CA Foundation – June 2024
(New Syllabus)

Business Economics Last Day Summary

Chapter 8
Money Market

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Note-
These notes are only a summary of some important topics of relevant chapters for LAST DAY STUDIES.
Students can refer following MVSIR's Books-
➤ **Micro Eco Shastra**- for detailed topics
➤ **Super Chart Book**- All important topics for revision

Students can order above books from- mvsir.in (Super Charts can also be bought in e-book form)

Chapter 8 - Money Market
Unit 1 – The Concept Of Money Demand: Important Theories

BASICS

➤ **Money** is something that **holds its value over time**, can be **easily translated into prices,** and is **widely accepted**.

➤ **Fiat Money-** Fiat money (aka. token money) has **no intrinsic value** (materially worthless), that is, it has no value if it were not used as money. It is used as medium of exchange as govt has, by law, made them "**legal tender,**" which means, **they serve, by law, as means of payment**.

DEFINITION OF MONEY

Money can be defined **for policy purposes** as the set of **liquid financial assets,** the **variation in the stock** of which could **impact** on **aggregate economic activity**.

As a **statistical concept**, money could include certain **liquid liabilities** of a particular set **of financial intermediaries** or other issuers'.

CHARACTERISTICS OF MONEY

Money should be:
➤ generally **acceptable**
➤ **durable** or long-lasting
➤ effortlessly **recognizable**.
➤ **difficult to counterfeit** i.e. not easily reproducible by people
➤ relatively **scarce**, but has elasticity of supply
➤ **portable** or easily transported
➤ possessing **uniformity**; and
➤ **divisible** into smaller parts in usable quantities or fractions **without losing value**

FUNCTIONS OF MONEY

1) Convenient medium of exchange
2) Explicitly defined unit of value or unit of account
3) Serves as a unit or standard of deferred payment
4) Store of value

DEMAND FOR MONEY

➤ If **people desire to hold money**, we say there is **demand for money**.
➤ Demand for money is in the nature of **derived demand**; it is **demanded for its purchasing power**.

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THEORIES OF DEMAND FOR MONEY

I) CLASSICAL APPROACH: QUANTITY THEORY OF MONEY

➤ Given by **Irving Fisher** in his book 'The Purchasing Power of Money'

➤ As per QTM, **money in circulation (M)** & **price level (P)** are directly **related** to each other. (Linear) That is, changes in prices or changes in the value or purchasing power of money are determined by changes in quantity of money in circulation.

➤ QTM is aka. **'equation of exchange'** or **'transaction approach'**

$$MV = PT$$

➤ Later, Fisher **extended the equation** of exchange to **include demand (bank) deposits (M')** **and their velocity (V')**

$$\text{Expanded Form : } MV + M'V' = PT$$

➤ As per QTM, people would **hold money** in a quantity **proportional to total transactions** irrespective **of interest rate** [More Transactions -> More Demand of Money]

II) CAMBRIDGE APPROACH

➤ Aka **Cash Balance Approach** or **Neo-Classical Theory**

➤ **Money increases utility** in the following **two ways-**
  1) **Split-up of sale and purchase** to two different points of time (transaction motive)
  2) **hedge against uncertainty**. (temporary store of wealth)

➤ Since **sale & purchase** do **not take place simultaneously**, people need **'temporary abode'** of purchasing power as hedge against uncertainty.

➤ **How much money will be demanded as per Cambridge Approach?**

➔ **Higher the income** -> **greater the transactions** -> **greater demand for money.**

$$Md = k\ PY$$

PY = nominal income ,

k = Cambridge k = **proportion of nominal income (PY) that people want to hold as cash**

III) Keynesian Theory of Demand for Money

➤ Aka. **'Liquidity Preference Theory'**➔ people demand money for three motives:

Transactions motive, Precautionary motive, & Speculative motive

a) Transactions motive

Money for **current transactions** for **personal** & **business** exchange (income motive & business motive).

Money is demanded **to bridge time** gap between receipt of **income** & planned **exp.**

Transaction demand for money is **directly related** to level of income

$$Lr = kY$$

k is the ratio of earnings which is kept for transactions purposes

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b) Precautionary motive

Portion of income kept to **finance unanticipated exp** which occur due to **unforeseen contingencies.**

Precautionary money balances are **income elastic** and & **interest inelastic**

c) Speculative motive

People also demand money to **take advantage of future changes in rate of interest,** which is same as future changes in bond prices. (to **exploit** any **attractive investment opportunity)**

Assumed that **return on money is zero,** while **returns on bonds** are of **two types**: **interest payment** & **capital gain**

Market Value of Bond inversely related to Market Rate of Interest

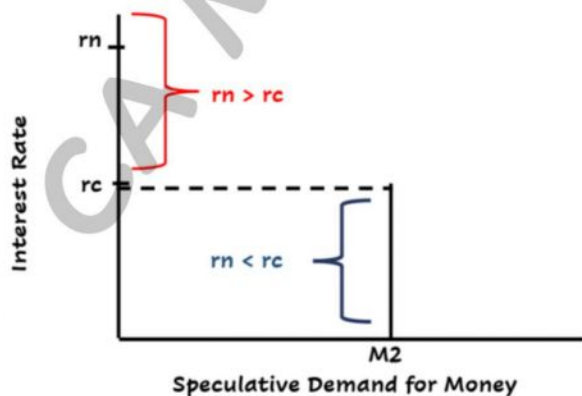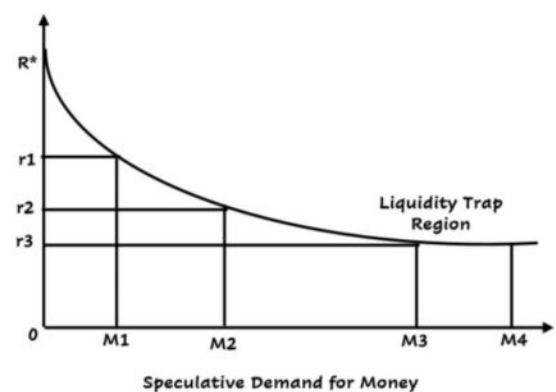| Current rate of interest (rn) > Critical rate of interest (rc)	Current rate of interest (rn) > Critical rate of interest (rc)
People **expect a fall in interest rate** (**rise** in bond prices) People will **convert their cash balances into bonds** (SDM Decr & Bond Incr)	People **expect a rise in interest** rate (**fall** in bond prices) People would hold their wealth in **liquid cash** rather than bonds. (SDM Incr & Bond Decr)

Individual's Speculative Demand for Money	**Aggregate Speculative Demand for Money**

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❏ **Liquidity Trap**

➢ When **interest rates fall to very low levels,** the **expectation** is that now **cannot go further lower** & will **move upwards** in future.

➢ Thus, when **interest rates rise in future**, the **bond prices will fall** leading to taking **risk** of a **capital loss** in future

➢ Thus at such low interest rates-

❏ desire to **hold bonds** is **very low** and **approaches zero**, and

❏ demand to **hold money** in liquid form **approaches infinity.**

➢ The **speculative demand of money curve** becomes **parallel to** the **X axis**, i.e, **perfectly elastic** with respect to interest rate.

➢ This situation is called a '**Liquidity trap**'. **(ineffective monetary policy)**

➢ Empirical evidence of Liquidity Trap is found during "**Global Financial Crisis (2008)**"

Post-Keynesian developments in Theory of Demand for Money

IV) Inventory Approach to Transaction Balances	V) Friedman's Restatement of Quantity Theory
➢ Aka. **Inventory Theoretic Approach** ➢ Given by **Baumol and Tobin**, in which money is viewed as an **inventory held for transaction purposes.** ➢ Inventory models assume that there are **two media for storing value:** 1) **Money &** 2) **an interest-bearing alternative financial asset** ➢ There is **fixed cost of making transfers** between money & alternative assets e.g. **brokerage** ➢ As per Baumol, people hold an **optimum combination** of **bonds and cash balance**, i.e., an amount that **minimizes opportunity cost.** ➢ The level of inventory holding (holding money in cash)- is **DIRECTLY RELATED** to ❏ **Income of person** ❏ **Cost of making transfer between money and bonds** & is **INDIRECTLY RELATED** to ❏ **Carrying cost** ❏ **Number of times bond transaction are made**	Milton **Friedman extended Keynes' speculative money demand** within the framework of **asset price theory.** Friedman's **four determinants** of the demand for money 1. **Total wealth = Permanent Income / discount rate** Where, discount rate is average return on five asset 2. Positively related to the **Price Level, P** 3. Rises if **opportunity costs** of money holdings (i.e. returns on bonds and stock) decline 4. **Inflation** - Positive inflation rate reduces the real value of money balances, thereby increasing the opportunity costs of money holdings

	IV) Inventory Approach to Transaction Balances
	Given by Tobin in his article, '**Liquidity Preference as Behaviour towards Risk**' This theory is based on the principles of "**Portfolio Management**" An individual would hold **optimally structured portfolio** which is **comprised of both** > **Bonds-** (provides return for the risk borne) and > **Money-** (No return, but also no risk) Just as Keynes' theory, Tobin's theory also implies that **demand for money** depends **negatively on the interest rate.**

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Chapter 8 - Money Market
Unit 2 – CONCEPT OF MONEY SUPPLY

BASICS

➢ The term money supply denotes **the total quantity of money available with public**

➢ Two things about any measure of money supply:

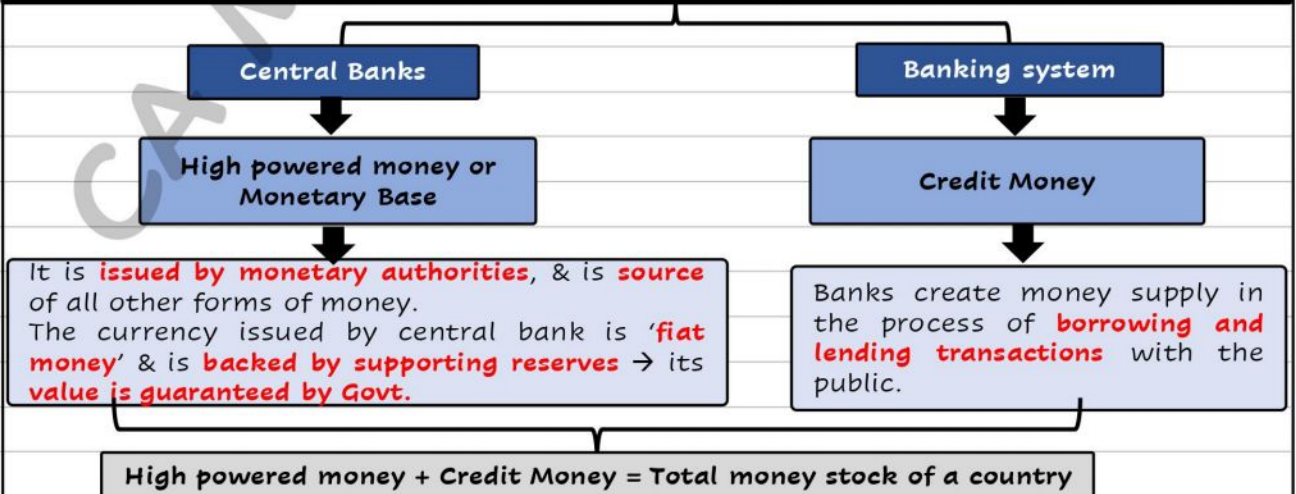| Supply of money is a **stock variable** **Change in stock of money is a flow variable**	It refers to stock of money **available to 'public'.** This is **always smaller than** the **total stock of money that really exists** in economy.

➢ **'Public'** **all economic units except the producers of money** (i.e. the government and the banking system).

➢ **Government** = CG, all SGs, and local bodies.

➢ **Banking system** means **RBI** and all **banks that accept demand deposits**

➢ Thus, **'supply of money' EXCLUDES**
- ❑ **interbank deposits** and
- ❑ money held by **government** and
- ❑ money held by **banking system**

Rationale of measuring money supply

Empirical analysis of money supply is important because-

1) Facilitates **analysis of monetary developments** ➔ to understand causes of money growth.

2) Provides a **framework** to evaluate whether money supply is consistent with **standards for price stability** and to **understand nature of deviations.** It helps in **making monetary policy**

Sources of money supply

Central Banks	Banking system
High powered money or Monetary Base	**Credit Money**
It is **issued by monetary authorities**, & is **source** of all other forms of money. The currency issued by central bank is **'fiat money'** & is **backed by supporting reserves** → its **value is guaranteed by Govt.**	Banks create money supply in the process of **borrowing and lending transactions** with the public.

High powered money + Credit Money = Total money stock of a country

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➢ The concept of money has experienced evolution from **Commodity** to **Metallic** to **Paper** to **Digital Currency.**

➢ Reserve Bank has introduced a concept of **Central Bank Digital Currencies (CBDCs)- as legal tender issued by a central bank in a digital form.** It is like **sovereign paper currency** but takes a **different form, exchangeable at par with existing currency** and shall be accepted as a medium of payment, legal tender and a safe store of value. CBDCs would appear as liability on a central bank's balance sheet.

➢ Also, **Crypto currencies** are **not legally recognized** in India as currency & are not **money.**

Measurement of money supply

➢ **Reserve money (M0)** is aka.- **central bank money** or **base money** or **high-powered money**
Reserve money determines -
- ✓ level of liquidity and
- ✓ price level in economy and,

  thus, its management is of crucial importance to stabilize the economy.

	Currency in circulation
+	Bankers' deposits with RBI
+	Other deposits with the RBI
	Reserve Money (M0)

	Currency with Public
+	Demand deposits with banks (Current A/c & Saving A/c)
+	Other deposits with RBI
	M1 (Narrow Money)

	M1
+	Savings dep with Post Office
	M2

	M1
+	Time deposits with Banks
	M3 (Broad Money)

	Notes in Circulation
+	Circulation of Rupee Coin
+	Circulation of Small Coins
-	Cash on Hand with Banks
	Currency with Public

	M3
+	Total dep. with Post Office (excl. National Savings Cert.)
	M4

Difference M0 & M1	M0	M1
Bank Reserves	✅	❌
Bank Deposits	❌	✅

➢ **The above are given in descending order of liquidity –**
M1 (Most Liquid) & M4 (Least Liquid)

➢ **'Other deposits'** with the RBI **excludes** those **held by govt** (Central & State Govt.)

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Money Multiplier (m)

The money multiplier process explains **how an increase in monetary base** causes **money supply to increase by a multiplied amount**

1st Formula

$$\text{Money Multiplier (m)} = \frac{\text{Money supply (M)}}{\text{Monetary Base (MB)}}$$

where, Monetary Base = Currency in circulation + Bank reserves

2nd Formula

$$\text{Money Multiplier (m)} = \frac{1 + c}{r + e + c}$$

where,
- **c = currency ratio** = currency / dep.
- **r = required reserve ratio** = required reserves / deposits
- **e = excess reserve ratio** = excess reserves / deposits

3rd Formula

If we **assume-**
1) **Banks never hold excess reserves.** (e = 0)
2) Individuals and non-bank corporations **never hold currency** (c = 0)

Then, money multiplier is **reciprocal of the required reserve ratio**.

$$\text{Money Multiplier (m)} = 1 / \text{Required Reserve Ratio} = 1 / R$$

m = 1 / R
Above formula can also be referred as
Credit Multiplier or
Deposit Multiplier or
Deposit Expansion Multiplier

It describes **amount of additional money created by commercial bank** through process of **lending the available money** it has in excess of central bank's reserve requirements.

Determinants of Money Supply

➤ Money multiplier approach to money supply given by Milton Friedman and Anna Schwartz, (1963) considers **three determinants-**

1. **Stock of high-powered money (H)** → Depends upon Behaviour of Central Bank

2. **Reserve-ratio (r) = R / D** → Depends upon Behaviour of Commercial Banks

3. **Currency Deposit Ratio (c) = C / D** → Depends upon Behaviour of Public

1. Stock of high-powered money (H)

➤ Money supply **varies directly** with supply of high-powered money.

2. Reserve-ratio (r) = R / D

➤ If required reserve ratio **increases -**
   ✓ banks will decrease lending,
   ✓ causing a decline in deposits
   and hence money supply will **decline** ....& vice versa

➤ **Smaller** the 'r' → **larger** the 'm'

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❑ **Excess Reserves (ER)** are funds that a bank keeps as reserve beyond what is required by regulation as a **buffer against unexpected events requiring cash.**

> ❑ **Excess reserves (ER) = Total reserve (TR) – Reqd. Reserve (RR)**

➤ Excess Reserves **do not lead to any additional loans.**

➤ **Smaller** the Excess Reserve Ratio 'e' → **larger** the 'm'

➤ When **opportunity cost to bank of holding ER rises , level of ER falls   m** will be **larger**

➤ If expected deposit outflows increase, banks will will **increase ER ratio. Thus, m will fall**

➤ Eg- During festival season, people decide to use ATMs very often

3. **Currency Deposit Ratio (c) = C / D**

➤ If public keeps more **money in cash,** leads to an **increase in 'c'** & **banks can create less credit money,** thus **m falls**.

Eg- Fearing shortage of money in ATMs, people decide to hoard money

➤ Currency-deposit ratio (c) also represents **degree of adoption of banking habits** by people, affected by **degree of financial sophistication,** ease & access to financial services etc.

Eg- 1) Banks open **large number ATMs** all over the country, or

2) **E-banking becomes very common** and nearly all people use them

✓ Above factors will **reduce 'c';** thus **increasing 'm'** & **money supply**

❑ The **time deposit-demand deposit ratio** (TD/DD ratio) i.e. how much money is kept as time deposits compared to demand deposits.

➤ An **increase in TD/DD ratio** → **higher the 'm'**

Monetary Policy and Money Supply

If the central bank of a country wants to **stimulate economic activity** it does so by **infusing liquidity into the system.**

Eg - Open Market Operations (OMO) by central banks.

Purchase of govt. securities injects high powered money (monetary base) into system.

$$\Delta \text{ Money Supply} = \frac{1}{R} \times \Delta \text{ Reserves}$$

Effect of government expenditure on money supply

When **RBI lends to governments** under **Ways & Means Advances (WMA)/overdraft (OD)** → leads to **generation of excess money supply in economy** through money multiplier process.

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Chapter 8 - Money Market
UNIT 3 - MONETARY POLICY

Introduction

➤ RBI uses monetary policy to **manage economic fluctuations** & achieve **price stability**, which means that **inflation is low** and **stable.**

➤ RBI conducts monetary policy by adjusting supply of money, usually **through buying or selling** securities in open market.

➤ **Open market operations** affect short-term interest rates, which in turn influence longer-term rates & economic activity.

✓ When RBI **lower interest rates**, monetary policy is **easing.**

✓ When it **raises** interest rates, monetary policy is **tightening**

The Monetary Policy Framework

It has three basic components-

(i) **objectives** of monetary policy,

(ii) **analytics** of monetary policy which focus on transmission mechanisms, &

(iii) **operating procedure** which focuses on operating targets & instruments

Objectives of monetary policy

The primary objective of monetary policy is maintenance of **judicious balance** between **price stability** & **economic growth.**

Objectives of Monetary Policy in case of developing countries

1) maintenance of **economic growth**

2) ensuring **adequate flow of credit to productive sectors**

3) sustaining a **moderate structure of interest rates,**

4) creation of an **efficient market for govt securities.**

Transmission of Monetary Policy

It describes **how changes** made by RBI to its monetary policy settings **flow through to economic activity** and inflation.

The transmission has two stages.

1. Changes to monetary policy **affect interest rates** in economy.

2. Changes to interest rates **affect economic activity** & **inflation**

Channels of Monetary Policy Transmission

1) Saving and Investment Channel

2) Cash-flow Channel

3) Asset Prices and Wealth Channel

4) Exchange Rate Channel

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Operating Procedures and Instruments

Quantitative tools
Credit control tools that impact money supply of entire economy

1.	Reserve Ratio	Reserve ratio is of **two types-**
1a.	Cash Reserve Ratio (CRR)	Banks are required to set aside a portion of NDTL in **cash with RBI**. RBI not required to pay interest on CRR amount.
1b.	Statutory Liquidity Ratio (SLR)	Banks are also required to set aside a portion of NDTL **with itself**, in form of **liquid assets- cash, gold** or **RBI approved securities**. Banks are **allowed to earn interest** on these securities.
2.	Open Market Operations (OMO)	RBI buys and sells government securities in the market. When RBI **sells** government securities, the **liquidity is sucked** from market→ it is done to control inflation. The **objective** is to keep a check on **temporary liquidity mismatches** in market owing to foreign capital flow.

Qualitative tools
These are selective credit control tools that have affect money supply of specific sector & not whole economy.

1.	Margin requirements	When margin requirements are raised→ customers borrow less
2.	Moral suasion	By way of persuasion, the RBI convinces banks to keep money in government securities, rather than certain sectors.
3.	Selective credit control	Controlling credit by not lending to selective industries.

Market Stabilisation Scheme (MSS)	Under MSS, the **Govt of India borrows from RBI** (additional to its normal borrowing) and issues treasury-bills, for **absorbing excess liquidity** from market arising from large capital inflows.

Policy Rates

1.	Bank Rate	The interest rate at which RBI **lends long term funds** to banks. Aka. Discount rate. Bank rate is used to prescribe **penalty to bank** if it does **not maintain** prescribed **SLR or CRR**
2.	Liquidity Adjustment Facility (LAF)	RBI uses LAF as an instrument to adjust liquidity and money supply. The following types of LAF are-
2a.	Repo Rate	Repo rate is the rate at which **banks borrow from RBI** on a **short-term** basis against a **repurchase agreement**.
2b.	Reverse Repo Rate	It is the reverse of repo rate, i.e., this is the **rate RBI pays to banks** in order to **keep additional funds in RBI**. It is **linked to repo rate**→ **Reverse Repo Rate = Repo Rate − 1**
3.	Marginal Standing Facility (MSF) Rate	MSF Rate is the **penal rate** at which **RBI lends money to banks**, **over** the rate available under the **rep policy**. Banks availing MSF Rate can use a **maximum of 1% of SLR securities**. **MSF Rate = Repo Rate + 1**

Organisational Structure For Monetary Policy Decisions

➢ It is an **agreement** reached between the **Government of India and the RBI** on the **maximum tolerable inflation rate** that the RBI should target to **achieve price stability**.

➢ Announcement of an official target range for inflation is known as **inflation targeting**. ('**Flexible inflation targeting framework**')

➢ The **inflation target** is to be **set by the Government of India**, in **consultation with RBI**, **once in every five years**.

➢

➢ Accordingly, Central Government has notified-

➢ **4 per cent Consumer Price Index (CPI)** inflation as the **target** for period from **Aug 5, 2016 to Mar 31, 2021**

    with the-
- ✓ **upper tolerance limit of 6 per cent** and
- ✓ **lower tolerance limit of 2 per cent**.

➢ **Monetary Policy Report** is to be published every **6 months**, explaining **sources of inflation** & **forecasts** of inflation for the coming **6-18 months**

➢ The following are factors lead to a **failure to achieve inflation target**

➢ **Average inflation** > **upper tolerance** level, for any **three consecutive quarters**; or

➢ **Average inflation** < **lower tolerance** level, for any **three consecutive quarters**.

Monetary Policy Committee (MPC)

It is a **6-member committee** consisting of-
- ➢ **RBI Governor** (Chairperson),
- ➢ **RBI Deputy Governor** in charge of monetary policy,
- ➢ **One official** nominated by the **RBI Board** and
- ➢ **Remaining three central government nominees** representing Govt of India

MPC is required to **meet at least 4 times a year** & **decisions** adopted by MPC are **published** after conclusion of every meeting.

MPC shall determine policy rate required to achieve inflation target.

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8.11