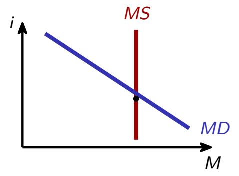
Financial Sector

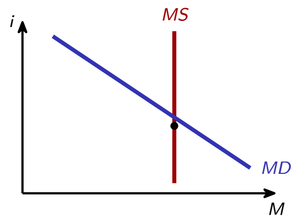
AP Macroeconomics ▪ Unit 4

AP Macroeconomics



What we will cover

1. Financial assets
2. Nominal vs real interest rates
3. The functions of money
4. Banking and the money multiplier
5. The money market
6. Monetary policy
7. The loanable funds market



1 Financial assets

Three financial assets

Stock 股票: a share of ownership in a company

Bond 债券: a loan that pays fixed interest

Bank deposit 银行存款: safe, easy to spend

Every asset trades off three features:

- **risk** 风险 – chance of a worse return
- **return** 回报 – how much it earns
- **liquidity** 流动性 – how fast it becomes cash

> Higher risk must pay a higher return; the most liquid assets pay least.

Bond price and yield move opposite

A bond pays a fixed number of dollars each year. So its **yield** 收益率 depends on its price:

Worked example (fixed \$50/year)

price $1000 \Rightarrow$ yield $= \frac{50}{1000} = 5\%$
price $\;500 \Rightarrow$ yield $= \frac{50}{500} = 10\%$

price ↓

↕ inverse

yield ↑

This is why bond prices fall when market interest rates rise.

2 Interest rates

Nominal vs real interest rates

The quoted rate is **nominal** 名义利率; inflation eats its value, so what matters is the **real rate** 实际利率.

The Fisher equation

real ≈ nominal − expected inflation

inflation higher than expected
⇒ **borrowers win**

inflation lower than expected
⇒ **lenders win**

Lend at 6%, expect 2% (plan 4% real); if inflation is 5%, real is only 1%.

3 Money

What money does, and how we measure it

Money is anything widely accepted in trade. Three jobs:

- **Medium of exchange** 交换媒介 – accepted in payment
- **Store of value** 价值储藏 – holds worth over time
- **Unit of account** 记账单位 – a common price stick

M1 = cash + checking; **M2** = M1 + savings.

Fiat money 法定货币 has value by government declaration.

Fiat money works because people accept it

Banking creates money

Under **fractional reserve banking** 部分准备金银行制度 a bank keeps a fraction as **required reserves** 法定准备金 and lends the rest. Loans become new deposits – re-lent again and again.

Money multiplier

$$\text{money multiplier} = \frac{1}{\text{reserve ratio}}$$

Worked example

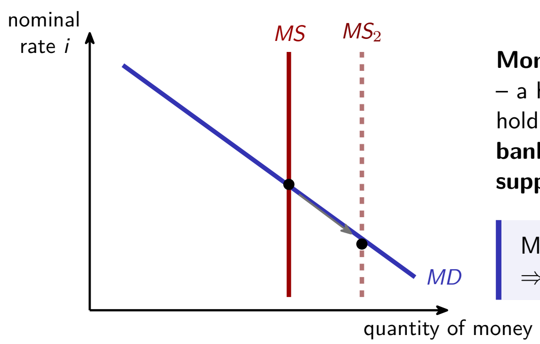
Reserve ratio $= 10\%$ so multiplier $= \frac{1}{0.10} = 10$.

1000 new reserves $\Rightarrow$ up to $10{,}000$

In reality less – people hold cash, banks keep extra. This is the maximum.

4 Money market

The money market



Money demand 货币需求 slopes down – a high rate is the opportunity cost of holding cash. The **central bank** 中央银行 sets **money supply** 货币供给: a vertical line.

More money supply ($MS \to MS_2$) $\Rightarrow$ the interest rate falls.

5 Monetary policy

Monetary policy

Monetary policy 货币政策: the central bank moves the money supply and interest rates.

- **Expansionary**: buy bonds $\Rightarrow$ rate down (recession)
- **Contractionary**: sell bonds $\Rightarrow$ rate up (inflation)

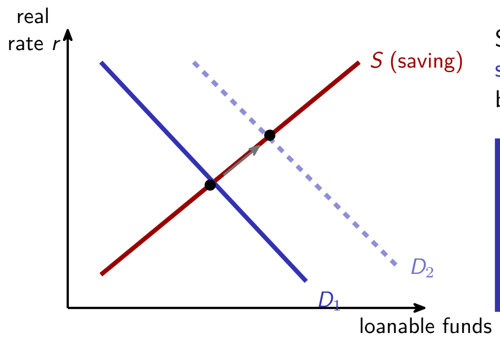
Three tools: open-market operations (main), reserve requirement, discount rate.

> $MS \uparrow \Rightarrow i \downarrow \Rightarrow$ investment $\uparrow \Rightarrow AD$ right.

Central banks steer rates and credit

6 Loanable funds

The loanable funds market



Sets the **real interest rate** 实际利率: saving supplies funds (up), investment borrows them (down).

> Government borrowing shifts demand right ($D_1 \to D_2$): the real rate rises and private investment is squeezed – **crowding out** 挤出效应.

7 Recap

Unit 4 – key takeaways

1. **Assets**

   bond price and yield move opposite; risk, return, liquidity trade off

2. **Money**

   three functions; multiplier = $1/$reserve ratio

3. **Money market**

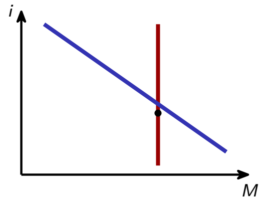
   MD down, *MS* vertical; more money ⇒ lower rate

4. **Loanable funds**

   sets the real rate; deficits crowd out investment

Check yourself

1. A bond's price falls. What happens to its yield?
2. Reserve ratio $= 20\%$. What is the money multiplier?
3. The central bank buys bonds. Which way does the rate move?
4. Government borrows heavily. What happens to private investment?



Answers **1.** it rises **2.** 5 **3.** it falls **4.** it falls (crowding out)