

# Snazzlefrag's Money and Banking DSST Study Notes

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**Commodity Money:** Gold, stones, shells. Value/utility is the SAME as the actual goods represented. Eg, 1 Gold=1 Barrel of Oil.

Full-bodied Commodity Money: The commodity is in circulation as if it was money.

Fully-backed Commodity Money (Representative): Certs, tokens REPRESENT money, redeem for exact quant of gold etc.

**Flat Money:** No actual value, but govt has authorized it. "Legal Tender". No commodity backing it. US since 1970.

Pre-1970, a dollar could be taken to bank and exchanged for gold, "Gold Standard".

Now paper money is worthless.

**Near Money:** Like money, highly liquid (converted to cash), but not normally used as a medium of exchange.

**Money:** Medium of Exchange, Store of Value, Unit of Account, Standard of Deferred Payment.

**Money Supply/Money Stock:**

**M1:** Currency in circulation, demand deposits at banks, checkable deposits at all financial institutions, and traveler's checks. Liquid.

Transaction Deposits: Demand Deposits, Negotiable-order-of-withdrawl (NOW), Auto Transfer System Accounts (ATS).

Demand Deposits: non-interest bearing checking accounts.

NOW: interest-bearing checking deposits.

ATS: Mixed interest-bearing savings accounts & non-interest bearing checking accounts (savings's auto-deducted)

**M2:** M1+small denom time deposits (<\$100k), money market deposit accounts, passbook savings, money market mutual funds,

Overnight Eurodollar Deposits (US deposits in foreign banks), Overnight Repurchase Agreements (sell secs & buy back next day).

**M3:** M2+large denomination time deposits, and banks' long term repurchase agreements.

**Velocity:** How rapidly people turn over their cash balances.

**Commercial Banks:** Intermediary. Lenders/Savers want to lend for short time, Borrowers want to borrow for longer time.

Commercial Banks bridge the gap. Most common fin inst in US. Raise funds via savings & checking deposits while

investing in govt securities and mortgages.

Commercial banks are Oligopolistic, offer multiple products, experience ST and LT volatility of assets/liabilities (b/c IntRates).

In perfect competition, bank owners should make Normal Profit (just enough profit to cover costs). **MR=MC=Max Profit.**

**MR** = Market Loan Interest Rate. **MC**=Interest Expense, Deposit Costs, Loan Costs.

**Pros** of Saving in a Bank: No market risk (stable interest rate), little default risk (FDIC

insures). Unlike w/ stocks/bonds

**Cons of Saving in a Bank:** No protection from Inflation (value of money decreases), lower LT return on investment.

**Comptroller of Currency:** Give new banks a charter as a National bank. Subject to FED regs, surprise annual inspections.

Surprise inspections check for: capital adequacy, earnings, liquidity.

**National Banks:** Required to become "Member Banks" (members of the Federal Reserve System). Must join FDIC.

**Federal Deposit Insurance Corp. (FDIC):** \$100k. Required of National, but not state banks. Prevents bank "runs" (as in 1930s).

**Holding Companies:** Allow banks to offer services not allowed by FED (tax planning, investment advice, data processing). Most banks!

**Regulation:** US Govt regulates depository institutions to maintain their liquidity, solvency, efficiency, to protect consumers (reduce risk).

**Two Main Restrictions on National Banks:** Can't lend more than 15% of equity to one agent. Limited loans to directors/officers.

**S&Ls (70s-80s):** Govt. limited deposit interest rates that S&Ls could offer their customers. Since S&Ls focus on LT mtg loans, when interest rates rose sharply (above S&Ls rate) customers withdrew their funds and invested in stocks/bonds instead.

**Disintermediation:** Customers withdraw funds to invest in higher ROIs. Don't return even when IntRates go down again.

**Depository Inst Deregulation & Monetary Control Act (DIDMCA 1980):** Counter disintermediation, phased out IntRate ceiling (6yrs).

Set up **FDIC**.

Gave FED authority to set **Reserve Requirements** (ensures solvency). %age of total checking account deposits (3-10%).

ResReq can be held by bank as 'cash-on-hand', or in deposit account at a Regional Reserve Bank, or both.

Vault cash & money held by FED don't earn interest, so banks maintain **secondary** reserves via securities (Eg, Treasury Bills).

**Primary Reserves** = Cash. **Secondary Reserves** = Securities.

Raise ResReq = less money to loan = lower Money Supply. ResReq of 10% = Hold \$1 for every \$10 deposited.

Allowed Credit Unions, S&Ls etc., to compete with banks, offering **interest-bearing checking accounts**.

**Garn-St Germain Act (1982):** Allow savings associations to offer Money Market Deposit Accounts (same IntRate as banks).

**FDIC Improvement Act (1991):** Compulsory risk-based insurance premiums. Lower capitalization=higher premium (higher risk).

**Federal Home Loan Bank (FHLB):** Serves Thrift banks. Members buy stock of FHLB. 8k members. Largest source of resid mtg, comm dev.

**Federal National Mortgage Association (Fannie Mae):** Buys morts from banks (to free up capital). Issues securities on NYSE.

**Government National Mortgage Association** (Ginnie Mae): US Govt guarantees high risk mortgages.

**Federal Home Loan Mortgage Corp.** (Freddie Mac): Supports FHLB members. utilizes world capital markets to support low cost mortgages.

**Financial Markets** (Money & Capital Markets): **Key function:** Raise funds from those with surplus money, at a reasonable cost.

Provide govt, firms, individuals with a means to raise funds.

**Banker's Acceptance:** Type of bank draft. Used by importers/exporters. Bank promises to pay Firm B on behalf of Firm A (for a fee).

**Bond:** LT Debt security traded on Capital Market. Holder earns coupon payments periodically. Plus face value at maturity (>1yr).

**Capital Gain:** Difference b/n price paid and price sold.

**Certificate of Deposit** (CD): Promise to pay the holder original amount plus interest.

**Consul:** Bond with infinite maturity date. Coupon/interest is paid periodically. But no guarantee of paying face value (infinite maturity).

**Coupon Payment:** Interest payment paid periodically to the holder of a bond.

**Default Risk** (Credit Risk): Risk that the issuer of a security will fail to make coupon payments, or pay the face value upon maturity.

**Exchange** (Secondary): Trades securities from a single main location (Eg, NYSE)

**Federal Fund:** One US bank instructs FED to transfer funds from its FED account into FED account of another US bank (pay interest).

**Financial Instrument:** Claim, security, asset (interchangeable terms).

**Intermediaries/Non-depository:** Insurance Co's, Pension Funds, Mutual Funds, Finance Companies (high risk indivs/businesses).

**Insurance Co's:** Invests premiums before losses occur = Financial Intermediary.

**Business Finance Co's:** Purchase Accounts Receivable at a discount, allows business to raise funds (Factoring).

**Intermediaries Market:** (indirect finance). Commercial banks collect saving deposits from customers, then lend funds to borrowers.

**Investment Banker:** Specialist agent that obtains NEW security issues and sells them to investors.

**Market Risk:** Risk that the price of an asset/security will fall as interest rates rise. (Eg, Rising Interest = Lower price for bonds).

**Money Market Fund** (MMF): Mutual fund that invests in highly liquid ST (30-day) investments (Eg, Treasury Bills).

Goal of MMF is to minimize risk, preserve principal, yield a modest return.

**Mutual Fund:** Professionally managed, highly liquid, low transaction costs, diversified (reduced risk), ROI similar to stocks/bonds.

**Over-the-Counter Market** (Secondary): Customer asks stockbroker to buy/sell shares. Securities are traded from dealer's inventories.

**Prime Paper/Commercial Paper:** ST unsecured promissory note sold at discount by corp. Firm raise money w/o need for banks.

**Securities Market:** Agents trade debt & equities of the final borrower. Shares of Microsoft bought/sold in securities market.

**Debt Market:** Trade securities with creditorship/debt (promise to pay plus interest. Eg, Bonds, mortgage).

**Equity Market:** Trade securities with ownership rights (Eg, Stocks).

**Money Market:** Trade short-term securities (<12months). Eg, Treasury Bills.

**Primary Market:** Trade NEW securities(investment bankers). **Secondary Market:** Trade second hand securities(dealers/brokers).

**Securities Dealer:** Buy/sell from their own inventory.

**Securities Broker:** Charge clients a fee to buy/sell securities on their behalf.

**Stock:** Equity Security issued by a corp. Holder 'owns' share of the corp, and earns dividends.

**Systemic Risk:** Risk that one bank maybe unable to settle transactions b/c of failure of other institutions to settle their transactions.

**Thrifts:** Specialized in residential mortgages. <1980s Mutual Savings Banks/S&Ls/Credit Unions. Only Credit Unions now.

**Mutual Savings Banks:** Similar to S&Ls, but owned by the depositors.

**Credit Unions:** Owned by depositors, but invest mainly in consumer loans. Divide among members in proportion to their deposits.

**Treasury Bills (US Treasury):** ST. Sold at Discount. Diff b/n purchase price and face value=profit. Highly Liquid (converted to cash).

**Treasury Bond:** Maturity >5yrs (instead of >1yr for a normal bond).

**Treasury Notes:** Same as a bond but issued by US Treasury Dept (maturity >1yr)

**Yield:** Rate of return (interest) on a security. **When bond price falls, yield rises.**

**Current Yield:** Interest earned (rate of return) to date per dollar invested.

**Holding Period Yield:** Interest earned (rate of return) over entire period the security is held.

### **Central Bank & Federal Reserve System:**

1781 Robert Morris. Charter for "Bank of North America". Based on BofEng. Too small to become central bank.

1791 Alexander Hamilton. 21yr charter for "First Bank of US". Branches across country. Stable/profitable but fear of foreigners shares.

1816-1836: "Second Bank of US". Failed, followed by period of Free Banking (no central bank or Fed Reg. Only state rules). Civil War.

1863 National Bank Act: Created system of national charters for banks. Encouraged national currency (based on bank holdings of US Secs).

Established Office of the Comptroller of the Currency (OCC) as part of Dept of Treasury.

Raised money in Civil War by enticing banks to buy federal bonds (it taxed state bonds out of existence).

The law proved ineffective and was replaced in 1864.

1864 National Bank Act: Replaced 1863 Act. Authorized OCC to examine and regulate nationally-chartered banks.

1865 National Bank Act: Imposed 10% tax on the notes of state banks. It forced non-federal currency from circulation.

1908 Aldrich-Vreeland Act: Response to Panic of 1907. Established National Monetary Commission (recommended FRA 1913).

1913 Federal Reserve Act: Created FED System of central banking, supervised by FedRes Board.

1935 Banking Act: Restructured FED b/c of Great Depression. FED didn't prevent bank collapses (illiquid). Meant to ensure liquid, so reformed.

**FED:** 1) Supervise/regulate Banks. 2) Provide banking services to depository institutions & the Treasury. 3) Determine monetary policy.

FED acts as the **Government's Bank**.

FED is the **Fiscal Agent** of the US Treasury Dept (issues, services, and redeems debts on behalf of the US Treasury Dept).

FED acts as a **Depository Institution** for the US Treasury Dept

FED is the **Manager** of the US Treasury Dept's "Treasury Tax and Loan Accounts" (TT&L).

**FED Assets:** Treasury Securities, Discount Window Loans, Gold Certificates, Foreign Currency, Cash.

**FED Liabilities:** Federal Reserve Notes (80% "Money"), Bank Reserve Deposits, US Treasury Deposits, Foreign Deposits, Equity Capital.

**Monetary Policy Tools:** 1) Set reserve requirements 2) Set discount rate 3) Buy/sell securities to affect money supply/reserve level of banks.

1) Higher reserve req = bank must hold on to more money = fewer loans = lower money supply. Total reserves stay the same though.

2) Higher Discount Rate = bank must charge higher IntRate to customers = fewer loans = lower money supply.

3) Buy/sell US Govt securities influence res levls in banks > affects federal fund rate (bank to bank Int) > affects IntRate charged by banks.

**Sell** = Reduced reserves at banks (less loans), decrease money supply. **Buy** = Increase reserves at banks (more loans), increase money supply.

**Defensive** Open Market Operations: Actions taken to offset effects of other factors influencing reserves (Eg, tax collection).

Repurchase Agreements: FED TEMPORARILY buys, but dealer agrees to buy back later. Temp increase money supply/reserves.

Reverse Repurchase Agreement: FED TEMPORARILY sells, but dealer agrees to sell back later. Temp decrease money supply/reserves.

**Dynamic** Open Market Operations: Actions taken to increase/decrease reserves, to ease (higher reserves) or tighten (lower reserves) credit.

**Supervisory Functions:** Currency distrib, process payments/checks, funds transfer b/n member banks, research economy, issue/redeem fed debt.

**Announcement Effect:** When FED changes the discount rate, the market rate moves in the same direction temporarily.

**Credit Multiplier:**  $\text{Change in Credit (ie, loans and securities)} / \text{Monetary Base}$  (change in total loans/securities if change in monetary base).

**Discount Window Programs:** Extend exceptional circ credit, seasonal credit, adjustment credit (14dys). **Banks borrow at discount rate.**

**Discount Rate:** Interest rate charged when member banks borrow money from the FED via Discount Window. (base rate, repo rate, prime rate)

**Federal Fund Rate:** Interest rate charged when one bank borrows from another.

**Monetary Base:** **Total Currency + Total Reserves** in banking system.

**Money Multiplier:** **Money Supply / Monetary Base** (change in money supply for each dollar change in monetary base).

If multiplier is 3.4, \$1million increase in monetary base will cause a \$3.4million increase in the money supply.

**7-member Board of Governors:** Monetary Policy-making unit. All members appointed by the President (confirmed by Senate for 14yr terms).

**Oversees 12 District Banks:** 1 Boston 2 New York (PR, Virgin Isles) 3 Philadelphia 4 Cleveland 5 Richmond, VA 6 Atlanta 7 Chicago

8 St. Louis 9 Minneapolis 10 Kansas City 11 Dallas 12 San Francisco (Hawaii, Alaska, Samoa, Guam, Mariana Isles).

**Federal Open Market Committee:** 7 governors + 5 district FED Bank presidents.

Day-to-day policy decision (open market operations).

Permanent Chairman (4yr Term): Always the Chairman of the Board of Governors.

Permanent Vice-chairman (4 yr Term): Always the president of the Fed Reserve Bank of New York.

**District Banks:** Member banks purchase stock (6% return) in their District Bank.

9 Directors: 6 voted by member banks, 3 selected by FED Board.

District Banks propose discount rate to the FED Board (can accept or reject). Discount rate is usually lower than the money market rate.

**Money & Macroeconomic Activity:** **MV=PY** (Money Supply, Velocity of Money, Price Level, Y=Income/Output Level).

**Adaptive Expectations Theory:** Only uses historical information.

**Asset Demand Theory of Money Demand** (Friedman): Demand for money (or any other asset) is based on ROI.

**Assumption:** (unlike Keynes/Tobin) Cash can earn interest (ie, checking accounts). Believes in Adaptive Expectation.

People choose to invest or save cash based on Permanent Income (not just current income).

**Permanent Income:** Current value of anticipated lifetime income of an individual.

If ROI of bonds is higher than ROI of cash, people will choose to invest in bonds (and demand for money will fall).

**Efficient-market Theory:** refinement of RE. Price of financial assets should reflect all available information PLUS traders' perspective.

There should be no unexploited opportunities for high returns. Large profit temporarily, but info spreads and prices adjust to normal.

**Inventory Theory of Money Demand** (1950s Tobin/Baumol): People hold inventories of money to pay for goods/services.

People convert inventory to cash depending on Income, **Interest Rates**, Cash-conversion fee.

Tobin expanded Keynes Speculative motive: "Rational" people maximize their wealth with a MIXED portfolio of cash AND bonds.

**Assumptions:** Cash earns zero interest, bonds are risky investments.

**Reality:** Checking accounts bear interest, some bonds are risk-free (such as US

Treasury Bills).

If interest rates are at 10%, hold majority of wealth in bonds b/c expect rates to fall (ie, make more profit on bonds)

If interest rates are at 8%, hold majority of wealth in cash b/c expect rates to rise (ie, make less profit on bonds)

**Conclusions:** Velocity of money would vary procyclically (expanding economy = V up, contracting economy = V down).

When interest rates go up, velocity of money goes up, and vice versa. (same conclusion as Keynes).

**Liquidity Preference Theory** (Keynes): 3 Motives for holding liquid money. Keynes called all illiquid assets "bonds", all liquid "cash".

**Assumptions:** Cash earns zero interest, bonds are risky investments.

**Reality:** Checking accounts bear interest, some bonds are risk-free (such as US Treasury Bills).

**Transaction Motive** (TM): Save to pay for rent, transportation costs, food, gasoline, etc.

**Speculative/Portfolio Motive** (SM): Save cash so you are ready if a great investment opportunity appears (**Interest Rates**).

People choose EITHER all cash, OR all bonds.

If interest rates are expected to rise, preference would be to hold cash. If IntRates expected to go down, hold bonds.

**"Normal Value" of Interest Rates:** What people think is a normal rate. If below, expect it to rise. If above, expect it to fall.

**Precautionary Motive** (PM): Saving money for medical expenses.

**Conclusions:** Velocity of money would vary procyclically (expanding economy = V up, contracting economy = V down).

**When interest rates go up, velocity of money goes up**, and vice versa. (same conclusion as Tobin).

**Modern Keynesian Approach:** Integrates RE and proposes workers/employers will choose a wage guided by RE of conditions.

**Money Demand Theory** (Fisher): Velocity of money affected by # of pay periods per year, availability of credit, speed of postal deliveries.

Fisher concluded that V and Y(output) are constant in the ST. Thus, Money Demand =  $PY / V$ .

P is proportional to M. Eg, Triple the money supply = triple the price level.

In ST, Money demand only depends on the price level and income level (assumes that money demand isn't affected by IntRates).

**New Classical Theory** (1970s): (RE-equilibrium Theory) Combine RE with monetary policy decisions and the economy.

Assumes pure competition, perfectly flexible wages & prices.

All unemployment is voluntary (workers COULD work if they are willing to accept lower wages).

FED Watching: Creating forecasts of FED monetary policy based on detailed evaluation of past FED decisions.

Anticipated FED monetary policy changes will only lead to change in price and inflation rate, but not unemployment.

Unanticipated FED monetary policy changes can cause ST changes in real output(income).

**Sticky Prices** (Keynesian): Don't adjust to equalize supply and demand.

**Sticky Wages** (Keynesian): Affected by union deals and LT contracts, so don't adjust quickly.

Combination of Sticky prices & wages and RE = money supply curve doesn't decrease as much as New Classical Theory suggests.

Overall effect is that in the ST, employment and output rise (while NC Theorists say it should go down).

**Quantity of Money Theory** (Cambridge): Income (ie, amount people intend to spend) is the primary determinant of money demand.

Money Demand =  $k * Y$  (k=income people wish to hold as money).  $Y=\$10$ ,  $k=20\%$ ,  $Md=0.2*10=\$2$

**Rational Expectation Theory** (Muth/Lucas): Individuals form expectations on market prices and ROI from current/historical data.

When all available info is used, and expectations are rational, monetary policies will have no effect on the economy.

Forecasts using RE are not always accurate (so many variable, external factors).

There is no short-run Phillips curve under RE Theory.

**GNP**: Consumption goods, **gross private domestic investment goods** (GPI), govt purchase of G&S, exports.

Total US Domestic Production. Value of final G&S produced by **CITIZENS ANYWHERE** in ONE period. AKA Total Output.

**GPI**: Amount of new private capital produced, such as plant & equipment and new residential buildings.

Actual purchases by private indivs or firms, of items that **produce a return** to the owners.

**Govt Purchase of G&S**: Includes capital and non-capital goods produced for state, local, fed. **Excludes govt spending**.

**GDP**: Total US Domestic Production. Value of final G&S produced **WITHIN BORDERS** in ONE period. AKA National Income.

Excludes nonmarket transactions (Eg, no money is exchanged. Cleaning your own home, hiring an illegal, doing a favor).

**Income Approach**: Calculates **National Income = Net GNP - Indirect Business Taxes**.

**Product Approach**: Uses same four factors as GNP (**C + I + G + NX**).

**Nominal GDP**: Doesn't take inflation into account (it uses Market Prices, not Real Prices).

**Real GDP**: Takes inflation into account (it uses price-adjusted "**Real Prices**" using the **GDP Deflator**)

**GDP Deflator**: **Nominal GDP / Real GDP**.

**Aggregate Income**: Total income earned from producing the GDP. AKA Total Income

**Aggregate Demand**: Total amount of planned expenditures on G&S at varying income

levels. AKA Total Costs.

**Business Cycle:** Recession (2 consec qtrs), Trough, Expansion, Peak (REAL GDP is at highest relative to LR GDP).

**Exogenous Variable:** Variable whose value is not dependent on other economic variables.

**Endogenous Variable:** Value DOES depend on other economic variables. Eg, consumer spending depends on IntRates/Income.

**Savings:** **Disposable Income - Consumption Expenditure. Disposable Income = Income - Taxes.**

**Monetary Policy in the US (FED):** Discount Rate (banks borrow from FED), Open Operations, Reserve Requirements.

1913-1929: **Real Bills Doctrine.** Giving reserves to banks to cover loans to support production, will not be inflationary (no effect on prices).

Output is what determines Money Supply.

Problems: It's procyclical. It increases money supply during expansion, and decreases during recession (opposite of what we want).

Partly responsible for Great Depression.

1940-1951: **World War II:** FED policy was to keep IntRates low (pegging) to support the Treasury's war financing operations.

Lower IntRate + Increase Aggregate Demand > Increase Money Supply > Too much money around > Inflation (money=less valuable).

1951: **The Accord:** Eliminated pegging while not allowing IntRates to rise too rapidly (monitor until stable again).

FED initially followed **Availability Doctrine:** Reduce available credit to keep Aggregate Demand down > good money supply > restrict inflation.

1951-1970: FED didn't specify goals/targets. Used words such as "tone/feel", caused uncertainty and little accountability for FED managers.

Caused economy to grow slowly (Money supply expanded slowly and inflation was slow too).

1960s-1970s: Vietnam War: FED rapidly expanded economy for war effort. Sudden increase of Money Supply led to high inflation.

Lower IntRate + Increase Aggregate Demand > Increase Money Supply > Too much money around > Inflation (money=less valuable).

1970+: FED started to use **Intermediate Targets (Quantity Theory** instead of Real Bills or Availability Doctrines).

Quantity Theory: Prices and Real GDP SHOULD be stabilized by controlling the Money Supply.

1973: **Stagflation:** Output was stagnant (low economic growth), unemployment was high, and inflation was rising.

Option 1: Loose money policy to stimulate economy and create jobs (low interest rates > increase money supply). Increases inflation.

Option 2: Tight money policy to control inflation (high interest rates > decrease money supply). Increases unemployment.

Late 1970s-early 1980s: FED raised discount rate, placed a marginal reserve ratio, and started targeting nonborrowed reserves.

**Monetary Transmission Process:** Response of financial, product, and labor markets to monetary policy actions.

Eg, If FED buys > increase bank reserves > increase money supply > lower interest rates > investors hold cash > increase agg demand.

**Policy Lags:** Recognition Lag, Response Lag, Transmission Lag.

**Strategy:** Policy determinants, targets, constraints, control periods (time).

**Policy Determinants:** Low Inflation, low unemployment, strong Real GDP (output), stable prices/fin markets/international mrkts.

**Operating Target:** Short-term goal (Eg, federal funds rate=daily target). 1994 FED began disclosing its daily target for FFR.

**Intermediate Target:** Mid to Long-term goal. (Eg, not enough information, so set intermediate targets on the way to ultimate goal).

Examples: Monetary Aggregates (M1/M2), Credit Aggregates (lending volume), **Interest Rates**, Nominal GDP, Exchange Rates.

### **International Monetary System:**

If US Economy Expands > US prices rise > so people buy foreign goods = Income and output rises in other countries.

If US dollar appreciates > buys more of Country B's goods(imports cheaper) = Country B's currency buys less of USA goods (exports expensive).

1944-1971 **Bretton Woods Agreement:** US must maintain fixed price of gold relative to dollar, other countries peg their exchange rate to dollar.

Led to creation of IMF and World Bank.

Speculation about future devaluation caused some central banks problems. Concern about US ability to protect the dollar. Abandoned in 1973.

1973: US stopped converting dollars to gold, ended the Fixed Rate System (Bretton Woods), switched to flexible exchange rates.

**1982-1989:** US imports were extremely high but US exports didn't rise as quickly = Large foreign trade deficit (importing more than exporting).

**Balance of Payments:** Flow of funds from US to other countries.

Current Account: Record of purchases and sales of securities and assets (- payment to another country, + payment to the US).

Capital Account: (+ Exports = incoming money to US, - Imports = outgoing money from US).

**Deficit:** More imports than exports. US must sell enough assets to cover the current account deficit.

**Foreign Exchange Market:** Is an over-the-counter market (not centralized location like NYSE)

**Forward Transactions:** Currency sale set for future date. ("30 forward exchange rate = exchange rate in 30 days from now").

**Spot Transactions:** Currency sale with immediate delivery.

**Fixed Exchange Rate:** Government "pegs" rate at a particular level.

**Floating Exchange Rate:** Based on supply and demand for a particular currency.

**Creeping/Crawling Peg System:** FED targets a specific exchange rate in ST, but the rate is adjusted regularly so it isn't a fixed rate.

**Managed Floating Exchange Rate** (dirty): Mixture of floating and fixed systems. Rate isn't pegged, but central bank affects rate in ST.

**International Monetary Fund**: Created to ensure compliance w/ Bretton Woods Agreement, assist countries w/ Balance of Payment problem (BOP).

**Law of One Price**: Prices of the same good in different locations will eventually equalise b/c people always look for the best price.

**Nominal Exchange Rate**: Exchange rate b/n two countries that doesn't consider Prices (ie, Present Market Value compared to other country).

**Purchasing Power Parity** (PPP): Determines if currency is overvalued/undervalued. Price of good should be same in both countries in LT.

**Absolute PPP**: US price of pears should equal Japanese price of pears multiplied by the spot exchange rate.

Doesn't consider transportation, taxes, tariffs, etc.

**Relative PPP**: Relates two country's inflation rates to the change in exchange rate. Price and Exchange rates should change proportionally.

**Interest Rate Parity Theory**: In ST, exchange rate will adjust until ROI of domestic assets equals ROI of foreign assets.

Domestic currency will appreciate when domestic IntRates rise, foreign IntRates fall, exchange rate falls, domestic income falls, foreign income rises, US sells foreign currency and is paid in dollars, and foreign govt buy dollars with their currencies.

**Real Exchange Rate**: Factors in Prices. Measures purchasing power of domestic G&S in exchange for foreign G&S.

**World Bank**: Provide loans to developing countries to help build their economies.