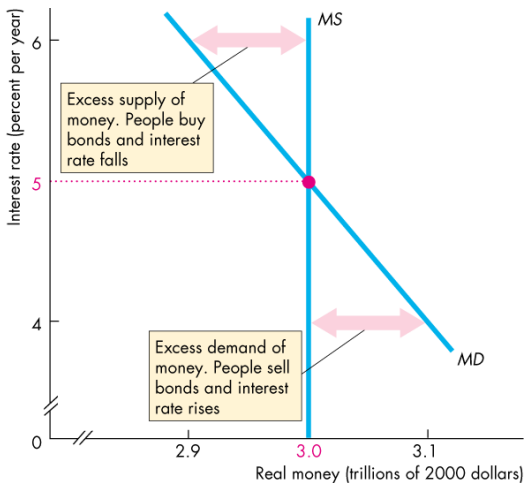
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Money market equilibrium

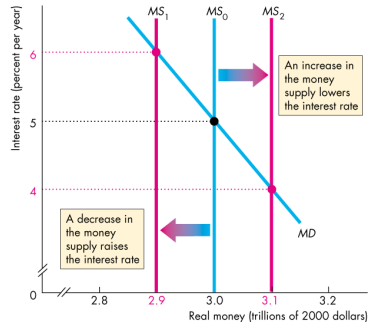
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Monetary policy

20 / 29

- **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 .



Ripple effects of the interest rate

21 / 29

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

- 1 Investment increases.
- 2 Consumption increases.
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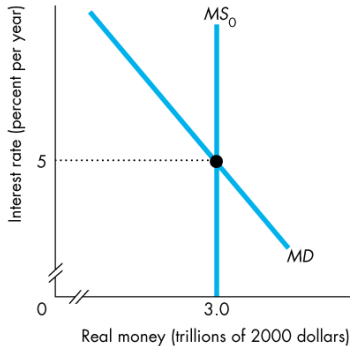
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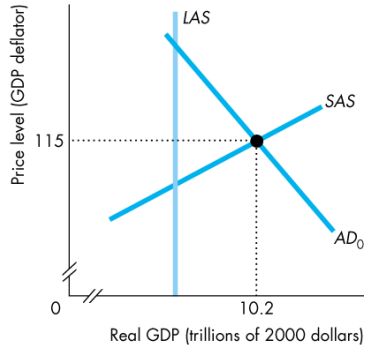
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Controlling the inflation rate

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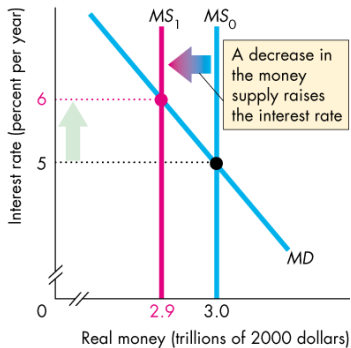
(a) Money market



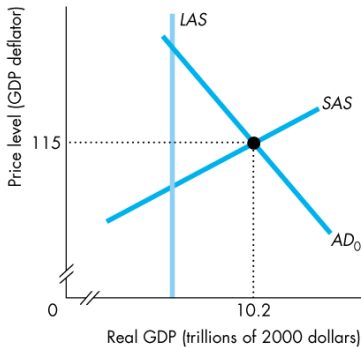
(c) Real GDP and the price level

Controlling the inflation rate

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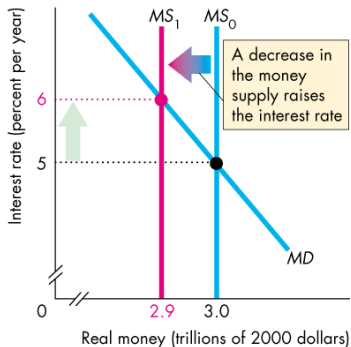


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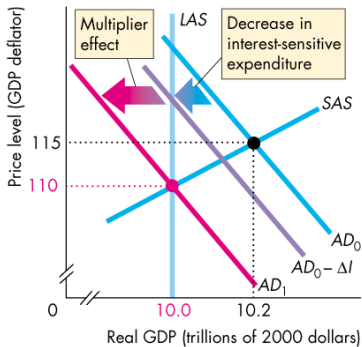


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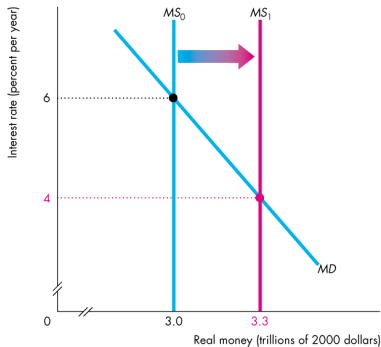


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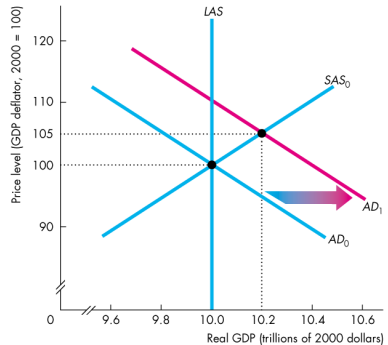


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Increase in money supply

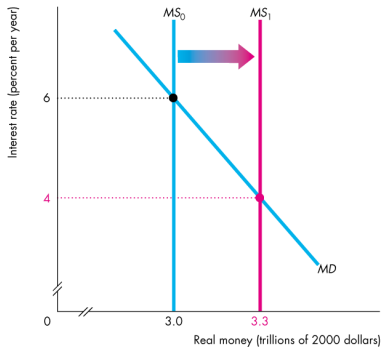


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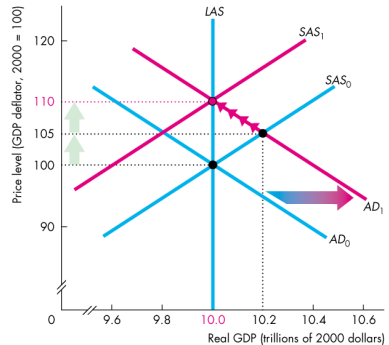


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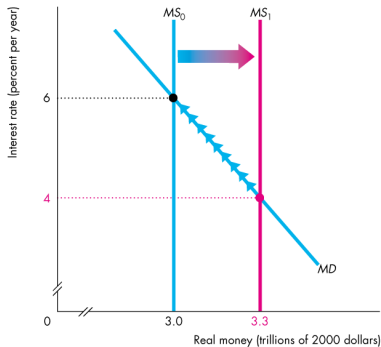


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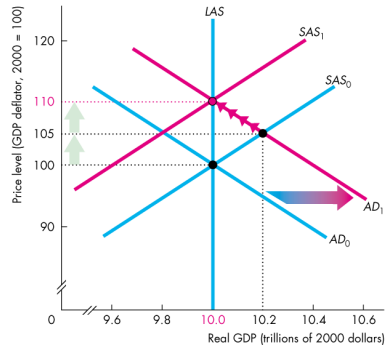


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(b) AS-AD

Quantity theory of money

24 / 29

- **Velocity of money:** average number of times the same dollar gets spent in a given year.
 - Total amount spent on goods in the economy = $P Y$
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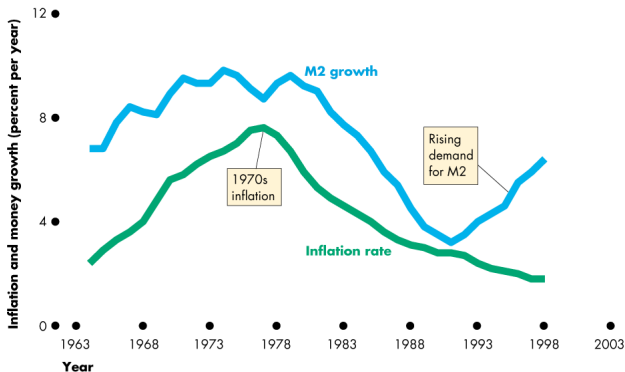
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U.S. inflation and money growth

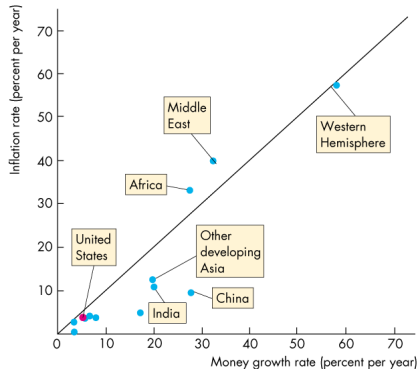
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(b) Decade average change in M2 and the price level

International inflation and money growth

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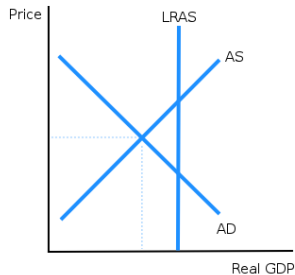
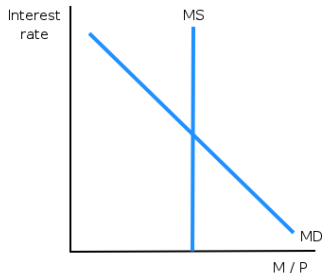


(b) 13 regions and countries during the 1990s

Problems: Recession

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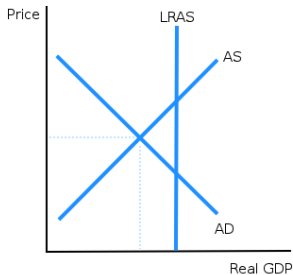
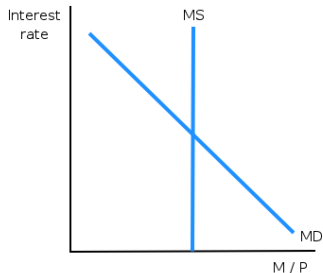
- Suppose the economy is in a recession with low inflation.
- What monetary policy would you recommend?



Problems: Recession

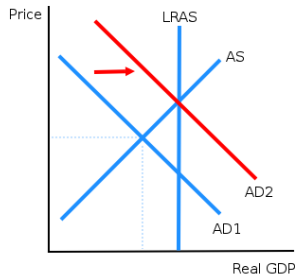
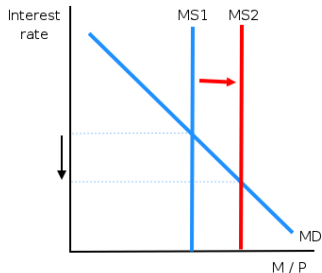
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- *Increase money supply by making an open market purchase of bonds.*



Problems: Recession

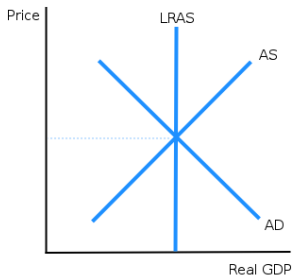
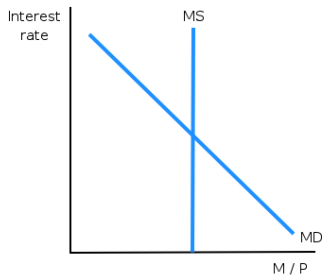
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Problems: Financial innovation

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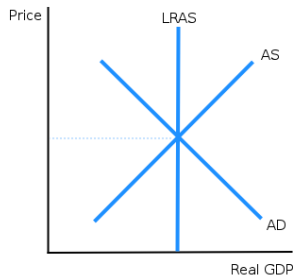
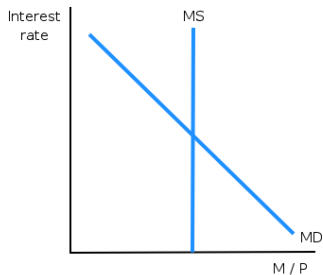
- Banks improve online banking process.
- What effect does this type of financial innovation have on the money market and goods market?



Problems: Financial innovation

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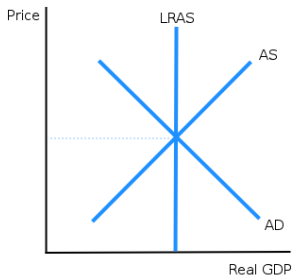
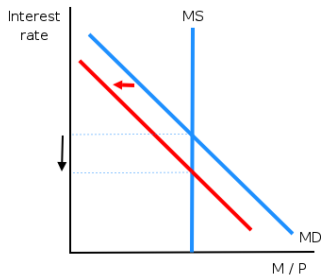
- Banks improve online banking process.
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- **Decrease money demand.**



Problems: Financial innovation

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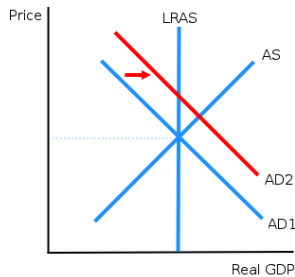
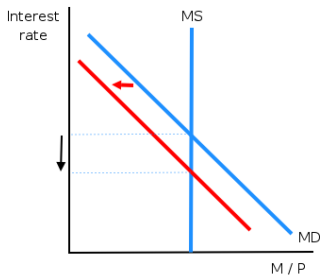
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Problems: Financial innovation

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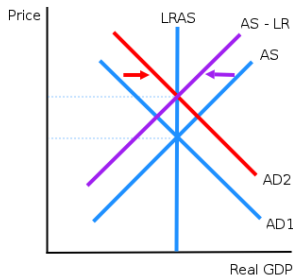
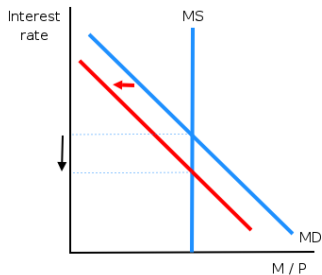
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Problems: Financial innovation

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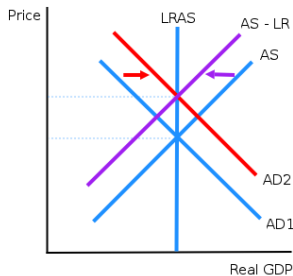
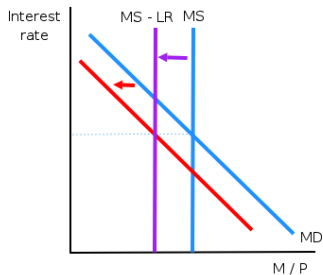
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Problems: Financial innovation

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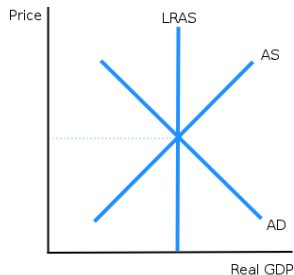
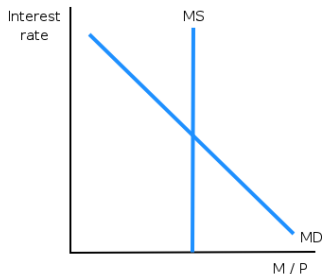
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Problems: Technology improvement

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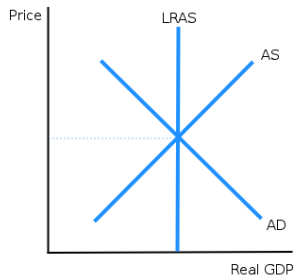
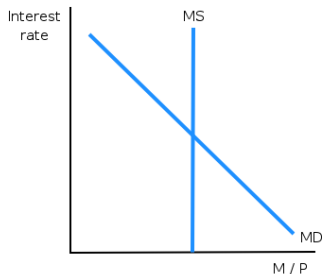
- Suppose there is an improvement in technology (not a financial improvement).
- What effect does this have on the money market and goods market?



Problems: Technology improvement

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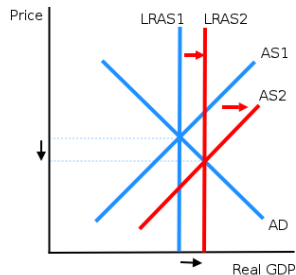
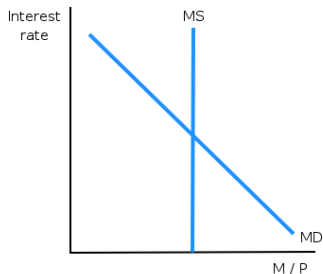
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- Increase long run and short run aggregate supply.



Problems: Technology improvement

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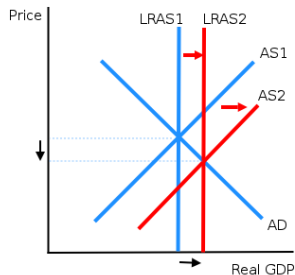
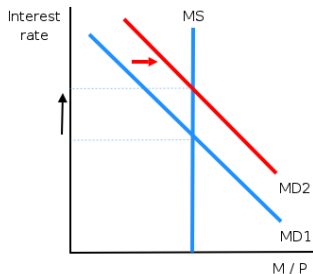
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Problems: Technology improvement

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