



The Ultimate Unit 4 Cheat Sheet

Everything you need to know about financial assets, money supply, monetary policy, and the loanable funds graph

Financial Assets

Financial Asset: something that holds financial value, such as stocks, bonds, gold, or real estate.

Liquidity: how easily an asset can be converted into cash without much loss of value.

Interest: the price of borrowing money

- An amount paid by the borrower, in addition to the principal amount borrowed

Nominal Interest Rate: the interest rate stated on a loan, as a percentage of the amount borrowed.

Real Interest Rate: the interest rate stated on a loan, as a percentage of the amount borrowed.

Money Supply, M1, M2

Money Supply (MS): a fixed quantity of money in the economy at given time

- influenced by the central bank (monetary policy)

M1 (Narrow Money): the most liquid part of the total money supply.

- cash, checking deposits, savings account

M2 (Broad Money): includes everything in M1 plus other less liquid assets.

- certificate of deposit (CD), time deposits
- Bonds are NOT part of the money supply

The Money Market

Money Market Graph: shows the relationship between the supply of money and the demand for money, determining the equilibrium nominal interest rate.

Money Demand (MD): the quantity of M1 that people want to hold at a given time; shown as a downward sloping line

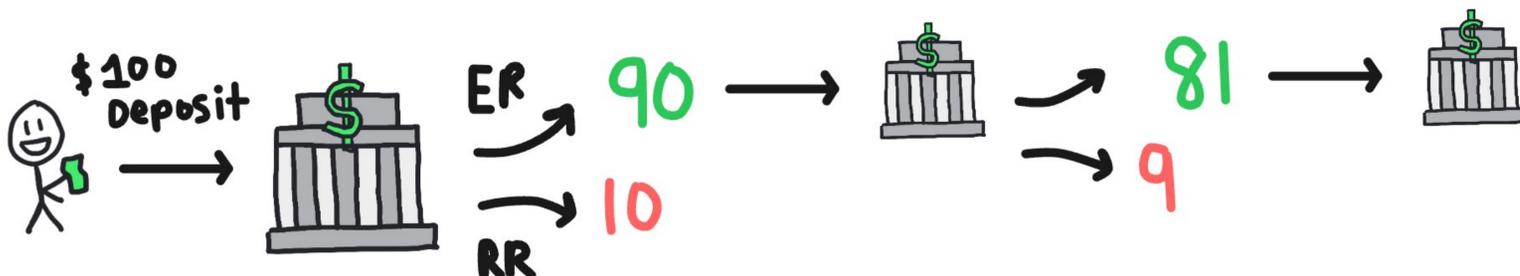
Banking & Money Supply Expansion

Fractional Reserve Banking System: system where banks keep only a fraction of deposits in reserve and lend out the rest

Demand Deposits: money deposited in a bank account that can be withdrawn on demand.

Required Reserves: the dollar amount of deposits a bank must hold and cannot lend out.

Excess Reserves: reserves held by a bank beyond the required amount; can be lent out.



With a required reserve ratio of 10%, a single deposit of \$100 has the potential to increase the money supply by \$900



Cash

- High liquidity
- Low to no interest earned

Bonds

- low liquidity
- pays interest over time

House

- very low liquidity
- potential for appreciation

Nominal v Real Interest Rates

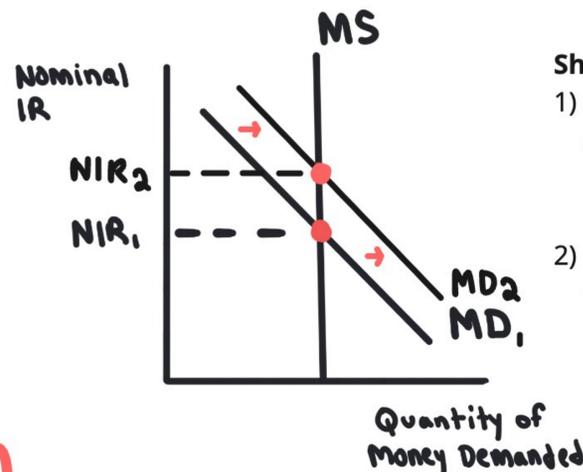
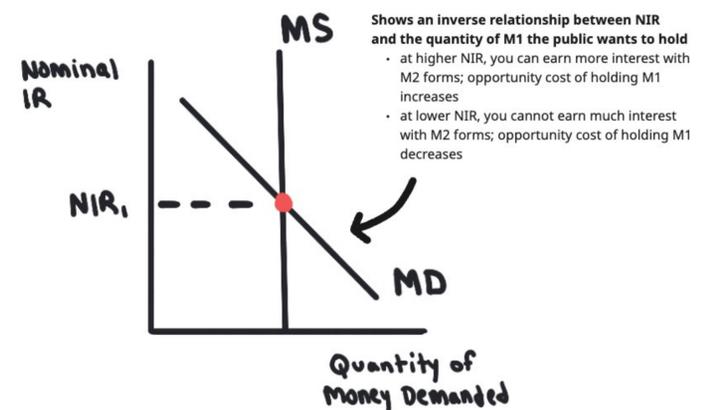
Nominal Interest Rate: The interest rate stated on a loan, as a percentage of the amount borrowed.

Real Interest Rate: The nominal interest rate adjusted for inflation, showing the true gain in purchasing power for a lender. **RIR = NIR - Inflation Rate**

Rule to Remember:

- When actual inflation > expected inflation
↳ borrowers win and lenders lose
- When actual inflation < expected inflation
↳ lenders win and borrowers lose

Money Market Graph



Shifters of Money Demand:

- 1) Change in Price Level
 - People need more M1 money to purchase the same goods and services
- 2) Change in National Income
 - As nation's become wealthier, they tend to spend more and need more M1 money

Assets Liability

- Required Reserves
- Excess Reserves
- Loans

- Demand deposits

Monetary Policy

Central Bank: a bank that provides financial services for a country's government and conducts monetary policy



Monetary Policy: actions taken by the central bank to manage the money supply and influence economic outcomes.

Discount Rate: an interest rate that the central bank charges when commercial banks borrow money from the central bank

Fed Funds Rate: an interest rate that commercial banks charge other commercial banks for borrowing money

Interest on Reserves Rate: the interest rate that the central bank *pays* commercial banks when commercial banks save their excess reserves at the central bank

Commercial Bank: a bank whose primary depositors and borrowers are households and firms

- Can save money at the central bank or borrow money from the central bank

Required Reserve Ratio: the fraction of deposits banks are required to keep in reserve.

Buying and Selling Government Bonds (OMO):

- government issues bonds to raise money
- the central bank can buy these bonds, injecting money into the economy (buy bonds → bigger money supply)
- the central bank can also sell their old government, taking money out of the economy (sell → smaller MS)

HOW MONETARY POLICY WORKS

STEP 1: Monetary policy changes the money supply



STEP 2: Nominal interest rates change as a result of changes to the money supply



STEP 3: Investment (I) and interest-sensitive consumption (C) change as a result of changes to NIR (and AD shifts back to LRE)

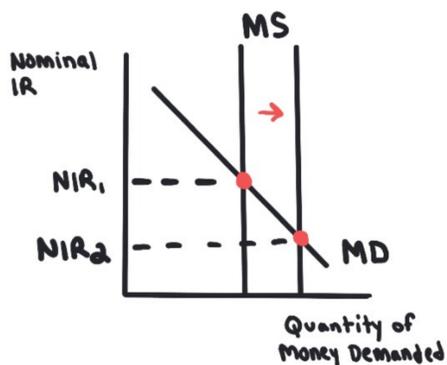
Monetary Policy Actions (Limited Reserves)

- 1) ↑/↓ Discount Rate
- 2) ↑/↓ Required Reserve Ratio
- 3) Buy or sell government bonds (O.M.O)

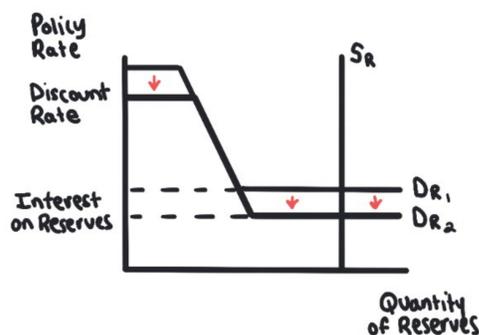
Monetary Policy Actions (Ample Reserves)

- 1) ↑/↓ Discount Rate
- 2) ↑/↓ Interest on Reserves Rate
- 3) Buy or sell government bonds (O.M.O)

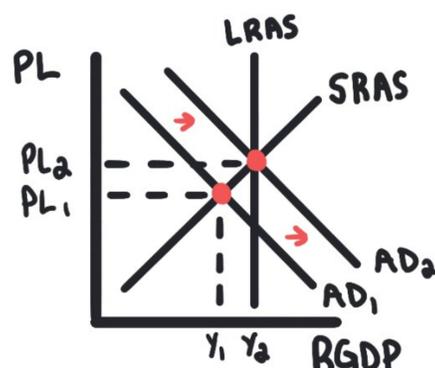
Limited Reserves System



Ample Reserves System



Impact of Contractionary Monetary Policy



The Loanable Funds Graph

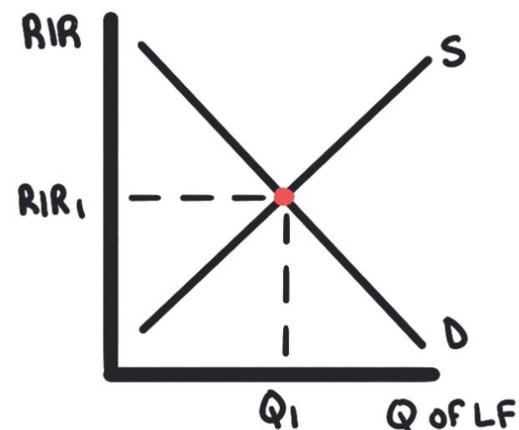
Loanable Funds Market: market showing the interaction of borrowers (demand) and savers (supply), determining the equilibrium real interest rate.

Demand for Loanable Funds: represents the amount of loanable funds demanded by borrowers at various real interest rates

- inverse relationship between real interest rate and quantity of LF demanded

Supply of Loanable Funds: represents the amount of loanable funds savers are willing to supply at various real interest rates

- direct relationship between real interest rate and quantity of LF supplied



Shifters of LF Demand:

Any factor that change borrowing behavior at any given real interest rate

- 1) Government Deficit Spending
- 2) Increased consumer and business confidence
- 3) Economic growth

Shifters of LF Supply:

Any factor that change saving or investment behavior at any given real interest rate

- 1) Private savings behavior (often influenced by government incentives)
- 2) Public savings (government budget surplus)
- 3) Foreign capital inflow (savings from other countries)

The Crowding Out Effect:

This occurs when the government runs a budget deficit and must borrow money to cover its spending

Step 1: The government enters the Loanable Funds market as a borrower, increasing the Demand for Loanable Funds

Step 2: RIR increase

Step 3: Higher RIR make it more expensive for businesses to borrow for factories and equipment, causing Private Investment to decrease

Result: AD increases by less than initially expected and long-term economic growth may slow down due to the crowding out.