Financial Sector

AP Macroeconomics

Financial Assets

A **financial asset** 金融资产 is a claim that stores value: **money**, **stocks** 股票 (ownership shares), **bonds** 债券 (loans that pay interest), and bank deposits. Assets trade off **liquidity** 流动性 (how easily converted to cash), **risk**, and **return**. A key inverse relationship: **bond prices and interest rates move in opposite directions** –when market interest rates rise, existing bonds paying the old, lower rate are worth less, so their price falls.

Nominal versus Real Interest Rates

- The **nominal interest rate** 名义利率 is the stated rate, not adjusted for inflation.
- The **real interest rate** 实际利率 is what you actually earn in purchasing power:

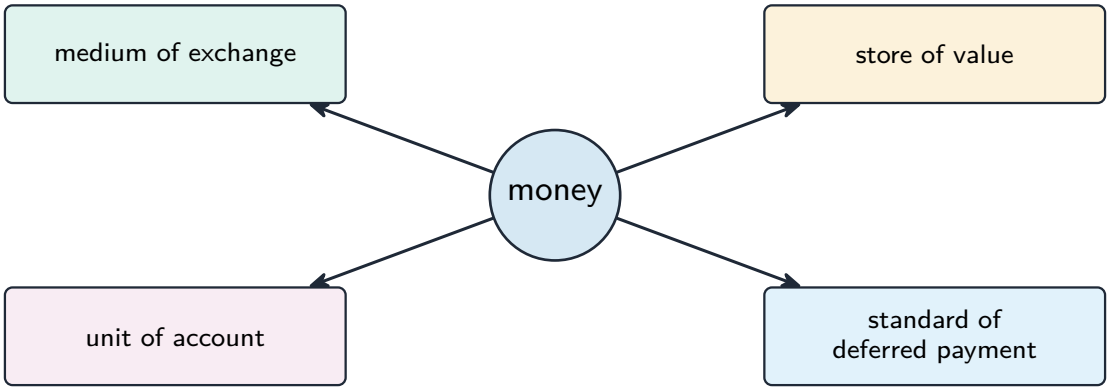
$$\text{real rate} \approx \text{nominal rate} - \text{inflation rate} \quad \text{(Fisher equation)}.$$

Lenders and borrowers care about the **real** rate. If inflation turns out higher than expected, real rates fall –helping borrowers and hurting lenders.

Worked example. A loan carries a nominal rate of 6% while inflation runs at 2%. The real rate is $6\% - 2\% = 4\%$, so the lender's purchasing power grows by 4%. If inflation instead jumped to 7%, the real rate would be -1% –the lender would actually lose purchasing power.

The Definition, Measurement, and Functions of Money

Money 货币 is anything widely accepted in exchange. Its three **functions**: a **medium of exchange** 交换媒介 (avoids barter), a **unit of account** 记账单位 (a common measure of value), and a **store of value** 价值储藏 (holds value over time). Modern money is **fiat money** 法定货币–valuable because the government declares it legal tender and people trust it, not because it is backed by gold.



The four functions of money

Money is measured in tiers by liquidity: **M1** (currency plus checkable deposits –the most liquid) and the broader **M2** (M1 plus savings deposits and other near-money).

Banking and the Expansion of the Money Supply

Banks operate on a **fractional reserve** 部分准备金 system: they keep a fraction of deposits as **reserves** 准备金 and lend the rest. The fraction they must keep is the **required reserve ratio** 法定准备金率 (rr). Lending creates new deposits, which are re-deposited and re-lent, expanding the money supply by the **money multiplier**:

$$\text{money multiplier} = \frac{1}{rr}.$$

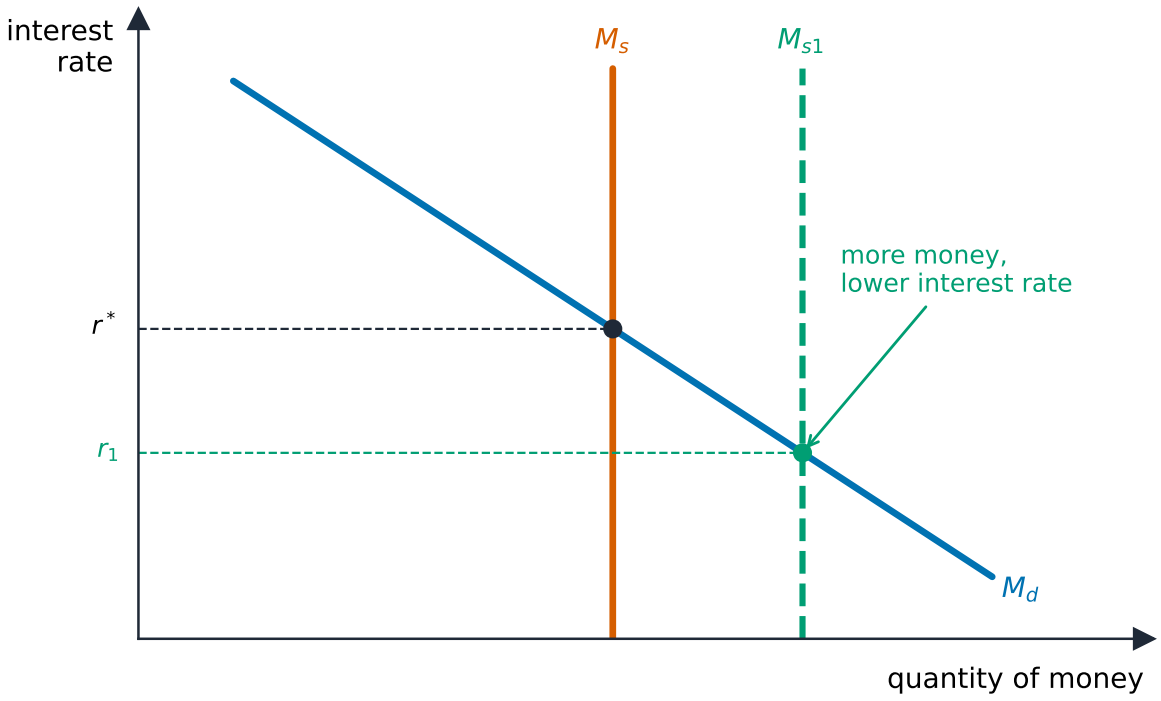
A new 1000*depositwith*rr=0.1*canexpandthemoneysupplybyupto*1000\times\frac{1}{0.1}=10,000$. Use a bank's **T-account** (assets = reserves + loans; liabilities = deposits) to track required reserves and **excess reserves** 超额准备金 (the amount available to lend).

Worked example. A bank receives a \$1000 deposit with $rr = 0.20$. It must hold $0.20 \times 1000 = \$200$ as required reserves, leaving \$800 of **excess reserves** to lend. With a money multiplier of $\frac{1}{0.20} = 5$, that \$800 of new lending can expand the money supply by up to $800 \times 5 = \$4000$ across the banking system.

Exam skill: given a required reserve ratio and a deposit, compute excess reserves, the money multiplier, and the maximum change in the money supply.

The Money Market

The **money market** 货币市场 determines the **nominal interest rate**:



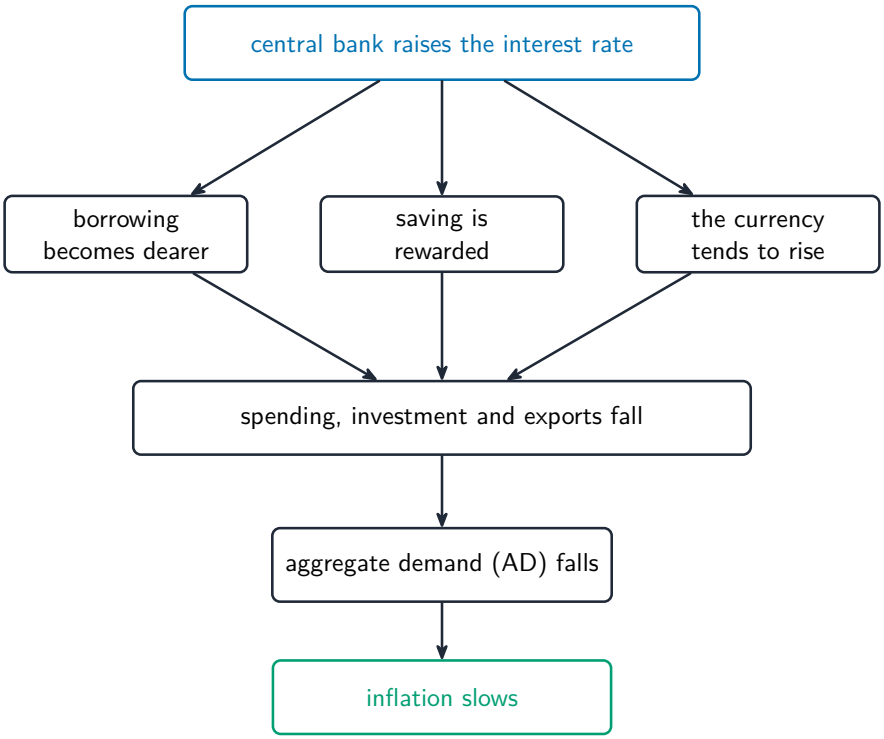
The interest rate is set by the demand for and supply of money

- **Money demand** 货币需求 slopes **downward** against the interest rate –the rate is the opportunity cost of holding money instead of interest-bearing assets. It shifts right with a higher price level or more real GDP.
- **Money supply** 货币供给 is **vertical** –set by the central bank, independent of the interest rate.

Their intersection sets the equilibrium interest rate. If the central bank increases the money supply, the supply line shifts right and the interest rate **falls**.

Monetary Policy

Monetary policy 货币政策 is the central bank's (the Federal Reserve's) use of the money supply to steer the economy, working **through the interest rate**:



How a higher interest rate works through the economy to slow inflation

- **Expansionary (easy)** 扩张性: increase the money supply → interest rate falls → investment and consumption rise → AD shifts **right** (fights recession).
- **Contractionary (tight)** 紧缩性: decrease the money supply → interest rate rises → AD shifts **left** (fights inflation).

Tools: **open-market operations** 公开市场操作 (buying bonds injects money, selling bonds withdraws it –the main tool), changing the **reserve requirement**, and changing the **discount rate** 贴现率 (the rate banks pay to borrow from the central bank). Follow the full chain on the exam: money supply → interest rate → investment → AD → output, price level, unemployment.

The Loanable Funds Market

The **loanable funds market** 可贷资金市场 determines the **real interest rate** and connects saving to investment:

- **Supply of loanable funds** comes from **saving** and slopes upward.
- **Demand for loanable funds** comes from **borrowers** (firms investing, government borrowing) and slopes downward.

More saving shifts supply right and lowers the real rate; more government borrowing shifts demand right and **raises** the real rate –the mechanism behind **crowding out**. Distinguish the two graphs: the **money market** sets the **nominal** rate (vertical money supply), while **loanable funds** sets the **real** rate (upward-sloping saving supply).

Exam skill: know which graph to draw –money market for monetary policy, loanable

funds for saving, deficits, and crowding out –and trace how a shift in one feeds into AD-AS.

Exam tips

- Know money's three functions and the M1/M2 measures.
- The **money market** sets the nominal interest rate (vertical money supply); more money supply lowers the rate.
- Compute the **money multiplier** $\frac{1}{rr}$ and the maximum change in the money supply from a new deposit.
- Trace monetary policy: money supply $\rightarrow$ interest rate $\rightarrow$ investment $\rightarrow$ AD $\rightarrow$ output.
- Distinguish the money market (nominal rate) from the loanable-funds market (real rate); use the real rate = nominal − inflation.