UNIT 4 AP MACROECONOMICS

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UNIT 4: The Financial Sector

ECONOMIC GROWTH: Comes from increases in **human capital and physical capital.**

- Savings = Investment Spending
- National Savings + Capital Inflow = Investment Spending

Financial asset types:

- ***Loans***
- Bonds (bonds & interest rates for bonds are *inversely related*)
- Loan-backed securities
- ***Stocks***
- ***Bank Deposits***

Financial Intermediaries types:

- ***Mutual Funds***
- Life insurance companies
- Pension funds
- Banks (meant to reduce transaction costs, reduce risk, and provide *liquidity*)
- ***Inflation & Interest rate:***
    - **Inflation rate**: [(PL in Year 2 - PL in Year 1) / PL in Year 1] * 100
        - Inflation *does not make everyone poorer* (because increase in wages & increase in price of goods → no real change)
        - **Nominal interest rate** is **unadjusted** for inflation.
        - Real interest rate = Nominal interest rate - actual interest rate
        - ***Higher inflation than expected:***
            - Winners: Borrowers since they have to return funds with a lower value.

        - Losers: Lenders
    - ***Lower inflation than expected:***
        - Winners: Lenders since they get funds with higher values
        - Losers: Lenders
- **Interest rate:** Additional rate charged by lenders to borrowers for **money lent.**
- National Savings = Private savings + budget balance

Capital inflow: ***Net inflow*** of funds into a country.

- **Liquid:** If an asset can be converted into cash without much loss of value (most liquid form is cash).
- **Illiquid:** If an ***asset loses a lot of value*** when converted to cash.

Diversification: When an investor invests in several different assets to avoid total loss.

Money (any asset accepted as a means of payment):

- Roles in economy
    - Medium of exchange (used to trade for G&S)
    - Unit of account (can be stored and saved without losing value)
    - ***Store of value*** (A commonly accepted measure to set prices and make economic calculations.)
- Types
    - ***Commodity money*** (Medium of exchange that also has intrinsic value.)
    - Commodity-backed money (Medium of exchange with no intrinsic value but can be converted to valuable goods.)
    - ***Fiat Money*** (Medium of exchange that gets its value from the government deciding it does.)
- Is measured using monetary **aggregates M1 & M2**

  M1 = Currency in circulation + traveler's checks + checkable bank deposits

  M2 = Currency in circulation + traveler's checks + checkable bank deposits + near-moneys (savings account, time deposits, small denotation CDs)
- Present and future worth of a dollar

A dollar's worth today > a dollar's worth in the future (because of **inflation**)

$$\text{Present Value} = \frac{Future\ Value}{(1 + Interest\ Rate)^{Time\ (years)}}$$

$$\text{Future Value} = Present\ Value\ x\ (1 + Interest\ Rate)^{Time\ (years)}$$

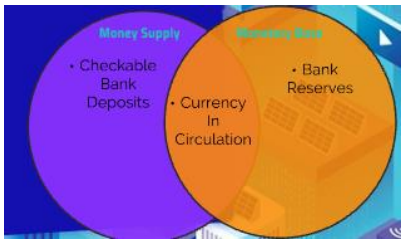
Net Present Value = PV of current & future benefits - PV of current & future costs

- Banks:
  - Accept and **keep funds as deposits**; keep part of deposits and lend the rest out. (**T-accounts** are used to show one's liabilities and assets.)

Ex.

- **Bank runs**: When a lot of depositors go to the bank and demand their money at the same time are caused by rumors that a ***bank failure*** has occurred. Therefore, **bank regulations have been created** to **prevent** bank-runs and ensure depositors' money
  - ***Deposit insurance*** (guarantees security of the first $250,000 of every bank account)
  - ***Reserve requirements*** (banks are required to maintain the required reserve ratio)
  - ***Discount Window*** (banks can get loans and money from the FED)
  - ***Capital requirements*** (assets have to be > deposits)
- Can **decrease the money supply** by removing currency in circulation and putting them in bank vaults
- Can **increase the money supply** by making loans and creating money
  - Through the money multiplier process
  - **Money multiplier =** 1 / reserve ratio

- **Money multiplier:** Total amount created from every $ increase in monetary base.
- **Total Increase in checkable bank deposits =** (excess reserves) / (reserve ratio)



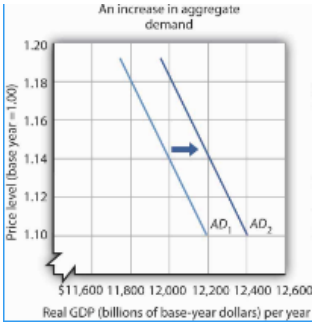
Banks have required reserves and excess reserves (basis for the creation of money)

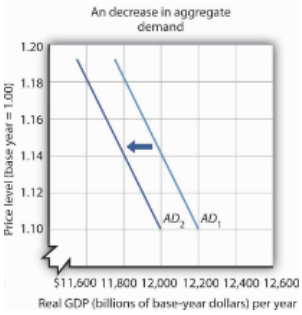
- **Required reserve ratio:** Portion of deposits banks are required to keep as reserves.

MONEY MARKET:

- **Short-term interest rates tend to move together.**
  - *Affects the money supply*, unlike long-term interest rates.
- Demand for money is **driven by the opportunity cost** of holding money and short-term interest rate (money that could be earned from holding other assets).
- **Money demand** (relationship of quantity of money demanded and interest rate) shifters.

Aggregate Price level: Increase in aggregate price level increases money demand

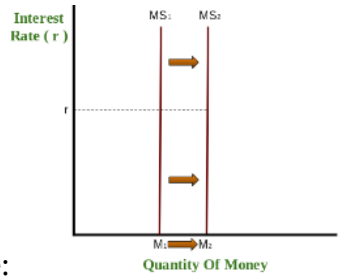
- Changes in ***Real GDP*** (Increase in GDP increases money demand)
- Changes in ***technology*** (Inventions that **decrease difficulty of changing assets** to currency in circulation increase money demand.)
- Changes in ***institutions***
- Increase - 

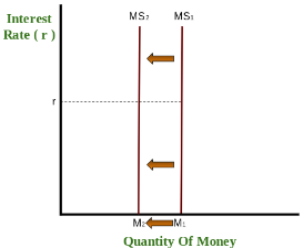
Decrease - 

Money Supply (shows relationship of quantity of money supplied and interest rate) shifters are **monetary policy tools.**

- ***Reserve requirement*** (lower required reserve ratio increases money supply)

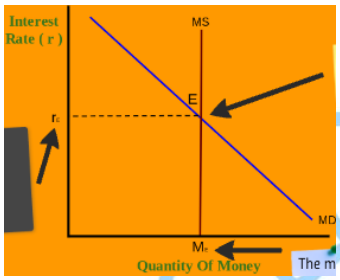
- ***Discount rate*** (lower discount rate increases money supply)
- ***Open-Market operations*** (Fed buying more T-bills increases money supply.)

  - Increase: 

Decrease: 

Money Supply is **chosen by the FED** and does not change from changes in the interest rate.

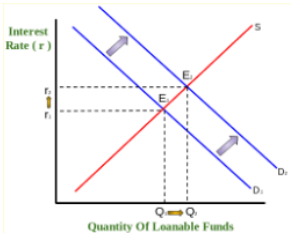
Liquidity Preference Model (name for money market model)

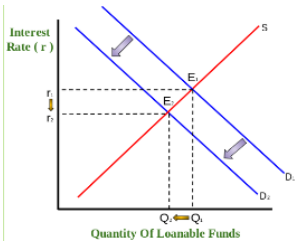


- **Equilibrium** is achieved when the nominal interest rate is such that **money demand & money supply are equal.**
- Surplus and shortages are created in the money market when economy is not at the equilibrium interest rate.

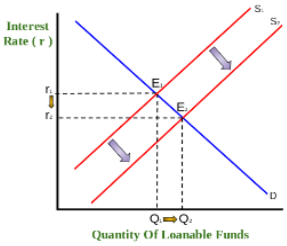
MARKET FOR LOANABLE FUNDS:

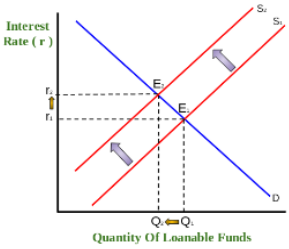
- **Suppliers -** savers/lenders
- **Demanders** - borrowers
- **Demand curve shifters**
  - Changes in perceived ***business opportunities*** (optimistic beliefs increase demand)
  - Changes in ***government borrowing*** (more borrowing increases demand)

  - Increase - 

Decrease - 

- **Supply curve shifters**
- Changes in ***private savings behavior*** (them saving more increase supply)
- Changes in ***capital inflows*** (optimistic views of country from other countries increases supply)

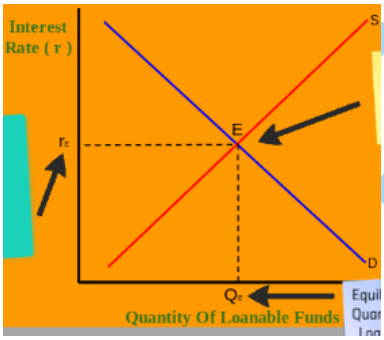
Increase - 

Decrease - 

National Savings = public savings + private savings

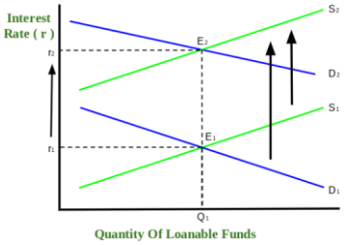
- In open economy, **investment = national savings + net capital inflow.**

Model:

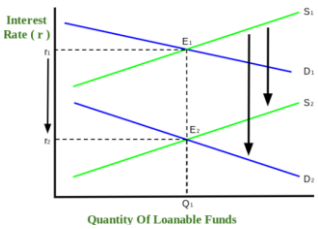


FISHER EFFECT:

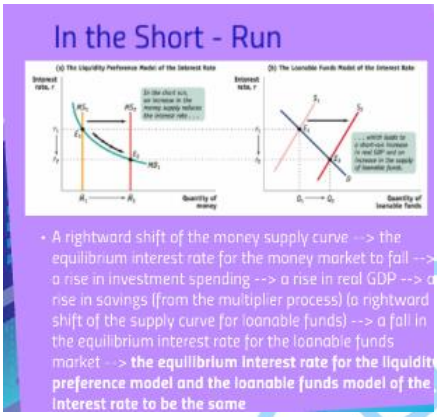
A rise in expected future inflation → a **rise in the interest rate**

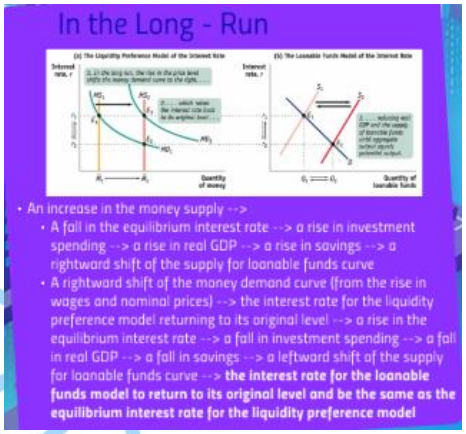


A fall in expected future inflation → a **fall in the interest rate**



- **Government spending** can cause ***lower*** investment spending from the crowding out effect. The equilibrium interest rate for the liquidity preference model & the loanable funds model are the ***same in the short-run & long-run.***



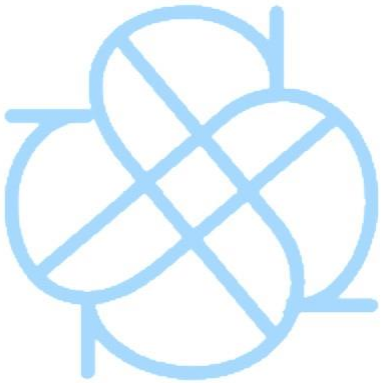


FEDERAL RESERVE:

- **Functions:**
  - Provides ***financial services*** (ex. Holds reserves, clears checks)
  - Supervises ***banking institutions*** (ex. Makes sure they follow required reserve ratio.)
  - Maintains ***stability of financial system*** (provides liquidity to all commercial banks)
  - Conducts ***monetary policy***
    - **Expansionary**
      - **Decrease** in required reserve ratio
      - **Lower discount rate**
      - Fed buying more T-bills (has greatest effect on money supply)
    - **Contractionary**
      - Increase in required reserve ratio
      - **Increase in discount rate**

- FED sells T-bills (has greatest effect on money supply)

Most banks strive to stay on the federal funds rate!



KEY:

UMP - Unemployment

PL - Price level

MB - Market basket

G&S - Goods and services

PV - Present value

FV - Future value

RGP - Real gross domestic product

AD - Aggregate demand

SRAS - Short-run aggregate supply

LRAS - Long-run aggregate supply

SRPC - Short-run phillip's curve

LRPC - Long-run phillip's curve

PPC - Production possibilities curve

SOURCES:

- https://apcentral-stg.collegeboard.org/pdf/ap-macroeconomics-course-and-exam-description.pdf
- https://matermiddlehigh.enschool.org/ourpages/auto/2015/8/25/54609372/Krugman_s%20Economics%20for%20AP.pdf
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