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Monetary Policy

3 groups
- central bank
- depository institutions (commercial banks)
- the public

Fed

A	L
$500 Treas	$400 reserves
$500 MB	
$100 loans to commercial banks	

Commercial Banks

A	L
$8000 loans	$9000 deposits
$900 reserves	$100 loans from fed
$1000 treasuries	$800 equity

Monetary base
- reserve + currency

M_1 = currency + deposits

Bank reserves
↳ 100% reserve banking - reserves = deposits
↳ fractional reserve banking - don't hold all deposits, lend some out

Open-market operations

↳ how the fed impacts the money supply

- increase monetary base
  - creates reserves which create loans → money supply ↑ (purchases treasuries)

- decrease monetary base
  - open-market sale

Money Multiplier

M = MS
BASE = monetary base
DEP = deposits
RES = bank reserves
CU = currency held by non bank public
res = bank desired reserve ratio (RES/DEP)
cu = public desired currency-deposit ratio (CU/DEP)

$M = CU + DEP$
$BASE = CU + RES$

$$\frac{M}{BASE} = \frac{(CU + DEP)}{(CU + RES)}$$

$$\text{Money multiplier} = \frac{cu + 1}{cu + res}$$

Asset Markets

What Is Money?
- Medium of exchange
- Store of value
- Unit of account

Medium of Exchange
- double coincidence of wants
- replaces the barter system

Unit of Account
- unit for measuring economic value

Store of Value

Monetary Aggregates
- no single best measure of the money stock

M1
- currency + traveler's checks carried by the public
- checkable transactions accounts
- Most liquid

M2
= M1 + Savings deposits + Small time deposits + non-institutional MMMF accounts + MMDAs

Portfolio Allocation

Rate of return - ↑ value per unit time
- bank acct - ror = i r
- corporate stock - ror = dividend + ΔP price

Liquidity
- how quickly to be convertible to $

Time to maturity - when you can get your $ back

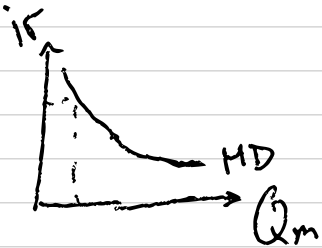
Asset Demand
- depends on return, risk, liquidity

Income
- PL
- Income
- Interest rates

Nominal MD is proportional to PL (PL↑, MD↑)
Real income ↑, MD↑, less than 1-to-1

$M^d = P \times L(Y, i)$

P: price level
Y: Real income
i: interest rates



Quantity Theory of $

real M^d is proportional to real income

$\frac{M^d}{P} = kY$, assuming constant velocity of $

$$\frac{M}{P} = L(Y, r + \pi^e)$$

$$Q_{ms} = Q_{md}$$