

MONEY AND BANKING

Money - Is anything that is legally accepted as a medium of exchange and a measure of value.

Concepts/Terms

- (i) Legal tender - Anything backed by Law to be used as money
- (ii) Token money - This is money whose face/nominal value is unrelated to its intrinsic value.
- (iii) Quasi money - This is an Asset that can be easily be converted into money. e.g. cheque.
- (iv) Fiduciary loan - It is the currency loan that is not backed by gold reserves.
- (v) Commodity money - It is an asset used in the past as money.
- (vi) Fiat money - It is anything used as money as a result of an act of government.
- (vii) Value of Money - The amount of goods & services that you can purchase by a given amount of money.

$$V = \frac{D \cdot M}{P} = \text{Nominal Value}$$

price.

Nature/Character of Money.

1. Acceptability - People must accept it as a means of payment.
2. Portability - Easy to carry and transfer.
3. Durability - Should last long without wearing out easily.
4. Divisibility - Can be divided into smaller units.
5. Uniformity - Same denomination must have equal value.
6. Stability - The value should not fluctuate too much.
7. Malleability - Material for making money should be cast into desired shape.
8. Cognizability -

Functions of Money

1. Medium of exchange - used to buy and sell goods & services
2. Unit of Account - Common measure of value
3. Store of Value - Can be saved for future use.
4. Standard of Deferred Payment - used to settle debts in the future
5. Measure of Value - Allows comparison of value of goods.

Demand and Supply of Money. - John Keynes.

→ Demand for money is the desire of a person to hold cash or liquid Assets instead of Physical & financial Assets (Keynesian Liquidity Preference)

Motives for Holding money

1. Transactionary motive - for daily expenses e.g. buying goods.
2. Pre-cautionary motive - in order to meet emergencies & uncertainties.
3. Speculative motive - To take Advantage of investment opportunities
[buying shares when prices fall]

Theories of Demand for Money

(i) Quantity Theory of money / Fisher's Equation.

- Believer that there is a direct relationship between the quantity of money in circulation and the price level in the economy.
 - i.e. if the money supply is doubled, prices will also double and if the money supply is tripled, prices will also triple and vice versa
- Fisher's equation:

$$MV = PT \quad MV = PQ$$

where: M - money supply

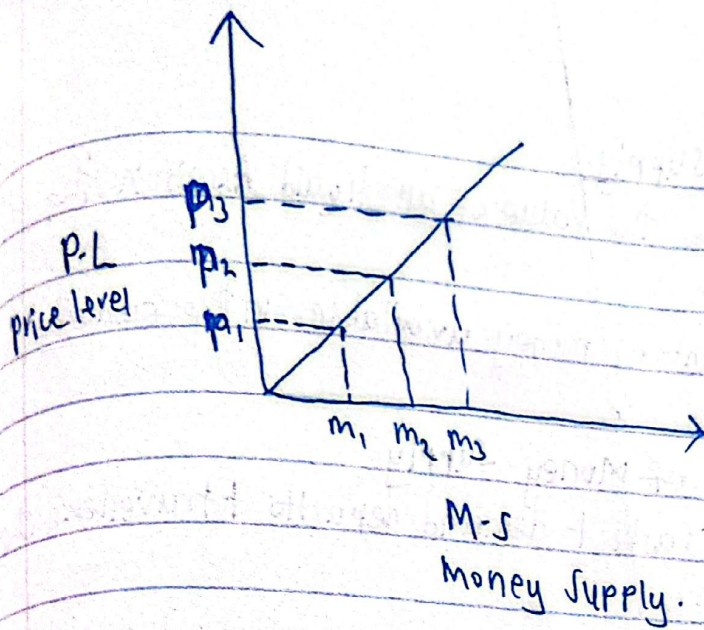
V - Velocity of circulation (how fast money changes hands)

P - Price level

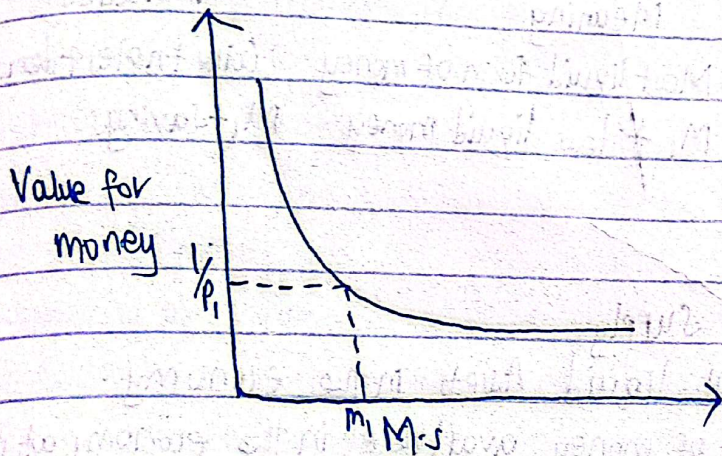
T - Volume of transaction / Quantity.

If we make P the subject and hold V and T constant, M and P will have a direct proportion relation. i.e. if one rises, the other one also rises in equal measure.

$$P = \frac{MV}{T}$$



Relationship between Money supply and Value for money.



- An increase in money supply causes a fall in the value of the money.
i.e. when the money supply is m_1 , the value will be $1/p_1$.

Limitations of the Quantity Theory of Money.

1. Assumes that velocity is constant while in real sense it is not.
2. Output/Volume isn't fixed.
3. Measurement problems - m_1 are hard to define/measure accurately.
4. Theory does not explain recession and unemployment.
5. Assumes that money is the 'cause' & not the effect [Money supply always responds to demand].

Money supply.

- Money supply refers to the value of all liquid Assets in the economy
- Refers to the total Amount of money available in the economy at a given time

Components of Money Supply

$M_1 \rightarrow$ Narrow money : Cash + demand deposits + travellers' cheques
 $M_2 \rightarrow$ Bore

Components of Money Supply

Measure	Meaning	Includes
$M_1 \rightarrow$ Narrow money	Most liquid form of money	Coin + note + demand <small>depos</small>
$M_2 \rightarrow$ Broad money	M_1 + less liquid money	M_1 + savings

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Components of Money Supply.

Measure	Meaning	Includes
M_1 (Narrow Money)	Most liquid form of money	Coin + note + demand deposit
M_2 (Broad Money)	M_1 plus less liquid money	M_1 + savings deposit + time deposits
M_3 (Wide Money)	Broader definition including large deposits	M_2 + Long-term deposits and other financial instruments
M_4 (Very Broad Money)	Includes all financial Assets easily turned into Cash	M_3 + treasury bills + Commercial papers e-t-c

* Sources of Money Supply

Central bank

Commercial Banks

Government

Foreign sector.

Determinants of Money Supply

1. Central Bank policies - Monetary policies.
2. Velocity of Money - Speed at which money circulates.
3. Public preference for cash - If people hold more cash, less money stays in the banks for lending.
4. Commercial bank lending \Rightarrow More loans leads to increased money supply through deposits.
5. Mode of transaction - Cash or cashless.

Determinants of Velocity of Money.

1. Frequency of Payments and Income patterns.
2. Efficiency of the payments sysm.
3. Economic confidence and Expectations.
4. High interest rates.
5. Inflation. expectations.

Determinants of Money Demand.

1. Price Levels.
2. Expected Inflation.
3. Payment Tech/financial Innovation.
4. Economic Uncertainty.
5. Interest rate.

The Banking System.

- A commercial bank is a financial institution that accepts deposits from public and lends money to individuals, businesses and governments for profit.

Role/Functions of Commercial banks

1. Mobilize savings.
2. Provide credit for trade, agriculture and industry.

3 Facilitates payments through cheques, transfers and mobile banking.

4 Credit Creation - Expands money supply by lending.

5 Foreign exchange dealings.

6 Advice customers

Role of Non-banking Financial Institutions (NBFI)

- Are institutions that offer financial services but do not have full banking licenses or accept demand deposits.

- Examples are: Insurance Co., SACU, Pension funds.

- 1. Provide long-term finance for investment.
- 2. Mobilize savings
- 3. Support development projects
- 4. Provide credit to have excluded from commercial banking

Credit Creation

- Is the process by which commercial banks create more money in the economy by lending more money than the cash they actually hold.

- It is made possible by the cash ratio / Reserve ratio

$\frac{CR}{RR}$ - Reserve Ratio is a ^{Legal} requirement by the CB that a fraction of the banks' total deposits be held as a cash reserve

- When the bank lowers the reserve ratio on deposits, money supply increases.

$$\text{Cash Ratio} = \frac{\text{Cash}}{\text{Deposits}}$$

- CR

10% \rightarrow 10000

Lend \rightarrow 9000 \rightarrow Retain 1000

Deposited \rightarrow 9000

Lend - 8100 \rightarrow Retain 900

→ Cash ratio refers to the proportion of total bank deposits which the bank needs to keep in cash to meet customers demand for cash.

$$\text{Money multiplier} = \frac{1}{\text{Cash Reserve Ratio [CRR]}}$$

Factors Influencing credit creation.

- 1 Cash Ratio / Legal Reserve Requirement.
- 2 Amount of Cash Deposits.
- 3 Demand for Loans
- 4 Monetary Policy - reduces credit creation if the policy is tight.
- 5 Public preference for cash.
- 6 Banking Habits of the people
- 7 Availability of collateral security.
- 8 stability and confidence in the banking system.

The Central Bank

- It is the government's bank and chief authority responsible for controlling the nation's money supply, credit and banking system

Functions

- 1 Issuing currency
- 2 Banker to govt.
- 3 Lender of last resort → for banks in distress
- 4 Maintains monetary stability
- 5 Maintains foreign exchange
- 6 Clearing house - makes arrangements for banks to exchange cheques drawn against each other.

Role of the Central Bank in a Liberalised Economy.

- A Liberalised economy means one with minimal government control. Markets are free, prices are determined by demand and supply.

(i) Traditional Roles

1. Issuing currency
2. Acting as a banker to banks and government.

3. Controlling credit creation
4. Maintaining price stability.

(ii) Changing / Modern Roles:

- 1 Financial sector reforms
- 2 Exchange rate reforms.
- 3 supervision and Regulation
- 4 Promoting financial inclusion
- 5 Monetary policy modernization.

Monetary Policy

- This is the use of the central bank tools to control the supply of money and interest rates to achieve economic stability.

Objectives of Monetary Policy

- Financial stability
- 1 Price stability \rightarrow to control inflation / share fluctuations
 - 2 Economic growth \rightarrow credit at low interest rates
 - 3 stability of Exchange rates \rightarrow Maintain external value to our country
 - 4 Balance of Payments stability. \rightarrow M & X are balanced over time
 - 5 Control of credit - which can cause inflation or stagnation
increase of excess credit or insufficient credit respectively.

Instruments or tools of Monetary Policy

- 1 Bank Rate Policy - Changing interest rate charged to commercial banks. High rates reduce borrowing.
- 2 Open Market Operations - Buying / selling govt securities. selling reduces money supply.
- 3 Tail Reserve Ratio (CRR) - Portion of deposits banks must keep
- 4 ~~selecting credit~~ selective credit controls \rightarrow Targeted lending to specific sectors.
- 5 Moral suasion - Persuasion by the central bank. to commercial banks they follow certain policies voluntarily.
- 6 Direct - Central bank directly penalizes or restricts banks that disobey Monetary Regulation.

Limitations of Monetary Policy

1. Poor financial structure
2. Time lags in policy effect.
3. External shocks (Imported Inflation)
4. Uncooperative commercial banks.
5. Inaccurate economic data.

Classical Theory of Interest Rate determination.

- According to this theory, the interest rate is determined by the interaction of savings and investments.
- When savings increase, supply of funds rise and interest rates drop.
- When investment demand rises - demand for funds increase and interest rates also increase.
- The equilibrium point is where $S = I$ [Savings = Investment]

Interest Rates and Their Effects

1. On Investments - Higher interest rates will discourage borrowing hence lower investment.
2. Low interest rates encourage borrowing hence higher investment.
2. On output and Employment - Increase of more investments, we will have higher production hence more jobs.
 - Low investment leads to reduced production thus unemployment.
3. On Inflation → With high interests, less borrowing thus inflation falls.

In case of low interest, more spending and inflation may rise.

Harmonisation of Fiscal & Monetary Policies

- Fiscal Policy - Refers to the use of government spending and taxation to influence the level of economic activity, employment & price stability in the country. [Ministry of Finance & not the CBE]
- Harmonisation means aligning both policies so they work together for stability. I.e. If the government increases spending (fiscal expansion), the central bank can increase money supply to support growth without causing inflation.

Simple IS-LM Model

- Was developed to explain how the real sector (goods and services) and monetary sector (money and interest rates) interact to determine national income and interest rates in an economy.

• IS-Investment saving curve

→ Equilibrium in the goods market. The IS curve shows combinations of interest rates (r) and national income (Y) where investments = savings, or where Aggregate demand = output.

→ A low interest rate encourages investment, raising income - hence IS curve slopes downward.

→ IS function

$$Y = C + I + G$$

where I = Investment, depends inversely on r .

• LM curve - Liquidity - money curve

→ Equilibrium in the money market. The LM curve shows combinations of interest rates and income where money demand = money supply. [$M_s = M_d$]

→ As income rises, people demand more money for transactions.

→ To keep money demand equal to supply, interest rates must rise - hence the LM curve slopes upward.

* The point where IS & LM curve intersect determines the equilibrium interest rate (r^*) and national income (Y^*).

Partial and General equilibrium.

• Partial equilibrium - Analyses one market in isolation e.g. Banking sector alone

• General equilibrium - Analyses how all markets (goods, labor, money) interact together in the economy.

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$$\begin{aligned} C &= 400 + 0.45Y \\ I &= 1700 + 18r \end{aligned} \quad \left. \vphantom{\begin{aligned} C &= 400 + 0.45Y \\ I &= 1700 + 18r \end{aligned}} \right\} \text{commodity market.}$$

$$M_s = 1600 \quad \text{Money supplied}$$

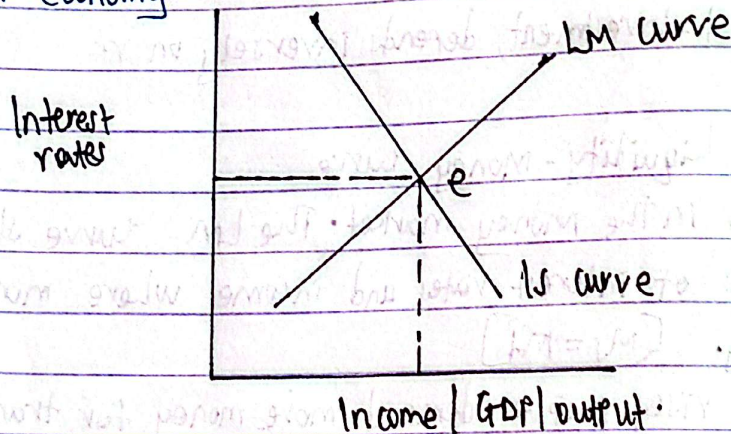
$$M_{DT} = 0.25Y \quad \text{Demand Transactional motive}$$

$$M_{DS} = 800 - 12r \quad \text{Demand Speculative motive.}$$

} Money market.

Investment saving
Liquidity money.

* IS-LM curve - This model shows how the goods/commodity market interacts with money market to bring about an equilibrium between interest rates, national income/output in an economy.



(i) Derive the IS function

$$Y = C + I + G$$

$$Y = C + I$$

$$Y = 400 + 0.45Y + 1700 + 18r$$

$$Y - 0.45Y = 2100 + 18r$$

$$\text{IS function} \Rightarrow 0.55Y - 18r = 2100 \quad \text{--- (i)}$$

(ii) LM function [money market]

$$M_s = M_{DT} + M_{DS}$$

$$1600 = 0.25Y + 800 - 12r$$

$$\text{LM function} = 800 = 0.25Y - 12r \quad \text{--- (ii)}$$

(iii) Equilibrium rate of interest.

solve for r using eqns (i) and (ii)

$$\left. \begin{aligned} 2100 &= 0.55Y - 18r & \text{12} \\ 800 &= 0.25Y - 12r & \text{18} \end{aligned} \right\}$$

$$\left. \begin{aligned} 25200 &= 6.6Y - 216r \\ 14400 &= 4.5Y - 216r \end{aligned} \right\} -$$

$$10800 = 2.1Y + 0$$

$$5142.9 = Y$$

pick (i)

$$0.55Y - 18r = 2100$$

$$0.55(5142.9) - 2100 = 18r$$

$$728.6 = 18r$$

$$r = 40.48\%$$

(iv) Equilibrium level of National Income.

from the above solution

$$Y = 5142.9$$

b)

• Investment Multiplier - Measures the effect of a change in investment on national income

$$k = \frac{1}{MPS} = \frac{1}{1-MPC}$$

• Government Expenditure Multiplier - show the effect of a change in government spending on national income

$$k_G = \frac{1}{1-MPC}$$

• Tax Multiplier - show how a change in taxes affects national income

$$k_T = \frac{MPC}{1-MPC}$$

- **Balanced Budget Multiplier** - Measures the effect on income when government spending and taxes increase by the same amount

$$K_{BB} = 1$$

- **Foreign Trade [Export] Multiplier** - show the effect of a change in exports on National Income

$$K_x = \frac{1}{m_p + m_{pm}}$$

- **Employment Multiplier** - Measures the number of jobs created in the whole economy due to the creation of one new job in a particular sector.

- **Consumption Multiplier** - Indicates how a change in autonomous consumption (spending independent of income) affects total income

$$K_c = \frac{1}{1 - m_{pc}}$$