Chapter -3
Unit-2
CONCEPT OF MONEY SUPPLY

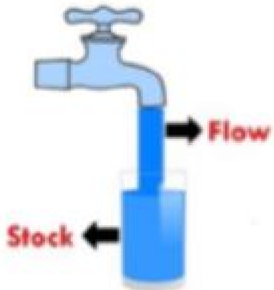
Total Quantity of Money available to the people at any point of the time in the economy is called Money Supply.

It is a "stock" concept

measurable at any point of time

Available to the "public"

public includes all economic units



Households

institutions

Except

Products of MONEY

Government

Banking System

Crux

In Money Supply inter bank deposits and Money held by Govt. & banking system Not INCLUDED

Rationale of Measuring Money Supply

For Analysis of Monetary developments

Provide Framework to make Monetary policy.

Sources of Money Supply

Central Bank

Commercial Bank

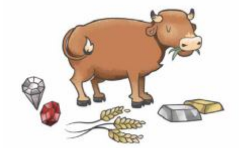
primary source
issue "Fiat Money"
it is a Liability of
Central Bank & Govt.
"High Power Money"
OR
"Monetary Base"

By the process of
Lending & Borrowing
it
creates
↓
"Credit-Money"

The high-powered money and the credit money broadly constitute the most common measure of money supply, or the total money stock of a country.

Evolution of Money

Commodity Money



Metallic Currency

Paper Currency

Digital Currency

CBDC

RBI's 2018 order barred banks & FIS from dealing with virtual crypto currencies.

Central Bank Digital Currencies

Digital currency of India (e ₹)

Legal Tender issued by Central bank in Digital Form.

Measurement of Money Supply

only for India

From July 1935, RBI Compiling & disseminating Monetary Statistics

- 1967-68
  - Before → Narrow measure was used
  - After → Broader measure was used.
- 1977 → Recommendations of SWG Second Working Group on Money Supply RBI published 4 alternative measures of Money Supply.

Narrow Money

M1 = Currency Notes & Coins with Public + Demand Deposits with banking system + other deposits with RBI

M2 = M1 + Saving Deposits with Post office saving Banks

M3 = M1 + time deposits with banking system

M4 = M3 + total deposits with post office saving Banks (excluding NSC)

Broad Money; it includes

- Currency
- Deposits
  - Maturity upto 2 years
  - redeemable at Notice of up to 3 Months
  - Shares & Debt sec. upto 2 years

Currency With public	=	Currency in circulation	-	Cash in hand with banks

Here—

- The term 'public' is defined to include all economic units (households, firms and institutions) except the producers of money (i.e. the government and the banking system.

- The government, in this context, includes the central government and all state governments and local bodies; and the banking system means the Reserve Bank of India and all the banks that accept demand deposits (i.e. deposits from which money can be withdrawn by cheque mainly (ASA deposits).

- The word 'public' is inclusive of all local authorities, non-banking financial institutions, and non-departmental public-sector undertakings, foreign central banks and governments and the International Monetary Fund which holds a part of Indian money in India in the form of deposits with the RBI.

while discussing the definition of 'supply of money' and the standard measures of money, interbank deposits and money held by the government and the banking system are not included.

Determinants of Money Supply

Classical practice

Money Supply determined

- Exogeously by Central Bank
- Endogenously by changes in Economic Activities

Currency Practice

Money supply determined By

Joint behaviour of

- Central Bank
- Commercial Banks
- Public

This is called Money Multiplier Approach of Money Supply.

Money Multiplier

A one-rupee Increase in Monetary base
cause
Increase in Money Supply
By
More than one rupee.
↓
this increase in Money Supply is the
Money Multiplier.

$$\boxed{M = m \times MB}$$

Money Supply | Money Multiplier | Monetary Base

$$\boxed{m = \frac{M}{MB}} \qquad \frac{\text{Money Supply}}{\text{Monetary Base}}$$

Money Multiplier Approach To Supply of Money

propounded by Milton Friedman & Anna Sechwartz (1963)

There are 3 determinants of Money Supply

- **Behaviour of Central Bank** → High powered Money (H)
- **Behaviour of commercial Banks** → reserve ratio $\left(r = \frac{R}{D}\right)$
- **Behaviour of Public** → Currency – deposit ratio $\left(c = \frac{C}{D}\right)$

The Behaviour of Central Bank (High Powered Money H)

$\boxed{M \times H}$

As H ↑ M ↑

M is DIRECTLY PROPORTINATE WITH H

The Behaviour of Commercial Banks
(Reserve Ratio r)

$$M \times \frac{1}{r}$$

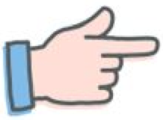
$r = \frac{\text{Reserve}}{\text{Deposits}}$

As $r \times$ Reserve

As $r \uparrow$ $M \downarrow$
$r \downarrow$ $M \uparrow$

Reserve $\uparrow$ $r \uparrow$
Reserve $\downarrow$ $r \downarrow$

SMALLER THE RESERVE RATIO LARGER WILL BE THE MONEY MULTIPLIER.



In addition to this — .
Practically commercial banks keeps
Excess Reserve

ER = Total Reserve – Required Reserve

$$M \times \frac{1}{r}$$

$e = \frac{ER}{D}$

As $e \uparrow$ $M \downarrow$

"e" depends upon

Market interest

$\boxed{e \times \frac{1}{i}}$

$i \uparrow \quad e \downarrow$

$i \downarrow \quad e \uparrow$

Expected Deposit outflows

$\boxed{e \times \text{Exp. outflow}}$

Exp. outflow $\uparrow \quad e \uparrow$

Exp. outflow $\downarrow \quad e \downarrow$

The Behaviour of the Public (Currency Deposit ratio c)

$\boxed{M \times \frac{1}{c}}$

$c \uparrow \quad M \downarrow$

$c \downarrow \quad M \uparrow$

Here $c = \frac{C}{D}$

$c \times C$

AS $\quad C \uparrow \quad c \uparrow$

$C \downarrow \quad c \downarrow$

"c" depends upon

Banking habits

Degree of Financial Sophistication

Addition to this MS depends upon
TD & CD Ratio also

$$\frac{TD}{DD} = \frac{\text{Time Deposits}}{\text{Demand Deposits}}$$

$$\frac{TD}{DD} \uparrow \quad M \uparrow$$

$$\frac{TD}{DD} \downarrow \quad M \downarrow$$

To Summarise —

1. $M \times H$

2. $M \times \frac{1}{r}$

   Here $r = \frac{R}{D}$

3. $M \times \frac{1}{c}$

   Here $c = \frac{C}{D}$

Relation between all the variable of Money Multiplier

$M = C + D$

$H = C + R$

Here —

C = Currency
D = Deposits = DD
R = Reserves

As We Know —

$r = \frac{R}{D}$ & $c = \frac{C}{D}$

Rewriting Eq NO.(i)

$M = (c \times D) + 1$

$M = D\,(c+1)$

$\boxed{M = (c+1)\,D}$

Rewriting Eq NO.(ii)

$H = (c \times D) + R$

$= (c \times D) + (r + D)$

$= D\,(c + r)$

$\boxed{H = (r + c)\,D}$

Multiplier is $m = \frac{M}{H}$

From Eq. No. (i) & (ii)

$$m = \frac{(1+c)\cancel{D}}{(r+c)\cancel{D}}$$

$$m = \frac{1+c}{r+c}$$

if there are
Excess Reserve also
Then

$$m = \frac{1+c}{r+e+c}$$

Remember

$$m = \frac{1+c}{r+c}$$

$$m = \frac{1+c}{r+e+c}$$

IS

m = 0 ?

It may happen When interest rates are too low & banks prefer to hold new injected money as Excess Reserve.

Credit Multiplier

(Deposit Multiplier)

It tells us How much new money will be created
BY
Banking System
For
a given increase in the High powered Money.

$$\boxed{\text{Credit Multiplier} = \frac{1}{RR}}$$

RR = Reserve Ratio

$$\text{credit creation} = \text{Initial Deposite} \times \frac{1}{R}$$

The deposit multiplier and the money though closely related are not identical because:

- generally banks do not lend out all of their available money but instead maintain reserves at a level above the minimum required reserve.
- all borrowers do not spend every Rupee they have borrowed. They are likely to convert some portion of it to cash.

Creating money through credit by banks does not mean creating wealth. Money creation is not the same as wealth creation.

Monetary Policy & Money SUPPLY

If the central bank of a country wants to stimulate economic activity it does so by infusing liquidity into the system with open market operations (OMO).

Purchase of government securities injects high powered money (monetary base) into the system
The credit creation process by the banking system in the country will create money to the tune of

$$\Delta \text{Money supply} = \frac{1}{r} \times \Delta \text{Reserves}$$

The effect of Sale of government securities is very similar to that of open market purchase, but in the opposite direction.

A open market purchase by central bank will reduce the reserves and thereby reduce the money supply and vice versa.

Effect of Government Expenditure on Money SUPPLY

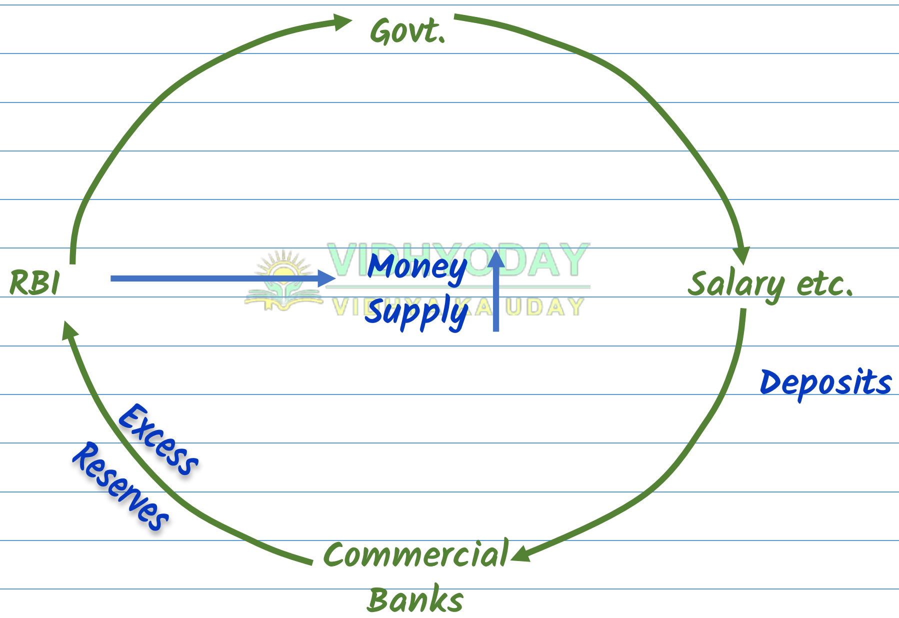
when Central & State Govt. need credit

↓

they avail a facility

Called WMA / OD Facility

Way & Means Advances / Overdraft Facility



Chapter -3 (Unit -2)
CONCEPT OF MONEY SUPPLY

1. M3 includes which of the following components?
(a) Currency in circulation, demand deposits, and other deposits with RBI
(b) Currency in circulation and time deposits
(c) Currency in circulation, demand deposits, time deposits, savings deposits, and government securities
(d) Currency in circulation, demand deposits, and time deposits

2. Which monetary aggregate is considered the narrowest measure of money supply?
(a) M1
(b) M2
(c) M3
(d) M4

3. M4 includes which of the following components?
(a) Currency in circulation, demand deposits, and government securities
(b) Currency in circulation, demand deposits, time deposits, and savings deposits
(c) Currency in circulation, demand deposits, time deposits, savings deposits, and small-denomination time deposits
(d) Currency in circulation and time deposits

4. Which monetary aggregate represents the broadest measure of money supply?
(a) M1
(b) M2
(c) M3
(d) M4

5. The main purpose of creating different monetary aggregates is to:
(a) Simplify accounting procedures for the central bank
(b) Measure the different components of GDP
(c) Monitor the money supply in various forms to understand the overall liquidity in the economy
(d) Determine the government's fiscal policy

6. Non-Monetary Financial Institutions (NMFIs) are included in which monetary aggregate?
(a) M1
(b) M2
(c) M3
(d) M4

7. Which of the following is an example of an M3 component?
(a) Demand deposits
(b) Time deposits
(c) Treasury bills
(d) Currency in circulation .

8. What are monetary aggregates?
(a) Measures of the total demand for money in an economy
(b) Measures of the total supply of money in an economy
(c) Measures of the total output of goods and services in an economy
(d) Measures of the total government expenditure in an economy

9. M1 includes which of the following components?
(a) Currency in circulation and time deposits
(b) Currency in circulation, demand deposits, and other deposits with RBI

(c) Currency in circulation, demand deposits, and time deposits

(d) Currency in circulation, demand deposits, time deposits, and savings deposits

10. M2 includes which of the following components?

(a) Currency in circulation, demand deposits, time deposits, and savings deposits

(b) Currency in circulation, demand deposits, and other deposits with RBI

(c) Currency in circulation and time deposits

(d) Currency in circulation, demand deposits, and government bonds

11. What is the money multiplier?

(a) The ratio of the money supply to the gross domestic product (GDP)

(b) The ratio of the money supply to the total population

(c) The ratio of the money supply to the monetary base

(d) The ratio of the money supply to the government budget

12. The money multiplier approach helps explain the relationship between changes in the monetary base and changes in the:

(a) Money supply

(b) Government spending

(c) Consumer price index (CPI)

(d) Trade deficit

13. The money multiplier is influenced by which of the following factors?

(a) The government's fiscal policy

(b) The central bank's monetary policy

(c) The foreign exchange rate

(d) Consumer preferences

14. An increase in the required reserve ratio will lead to:

(a) A decrease in the money supply and a decrease in the money multiplier

(b) An increase in the money supply and an increase in the money multiplier

(c) A decrease in the money supply and an increase in the money multiplier

(d) An increase in the money supply and a decrease in the money multiplier

15. The formula for calculating the money multiplier is:

(a) Money Multiplier = Currency in Circulation / Reserve Ratio

(b) Money Multiplier = Reserve Ratio / Currency in Circulation

(c) Money Multiplier = 1 / Reserve Ratio

(d) Money Multiplier = Reserve Ratio /1

16. If the reserve ratio is 0.10 (10%), what is the money multiplier?

(a) 10

(b) 5

(c) 2

(d) 0.10

17. The money multiplier approach assumes that banks will:

(a) Hold excess reserves

(b) Lend out all their deposits

(c) Decrease their lending during economic expansions

(d) Not influence the money supply

18. If the central bank conducts an open market sale of government securities, the money supply will:

(a) Increase

(b) Decrease

(c) Remain unchanged

(d) Double

19. In the money multiplier approach, the process of money creation continues until:

(a) The government intervenes and controls the money supply

(b) The central bank runs out of monetary base

(c) The banks hold excess reserves

(d) The money supply equals the monetary base multiplied by the money multiplier

20. The money multiplier approach assumes that there are no leakages or withdrawals from the banking system in the form of:

(a) Taxes and government spending

(b) Interest payments

(c) Foreign exchange transactions

(d) Currency held by the public

Answer Key

1	C	2	A	3	C	4	D	5	C	6	D	7	C	8	B	9	C	10	A
11	C	12	A	13	B	14	A	15	C	16	B	17	B	18	B	19	D	20	D