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Board Notes by

CA. Anshul Jain

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Paper - 4 Business Economics

Related to Economies

Ch - 1 Nature and Scope of Business
Unit 1 and Unit - 2

Ch-2 Theory of Demand and Supply
Unit 1 to Unit 5

Ch-3 Theory of Production and Cost
Unit 1 and Unit 2

Ch-4 Price Determination in Different Market
Unit 1 to Unit - 3

Ch-5 Business Cycle

Related to Finance

Ch-6 Determination of National Income
Unit 1 and Unit 2

Ch-7 Public Finance
Unit 1 to Unit 4

Ch-8 Money Market
Unit 1 to Unit 3

Ch-9 International Trade
Unit 1 to Unit 5

Ch-10 Indian Economy

Paper type
↓
MCQ

① Board Notes → 250 Pages [Full size]

② Economics Chalisa →

③ Surprise

④ Ch 1 to Ch. 5 ⇒ MCQ ⇒ 2207 MCQ.

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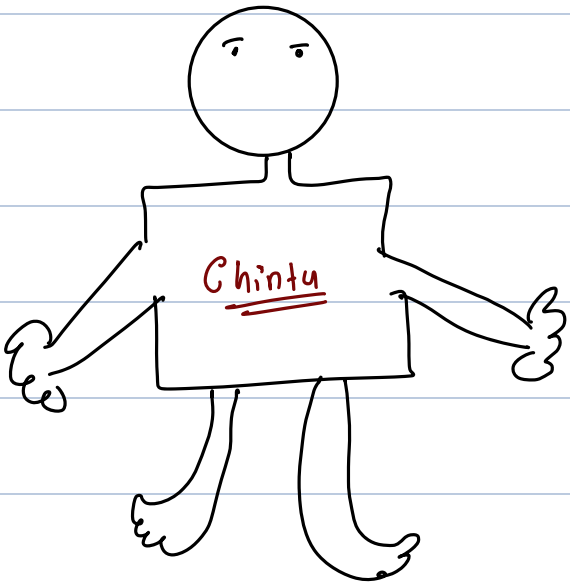
Ch-2 ; Unit-1

Theory of Demand



Iphone-15 Pro Max
2100100 Rs

Diamond Ring
↓
1120000 Rs

Watch - 5000 Rs.

Chintu

	Desire / Willingness	Ability to Purchase	Demand
Nancy → 15 Pro Max	✓✓	x x x	x x x
Stephie → Diamond Ring	✓✓	x x x	x x x
Champa → Watch (5000 Rs)	✓✓	✓✓	✓✓

Meaning of Demand

Quantity of Commodity that a Consumer is willing and Able to buy at a Given Price over Given Period of time

note to self:

Quantity Demanded is Flow Concept

Stock v/s Flow Concept

Stock	Flow
Measuring at a Particular Point of time	Measuring over Period of time

Factors Affecting Demand

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① Price of Commodity

P ↑ Q.D ↓
P ↓ Q.D ↑
} keeping other Factors Constant

Ceteris Paribus

② Price of Related Goods

Substitute Goods ↓

Goods which Can be Used in Place of Each other

Pepsodent
P → Q.D ↑
P → Q.D ↓

Colgate
P ↑ Q.D ↓
P ↓ Q.D ↑

Price of One and Demand of other are (+)Vely Correlated

Complementary Goods

Goods which Jointly Satisfy a Particular want

Ink bottle
P ↔ Q.D ↓
P ↔ Q.D ↑

Ink Pen
P ↑ Q.D ↓
P ↓ Q.D ↑

Price of one and Demand of other are (-) Vely Correlated

③ Disposable Income

Disposable Income ↑ Demand ↑

Disposable Income ↓ Demand ↓

Disposable Income

Income

(-) Business Taxes

(-) Personal Taxes

Personal Disposable Income.

Normal Good v/s Inferior Good

Normal Good

Income ↑ Demand ↑

Positive Income Effect.

Inferior Good

Income ↑ Demand ↓

Negative Income Effect.

④ Taste and Preferences

If Taste and Prefrence Goes in favour of Good, its Demand Increases

If Taste and Prefrence Goes Against the Good, its Demand Decreases

(5) Consumer Expectation

Inc. in future Price
Increase in Income
Shortage in Supply

↓

Demand will Increase
Currently

Fall in future Price
Fall in Income

Non-Essential Commodity
demand will be Postponed.

(6) Population

Population ↑ Demand ↑
Population ↓ Demand ↓

(7) Age Distribution of People

Old Age People ↑ Medicine ↑
Childrens ↑ Toys ↑

(8) Credit Fascility and RoI

Credit Fascility ↑ Loan ↑ Demand ↑

Credit Fascility ↓ Loan ↓ Demand ↓

RoI → Rate of Interest ↓

Jis Rate Pare Bank Hamko loan deti hai ↓

RoI ↑ Loan ↓ Demand ↓

RoI ↓ Loan ↑ Demand ↑

(9) Government Policy

Tax ↑ Cost of Production ↑ Price ↑ Demand ↓

Subsidy ↑ Cost of Production ↓ Price ↓ Demand ↑

(10) Other Factors

Point To Be Noted

Apart from above, factors such as

- Weather conditions
- Business conditions
- Stage of business cycle
- Wealth
- Levels of education
- Marital status
- Socioeconomic class
- Group membership
- Habits of the consumer
- Social customs and conventions
- Salesmanship
- Advertisements

Also play important roles in influencing demand.

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Types of Demand.

Individual Demand

Quantity of Commodity that a Consumer is willing and Able to buy at Given Price over Given Period of time

Market Demand.

Quantity of Commodity that ALL Consumer is willing and Able to buy at Given Price over Given Period of time

Demand Schedule

Tabular Presentation of Price and Quantity Demanded

Individual Demand Schedule

Tabular Presentation of Price and Quantity demanded by a Consumer

Market Demand Schedule

Tabular Presentation of Price and Quantity demanded by all Consumer

Price	Q.D$_A$
10	600
20	500
30	400
40	150
50	50

Price	Q.D$_A$	Q.D$_B$	M.D = Q.D$_A$ + Q.D$_B$
10	600	300	600+300 = 900
20	500	200	500+200 = 700
30	400	100	400+100 = 500
40	150	50	150+50 = 200
50	50	30	50+30 = 80

Demand Curve

"Graphical Presentation of Demand Schedule"

Individual Demand Curve

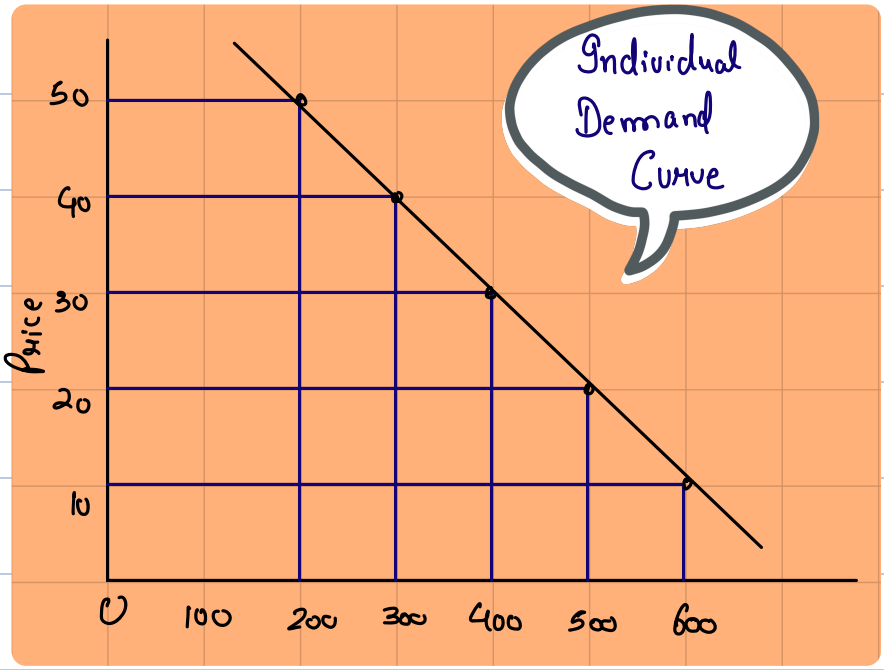
Market Demand Curve

↓

Graphical Presentation of Individual Demand Schedule

Price	Q.D$_A$
10	600
20	500
30	400
40	300
50	200

Graphical Presentation of Market Demand Schedule



Also known as

- Price line
- Avg Revenue Curve.

Demand Function

Functional Relationship between
- Demand For Product
- Factors Affecting Demand

$$Q_x = f[P_x, P_R, Y \text{ etc.}]$$

Demand → Dependent Variable

Factors → Independent Variable

Q_x = Output / Demand Y = Income

P_x = Price of Comm.

P_R = Price of Related Good

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Law of Demand.

Given by Alfred Marshall

When Price ↑ of Commodity ⇒ its Qty demand decreases ; Vice-Versa

P ↑ Q.D ↓
P ↓ Q.D ↑
} keeping other factors Constant

Ceteris Paribus

Which factors to be Constant ??
↓
All Factors Except Price

Slope of Demand Curve

$$\text{Slope} = \frac{-\Delta P}{\Delta Q} = \frac{\text{Change in y-axis}}{\text{Change in x-axis}}$$

Slope Hamesha (-) ve hi hoga.

Demand Curve Can be

Lineare OR Curvilineare

Lineare ↓
Straight line ↓
Convenient Tool for Analysis.

Curvilineare ↓
Slope will Vary Along the Curve.

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External Effects on Utility

- Band Wagon Effect
- Snob Effect
- Veblen Effect
- Demonstration Effect

(a) **Band Wagon Effect**

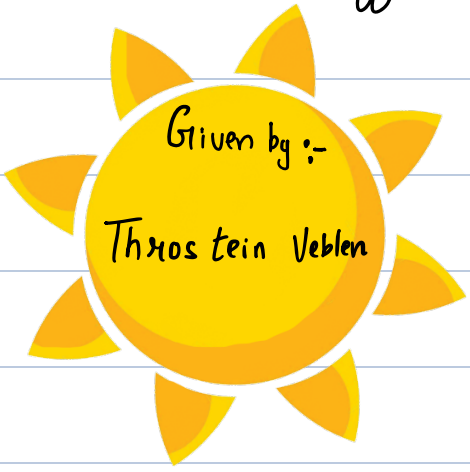
" Dekha Dekhi Karna → Normal Price Goods ki "

(b) **Snob Effect**

↳ Doing different things.

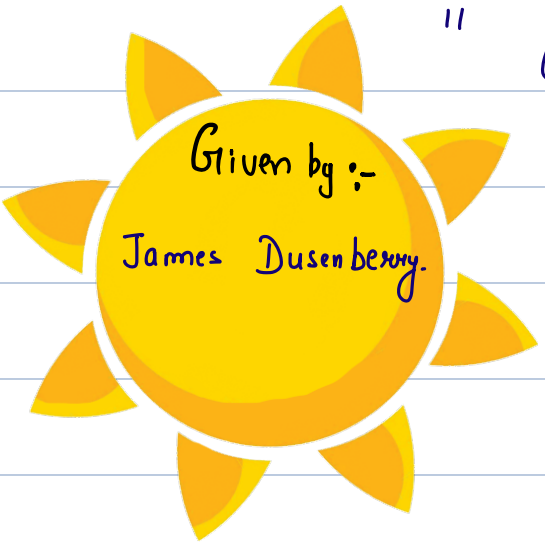
" When one Want to be
- Exclusive
- Different
- Dissociate himself from Common.

(c) Veblen Effect



Highly Price Goods
↓
Consumed by Status Seeking Rich People.

(d) Demostration Effect



" Costly Good ki dekha/dekhi karna "

+

Copy of Consumption Behaviour of others.

Ex - Cell Phone

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Changes in Quantity Demanded

(OR)

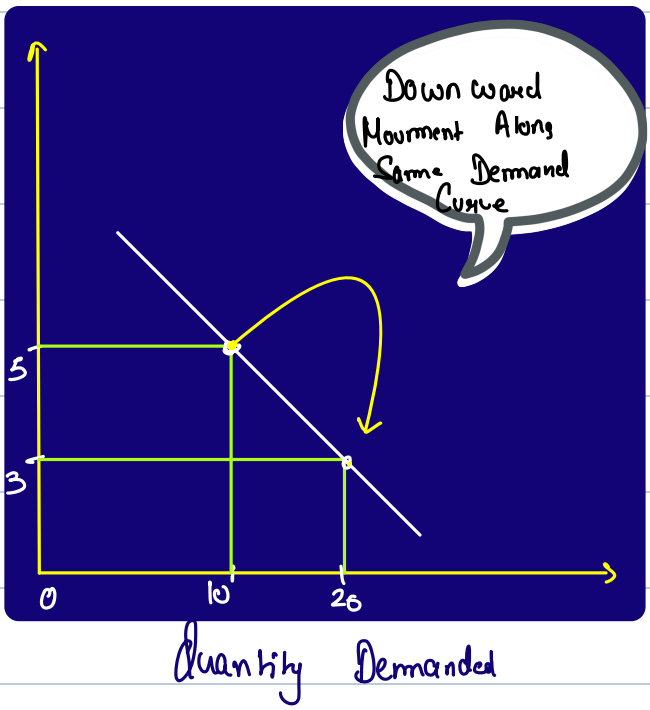
Movment Along Demand Curve

Due to = Change in Price of Commodity only.

Expansion of Demand

P↓ Q.D↑

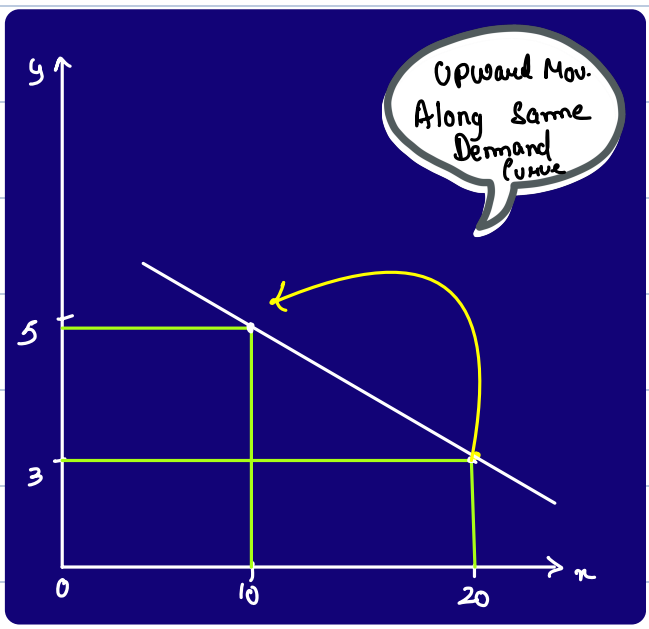
P	Q.D.
5	10
3	20



Contraction of Demand

P↑ Q.D↓

P	Q.D.
3	20
5	10



Changes in Demand

(OR)

Shift in Demand Curve

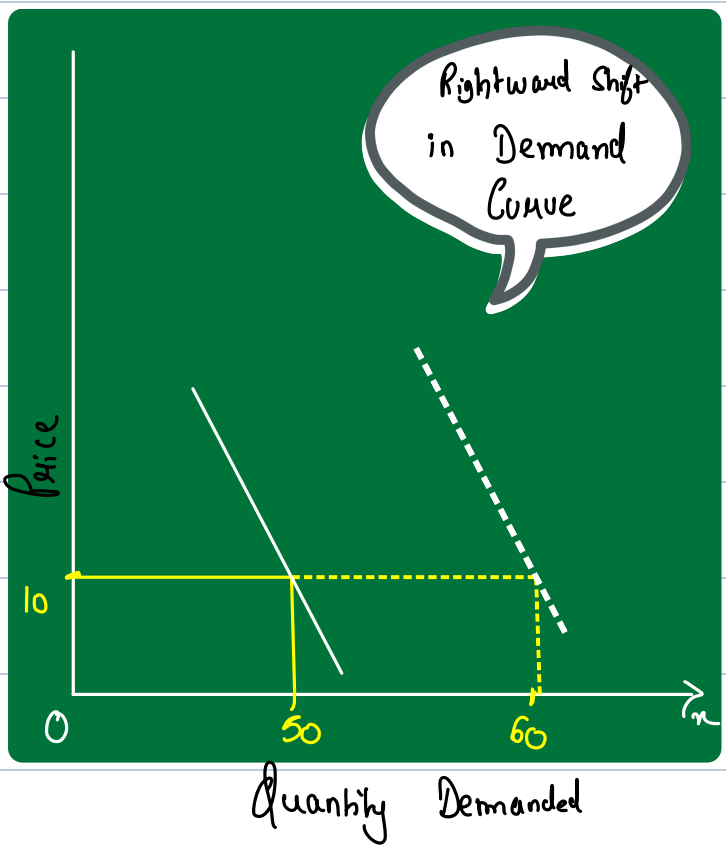
Due to = Change in Any Factor other then Price

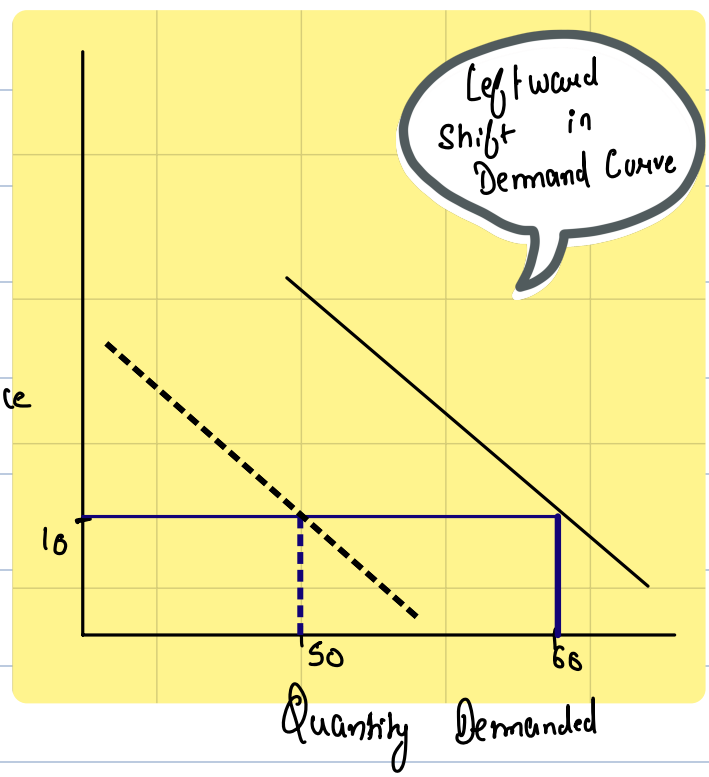
Increase in Demand

Price	Income	Demand
10	50,000	50
10	70,000	60

Decrease in Demand

Price	Income	Demand
10	70,000	60
10	50,000	50





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Exceptions to Law of Demand

- Conspicious Goods
- Giffen Goods
- Conspicious Necessaties
- Future Expectation Regarding Price
- Speculative Goods.
- Incomplete Information and Irrational Behv.
- Demand For Necessaries

(a) Conspicuous Goods

- Article of Prestige Value / Snob Appeal / Articles of Conspicious Consumption } Are Used by Rich People → as Status Symbol.
- When Price ↑ Demand ↑
- This was found by Veblen in his doctrine of "Conspicious Consumption"

Veblen Effect

- If Commodity is Expensive ↓ then it will Give More Utility

Also called as
- Veblen Effect
- Prestige Goods Effect

(b) Giffen Goods

"All Giffen Good are Inferior Good, but all Inferior Good are not Giffen Good"

Meaning.

Inferior Good
+
No Close Substitute
+
Occupy Substantial Place in Consumer Budget

P ↑ Demand ↑

Given by "Sir Robbert Giffen"

[c] Conscipicous Necessities

- Affected by "Demonstration Effect & Consumption Pattern & Social Groups"
- Due to Constant Usage become Necessity

(d) Future Expectation Regarding Price

Price Expected to Rise in Near Future ↓
Demand will Increase Now

Price Expected to Fall in Near Future ↓
Demand will Decrease Now

(e) Incomplete Information and Irrational Behavior

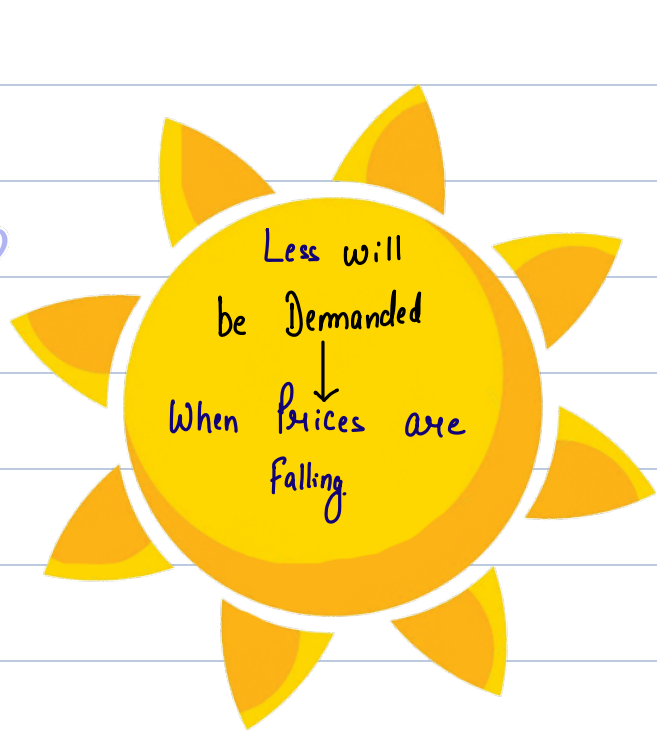
If Consumer has Irrational Behavior (OR) Incomplete Information } Demand will Increase Even at High Price

(f) Demand For Necessities

For Necessaries → P ↑ Demand ↑

(h) Speculative Goods

For share Market



Why does Demand Curve slope Downwards ??

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(B) Price Effect of Fall in Price

Substitution Effect

- Change in Demand when Price of Relative Good Changes
- A Commodity whose price is fallen, becomes cheaper, then other Commodity become Relative Expensive
- P↓ Substive Effects will always be Positive

Income Effect

Increase in Demand due to Increase in Real Income

P↓ More Qty Can be Purchased

P↓ Same Qty Purchased

[Savings Hogi as Paisa bachega]

Price of Coffee = 100 Rs	Price of coffe = 50 Rs	Price of coffe = 50 Rs
Income = 100 Rs	Income = 100 Rs	Income = 100 Rs
Qty Purchase = 1	Qty Pur. = 2	Qty Pur. = 1
	Real Income ↑	Saving = Rs 50
		Real Income ↑

Substitution Effect will be Stronger when :-

→ Goods are Close Substitute

→ Lower Cost of Switching to Substitute Good

→ Lower Inconveinance while Switching.

When Price falls
↓
Consumer Real Income ↑
OR
Consumer Purchasing Power ↑

(2) Utility Maximizing Behaviour of Consumer

- Consumer Equillibirum is acheived when $MU_x = P_x$
- Consumer has Reducing Marginal Utility, so he will be Paying less for Every additional Unit.
- Rational Consumer will not Pay More for lesser Satisfaction.

In Case of Inferior Good
↓
Income Effect Works in Opposite Direction to Substitution Effect.

Bhul Mat Jaana...

you got this

- In Case of Inferior Good ↓ Expansion of Demand due to Price Fall — Will take Place only if Substitution Effects Outweighs Income Effect.

(3) Arrival of New Consumers

Price ↓ Customers who Couldnt Afford → will buy Now ↓

"Demand Curve will be Downward Slopping"

(4) Different Uses

- If Commodity has Multiple Uses + Price of Commodity are High } Put to Limited Use only. ↓

"Demand Curve will be Downward Sloppin"

- Total bans, restrictions and higher taxes may be used by government to restrict the demand for socially undesirable goods and services.
- Government's policy on international trade also will affect the domestic demand for goods and services.

MEANING OF EFFECTIVE DEMAND

The effective demand for a thing depends on

(i) Desire

+

(ii) Means to purchase

+

(iii) Willingness to use those means for that purchase

Elasticity of Demand

Price Elasticity

Logic - ①

$$E_d = \frac{\%\ \Delta \text{ in } Q.D.}{\%\ \Delta \text{ in Price}}$$

$$\%\ \Delta \text{ in } Q.D. = \frac{Q_1 - Q}{Q} \times 100$$

$$\%\ \Delta \text{ in Price} = \frac{P_1 - P}{P} \times 100$$

Logic - ②

$$E_d = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

P = Original Price Q = Original Qty

P_1 = New Price Q_1 = New Qty

$\Delta P = P_1 - P$ $\Delta Q = Q_1 - Q$

Clothes

$\%\ \Delta$ in Price = 30% ↓

$\%\ \Delta$ in Q.D = 60% ↑

$E_d = \frac{60}{-30} = -2$

Cell Phone [15 Pro Max]

$\%\ \Delta$ in Price = 40% ↓

$\%\ \Delta$ in Q.D ⇒ 100% ↑

$E_d = \frac{100}{-40} = -2.5$

Alchol [31/12/2023]

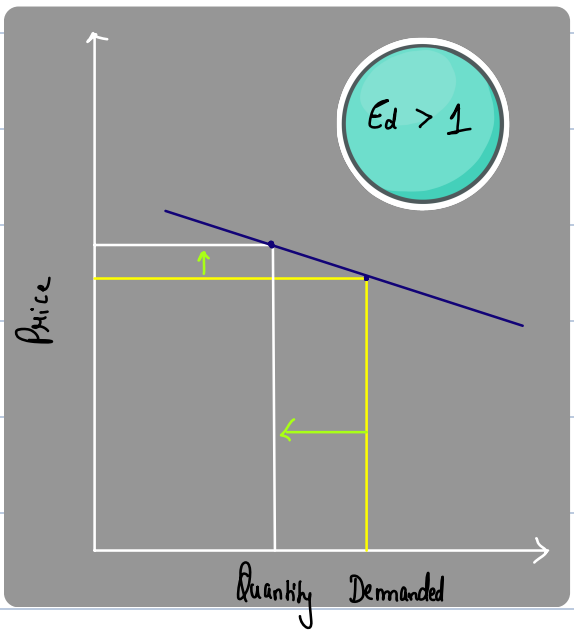
$\%\ \Delta$ in Price = 60% ↑

$\%\ \Delta$ in Q.D = 30% ↓

$E_d = \frac{-30\%}{60\%} = -0.5$

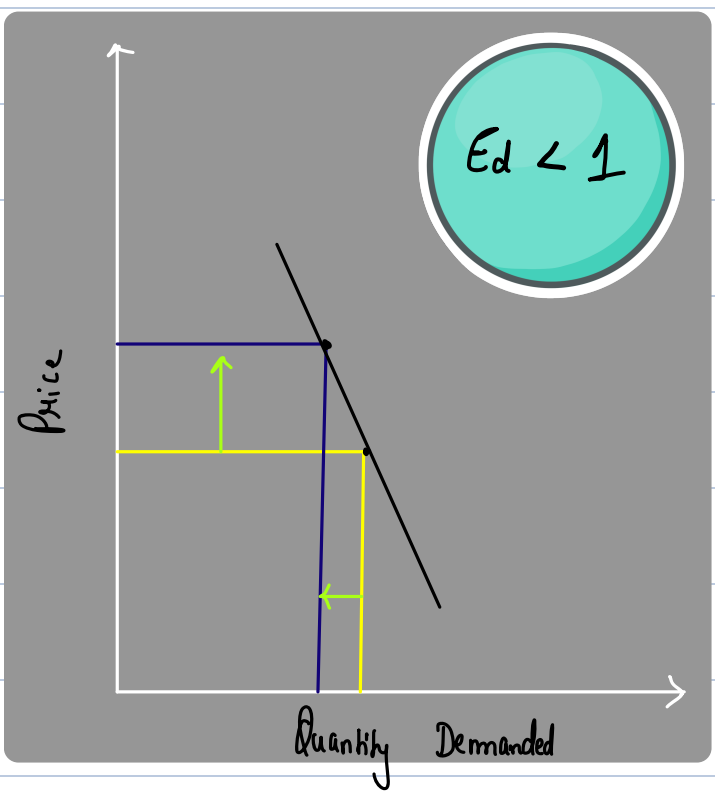
Baap Level Important Graph...

① Highly Elastic Demand



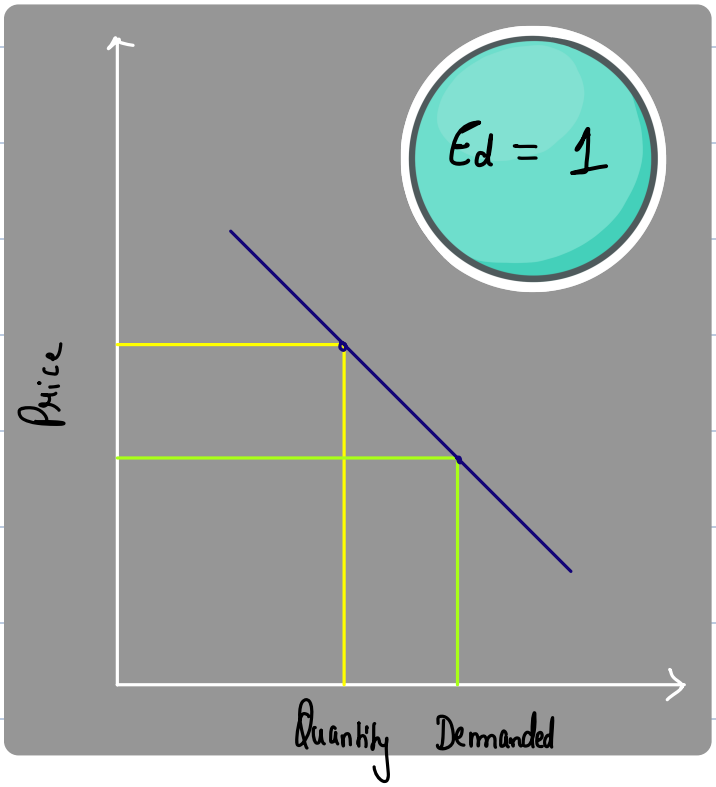
% Δ in Q.D. > % Δ in Price

② Less Elastic Demand



% Δ in Q.D < % Δ in Price

③ Unitary Elastic Demand

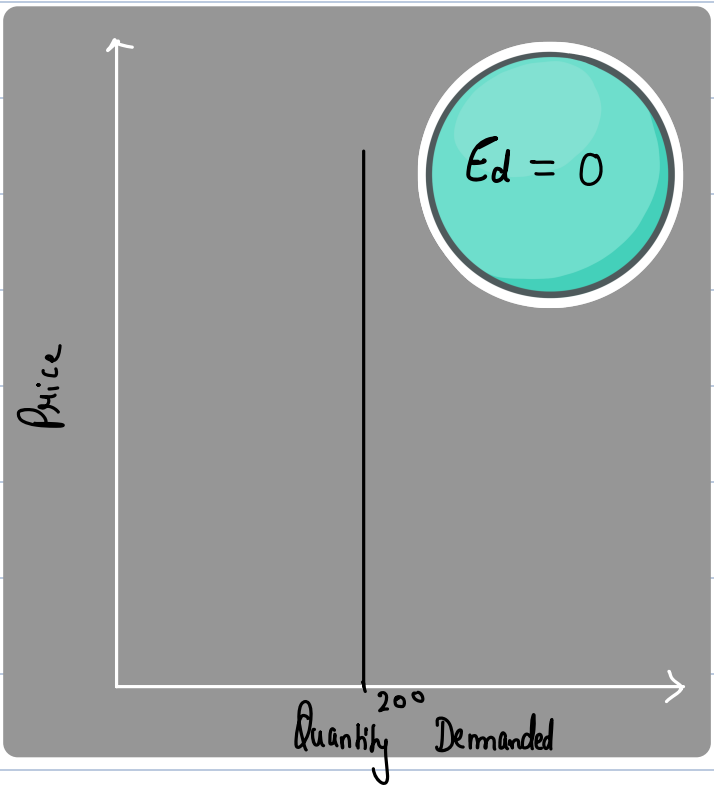


% Δ in Q.D. = % Δ in Price

Also known as

- 45° Straight Line
- Equivalteral Hyperbola
- Rectangular Hyperbola

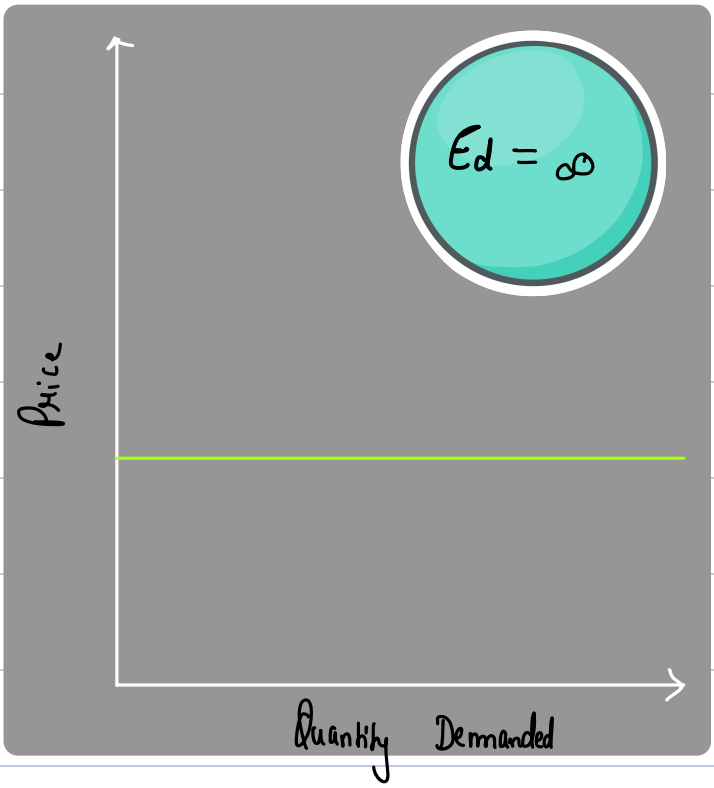
④ Perfectly Inelastic Demand



% Δ in Q.D = Zero

% Δ in Price = Anything

⑤ Perfectly Elastic Demand



% Δ in Q.D = Anything

% Δ in Price = Zero

Sample Q If Price of Commodity Increases from Rs 10 to Rs 12, then Quantity Demanded Falls from 300 to 240 Units. Calculate Price Elasticity.

$$E_d = \frac{\%\ \Delta \text{ in } Q.D.}{\%\ \Delta \text{ in Price}}$$

$$\%\ \Delta \text{ in } Q.D. = \frac{Q_1 - Q}{Q} \times 100 = \frac{240 - 300}{300} \times 100$$

$$= -20\%$$

$$\%\ \Delta \text{ in Price} = \frac{12-10}{10} \times 100 = (+)\ 20\%$$

$$E_d = \frac{-20}{20} = -1$$

$$E_d = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

$$= \frac{10}{300} \times \frac{-60}{2}$$

$$= -1$$

$P = 10$

$P_1 = 12$

$\Delta P = 12 - 10 = 2$ Rs

$Q = 300$

$Q_1 = 240$

$\Delta Q = -60$ Units

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Advertisment Elasticity

Advertisment Elasticity is Mostly Positive

Higher the Elasticity → More will be Impact of Advertisment

for Nomerical Questions.

$$E_A = \frac{\% \Delta \text{ in Quantity Demanded}}{\% \Delta \text{ in Advertisment Expn}}$$

$$E_A = \frac{A}{Q} \times \frac{\Delta Q}{\Delta A}$$

A = Original Adv. Expn Q = Old Qty

A_1 = New Adv. Expn Q_1 = New Qty

$\Delta A = A_1 - A$ $\Delta Q = Q_1 - Q$

$E_A = 0$	$E_A = \frac{0}{200000} =$ No Change in Demand due to Advertisment
$E_A > 0$ but Less than 1	$E_A = \frac{5\%}{20\%} = 0.25 \Rightarrow$ Inc in Demand is Less Proportionate to Inc in Adv. Expn
$E_A = 1$	$E_A = \frac{20}{20} = 1 \Rightarrow$ Inc in Demand is Equal to Proportionate to Inc in Adv. Expn
$E_A > 1$	$E_A = \frac{30\%}{10\%} = 3 \Rightarrow$ Inc. in Demand is More then Inc in Adv. Expn

Advertisment Elasticity will Range From Zero to Infinity

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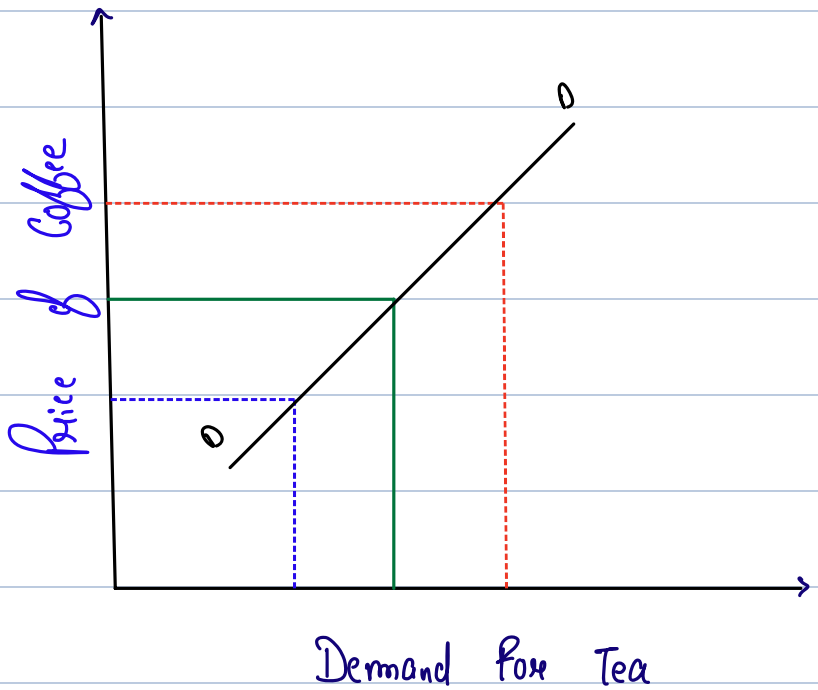
Cross Price Elasticity of Demand

Cross Price
- Price of Substitute Good
- Price of Complementary Good.

Substitute Goods



Tea

Coffee

P_{xx} D↑

P_{xx} D↓

P↑ D↓

P↓ D↑

Positive Slopping Demand Curve.

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Close Substitute Goods

↓

Cross Price Elasticity will be Large

Not Close Substitute

↓

Cross Price Elasticity will be Small.

Elasticity in Case of Substitute Goods will Always be Positive

Totally UnRelated Good

↓

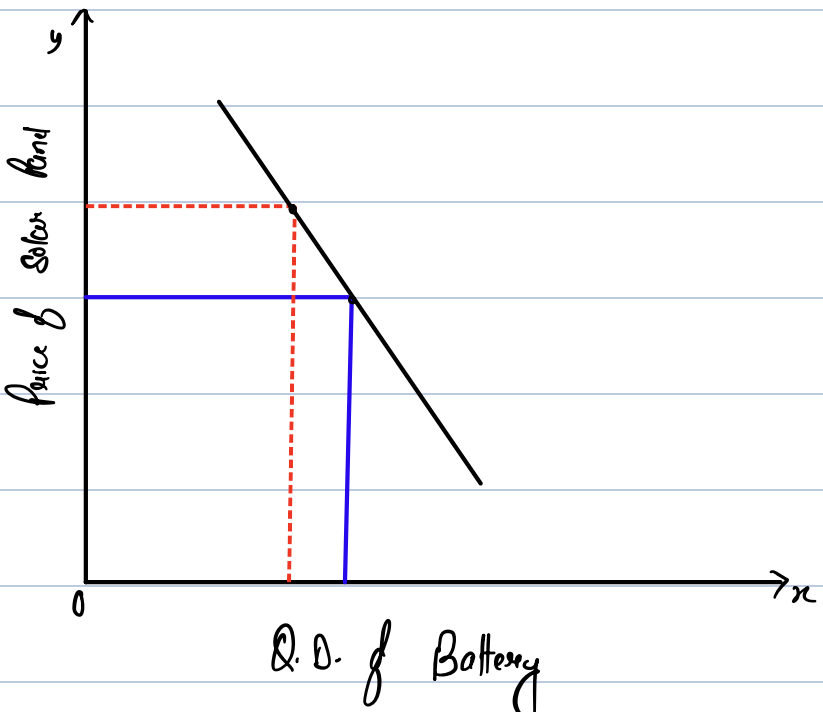
Cross Price Elasticity will be Zero

Perfect Substitute Goods

↓

Cross Price Elasticity will be Infinite

Complementary Good



Q.D. of Battery

Battery

D↓

D↑

Solar Panel

P↑ D↓

P↓ D↑

Cross Price Elasticity of Complementary Goods will ~~Always~~ be Negative Mostly.

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Strong Complement

Cross Price Elasticity will be High

Weak Complement

Cross Price Elasticity will be small (Low) ↓ Slightly below Zero.

Numerical Portion of Cross Price Elasticity.

$$E_d = \frac{\%\ \Delta \text{ in } Q.D._x}{\%\ \Delta \text{ in Price}_y}$$

$$E_d = \frac{P_y}{Q_x} \times \frac{\Delta Q_x}{\Delta P_y}$$

$x \rightarrow$ Apna Good

$y \rightarrow$ Substitute / Complementary Good.

Total Expenditure Method.

(OR)

Total Outlay Method.

Total Revenue ↓ Price per Unit × Qty Sold

Total Expenditure ↓ Price per Unit × Qty Purchased

Elasticity More then 1

Price	Qty	T.E
5	100	500
4	140	560

P↓ T.E ↑

Price	Qty	T.E
3	80	240
4	55	220

P ↑ T.E ↓

Arrows in Opposite Direction

Price	Qty	TR
5	100	500
4	140	560

P↓ TR ↑

Price	Qty	TR
3	80	240
4	55	220

P ↑ TR ↓

Arrows in Opposite Direction

Elasticity Less then One

Price	Qty	TE
5	100	500
6	90	540

Price	Qty	TE
10	100	1000
8	110	880

P ↑ TE ↑

Arrows in Same Direction

P ↓ TE ↓

Price	Qty	TR
5	100	500
6	90	540

Price	Qty	TR
10	100	1000
8	110	880

P ↑ TR ↑

Arrows in Same Direction

P ↓ TR ↓

Elasticity Equal to One

Price	Qty	TE
5	100	500
4	125	500

P ↓ TE [No change]

Price	Qty	TE
10	120	1200
12	100	1200

P ↑ TE [No change]

Price	Qty	TR
5	100	500
4	125	500

P ↓ TR [No change]

Price	Qty	TR
10	120	1200
12	100	1200

P ↑ TR [No change]

Income Elasticity.

For Numerical Questions.

$$Ed = \frac{\% \Delta \text{ in } Q.D.}{\% \Delta \text{ in Income}}$$

$$Ed = \frac{Y}{Q} \times \frac{\Delta Q}{\Delta Y}$$

$E_I > 1$

% Δ in Q.D. > % Δ in Income

↓

Only for Normal Goods

$E_I = 1$

% Δ in Q.D. = % Δ in Income

Income Elasticity for Normal Goods is Always Positive

Income Elasticity for Inferior Good is always Negative.

Inferior Good

Inferior Good ⇒ Income Elasticity always negative

Income ↑ Demand for IG ↓

Income ↓ Demand for IG ↑

Logic ⇒ When Income Increases Consumer Shift to Superior Good.

Luxury Goods

↓

Income Elasticity Greater then One

Necessity Goods

↓

Income Elasticity is Less then One

Relationship Between Elasticity and Sales

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If $E_y > 1$
↓
Sales are Highly Cyclical

If $E_y = 1$
Sales will Move Equall w.r.t Income

If $E_y < 0$
↓
Ham Seller ke Product ko Inferior Samajte hai, therefore Sales are Countercyclical.

Factors Affecting Elasticity of Demand.

(1) Availability of Substitute Goods

Close substitue Available = More Elastic

No Close Substitute Available = Less Elastic

Suppose For Petrol = Inelastic

Indian Oil Petrol ↑ = Elastic

② Position of Commodity in Consumer Budget

Rent →	60,000
Maid →	8000
Grocery →	12000
Ola/Uber →	10,000
Saving →	20,000
Salary →	1,00,000

Greater the % of Income spent on Commodity ↓ [Ex → Rent]
Greater will be Elasticity of Demand

Smaller the % of Income spent on Commodity ↓
Lesser will be EOD [Ex- Maid]

③ Nature of Need that Commodity Satisfy

Luxury Goods ↓ Elastic

Necessity ↓ Less Elastic

note to self:
If it is Possible to Postpone the Consumption ↓
EOD → Highly Elastic

④ No. of Use to which Commodity Can be Put

More the Possible Use of Commodity → More will be EOD (Ex- Milk)

Less are the Uses of Commodity → Less will be EOD

(5) Time Period

Longer the Available time → Highly Elastic Demand

Lesser the Available time → Less Elastic Demand

(6) Consumer Habits

Habitual [Addiction]

↓

No Matter what the Price is, Consumption will be there

↓

Inelastic EOD

Rigid Preference

↓

When Preference is Rigid

↓

Less Elastic EOD

(7) Tied Demand

Ink Cartridges demand is tied with Printer.

↓

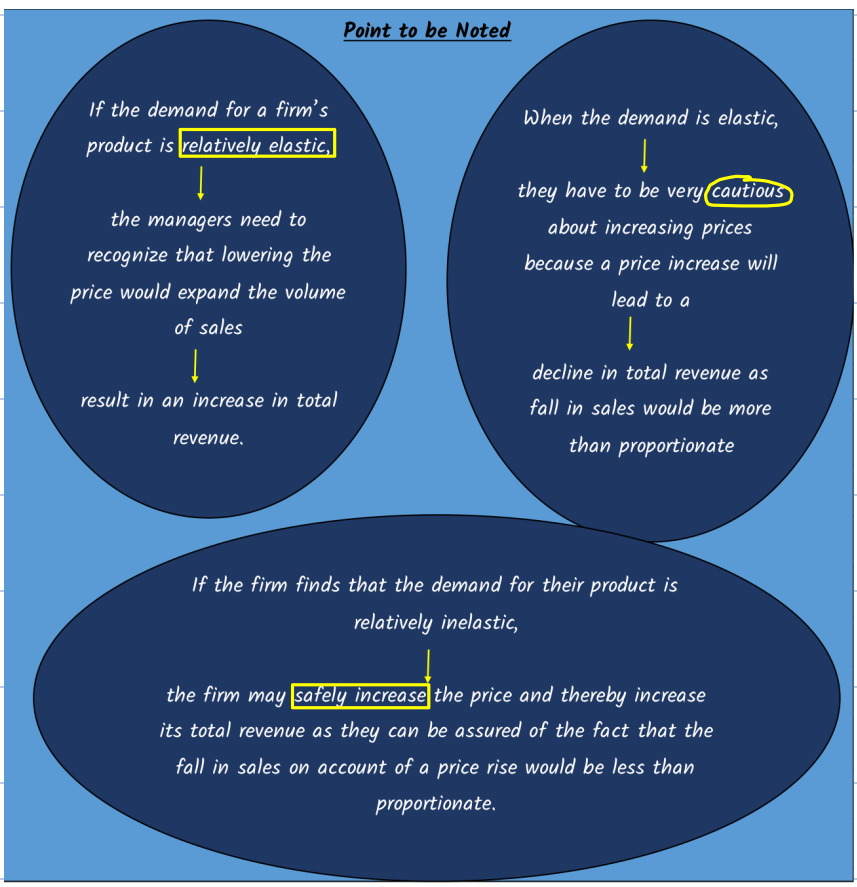
Less Elastic Demand with Respect to own Price

⑧ Price Range

Very High Price Range Goods	Very Low Price Range Goods	Medium Price Range Goods
Lv → 5.00.000 Rs Bag ↓ Inelastic Demand.	Ex → MangoBite, Melody ↓ Inelastic Demand.	↓ Elastic Demand.

⑨ Minor Complimentary Goods

Cheap Complimentary Goods + Costlier Good = Inelastic



Price Effect

P ↑ Qty sold at Higher Price → TR ↑

P ↓ Qty sold at Lower Price → TR ↓

Quantity Effect

P ↑ Fewer Units Sold → TR ↓

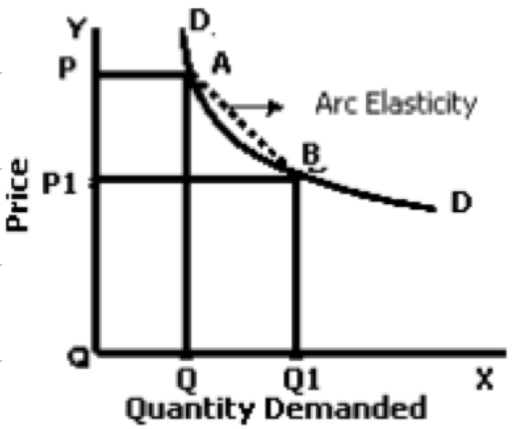
P ↓ More Units Sold → TR ↑

Arc Elasticity

$$\text{Arc Elasticity} = \frac{\frac{Q_2 - Q_1}{(Q_1 + Q_2)/2}}{\frac{P_2 - P_1}{(P_1 + P_2)/2}}$$

$$= \frac{Q_2 - Q_1}{(Q_1 + Q_2)/2} \times \frac{(P_1 + P_2)/2}{P_2 - P_1}$$

$$= \frac{Q_2 - Q_1}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_2 - P_1}$$



When EOD is to be Calculated on Portion of Demand Curve → Use Arc Elasticity

When Price and Qty are discrete and large then Use Arc Elasticity

In this Method we Use Mid point formulae

Point Elasticity

$$E_p = \frac{-dq}{dp} \times \frac{P}{Q}$$

Elasticity Calculated at a particular Point

Used when Changes in price is very Small.

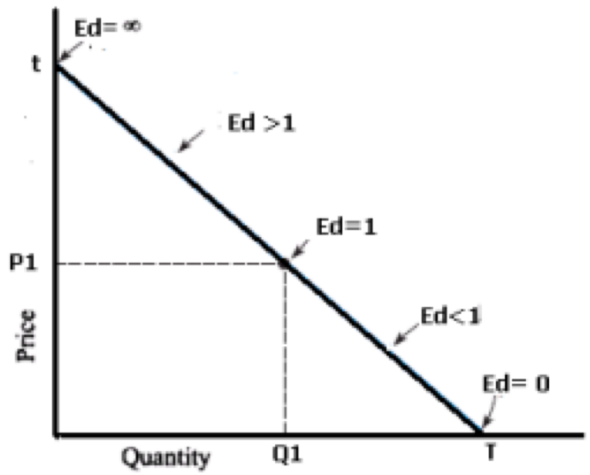
Generally Used Method

Bhai Mast Jana....

Point Elasticity is

- Product of Price, Quantity Ratio at a particular Point
- and
- Reciprocal of Slope of demand Curve

Geometric Method



When Price is High and Quantity is Small → Elasticity is High

Relation between Price and Total Revenue

	Elastic Demand	Inelastic Demand	Unitary Elastic
Price Increase	Total Revenue Decreases	Total Revenue Increase	Total Revenue Remains Same
Price Decrease	Total Revenue Increase	Total Revenue Decrease	Total Revenue Remains Same.

Chapter - 2 ; Unit III

Theory of Consumer Behaviour.

Classification of Want

- Necessaries
- Comfort
- Luxury

Necessaries

Esential for Living

- Necessary For Life
- Necessary For Efficiency
- Conventional Necessary

Necessary For Life

- Things Necessary to Meet Physiological Needs For life Maintainence

- Minimum Amount of Food
- Clothing
- Shelter

Necessary For Efficiency.

More then Necessity of life to Maintain
- Longevity
- Energy
- Efficiency of Work

Such as
- Nourishing food
- Adequate Clothing
- Clean Water
- Comfortable Dwelling
- Education etc.

Conventional Necessary

They are Either due to

Pressure of Habits

Due to Compelling Social Customs and Conventions.

- Not Necessary For
  - Existence
  - Efficiency.

Comfort

- Comfort Make life Comfortable and satisfying.
- Comfort are less Urgent then Necessary.

Luxuries

More than Wanted (Not Needed)

Super Flous

- Luxury are those which are Expensive

- Not Essential For Living.

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Examples → LBH → Learn by Heart

- Expensive Clothing
- Exclusive Vintage Cars
- Classy Furniture
- Goods Used For Vanity.

What is Utility.

Want Satisfying Power of Commodity

Utility is Anticipated Satisfaction

British Economist

- Jeremy Bentham } Utility in object will Represent
- John Stuart Mill }

Benefit, Advantage, Pleasure, Good, Happiness

WTC → BAP Good Hai

Utility is Given in → Neo-Classical Economy → Related to Demand and Supply.

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Two theories of Consumer Behaviour

Marginal Utility Analysis

↓

Utils are Measured in Numbers

↓

Alfred Marshal

Cardinal Approach

Indifference Curve Analysis

↓

Ranking of Preferences

↓

J.R. Hicks and R.G.D Allen

Ordinal Approach.

Marginal Utility Analysis

- Meaning of TU
- Meaning of MU
- Assumption of Law of DMU
- Law of DMU

Total Utility

Unit	MU_x	TU_x
1	17 Utils	17
2	14 Utils	31 (17+14)
3	10 Utils	41 (31+10)
4	6 Utils	47
5	3 Utils	50
6	0 Utils	50
7	- 2 Utils	48

Total Utility is total satisfaction obtained from Consumption of Given Commodity

$$TU_n = U_1 + U_2 + U_3 + U_4 + \cdots + U_n$$

Marginal Utility

Extra Satisfaction From Consumption of One Extra Unit

$MU_n = TU_n - TU_{n-1}$

$MU_{37} = TU_{37} - TU_{36}$

$MU_{37} = 73 - 70$

$= 3$ Utils

36 Burgers = 70 Utils

37 Burgers = 73 Utils

$MU = \frac{\Delta TU}{\Delta Q}$

Formulae Used When Unit ka difference 1 ka Jyada Hoga.

60 Rotis = 130 Utils

70 Rotis = 180 Utils

$MU = \frac{180 - 130}{70 - 60}$

$= 5$ Utils

Can MU be Zero?

↓

Yes

Can MU be Negative

↓

Yes

Can MU Increase?

↓

Generally not Possible

Can TU be Zero

↓

No

Can TU be Negative

↓

No

Assumptions of Law of D.M.U.

1. Rational → Maximum Satisfaction with limited Income

2. Cardinal Measurment →
   - # Utility Measured in Number
   - # Satisfaction Measured in Number

3. Money Measurement
   - # It is Measurement Rod
   - # Amt that a Customer Can Pay.

4. All Factors Constant

5. Continous Consumption

6. Consumption of Reasonable Qty

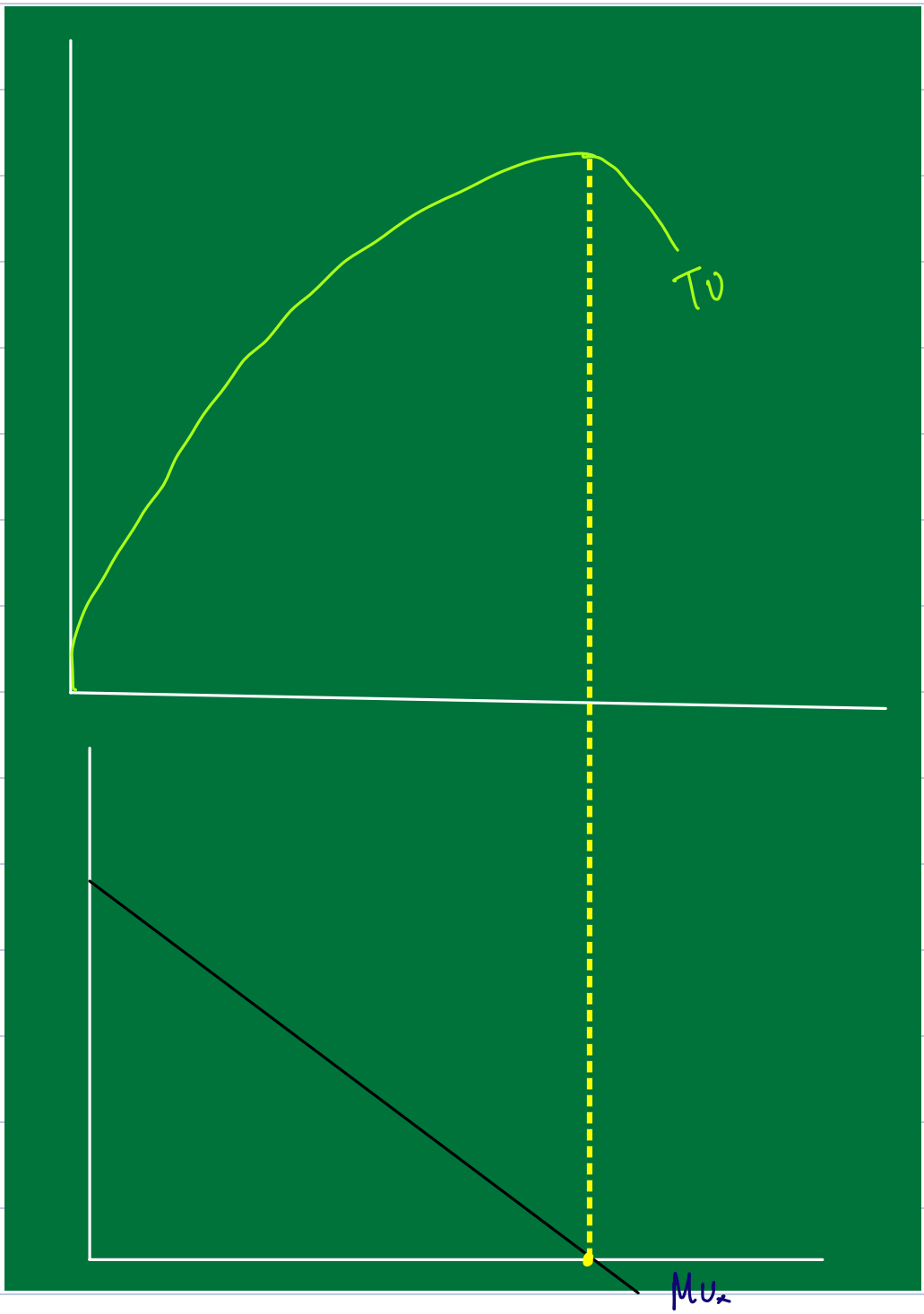
7. MU_M Remains Constant. ☞ $MU_M = 1$

Law of D.M.U.

As we Go on Consuming More and More Units of Commodity, Utility derived from Each succesive Unit Goes on decreasing.

Relationship Between TU and MU

Units	MU_x	TU
1	20	20
2	18	38 [20+18]
3	14	52 [38+14]
4	10	62
5	6	68
6	3	71
7	0	71
8	-2	69

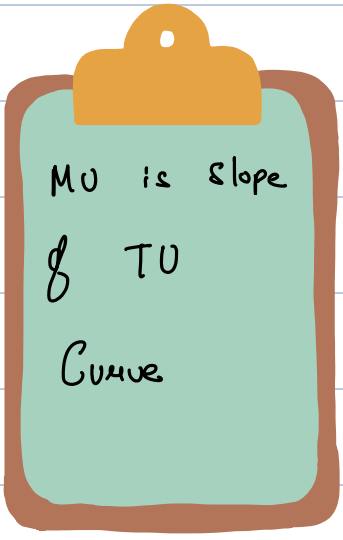


Point of Satiety
↓
When MU is Zero

When MU falls but Remains Positive ; TU Increases

When MU is zero ; TU is at Maximum

When MU is Negative ; TU Starts falling.



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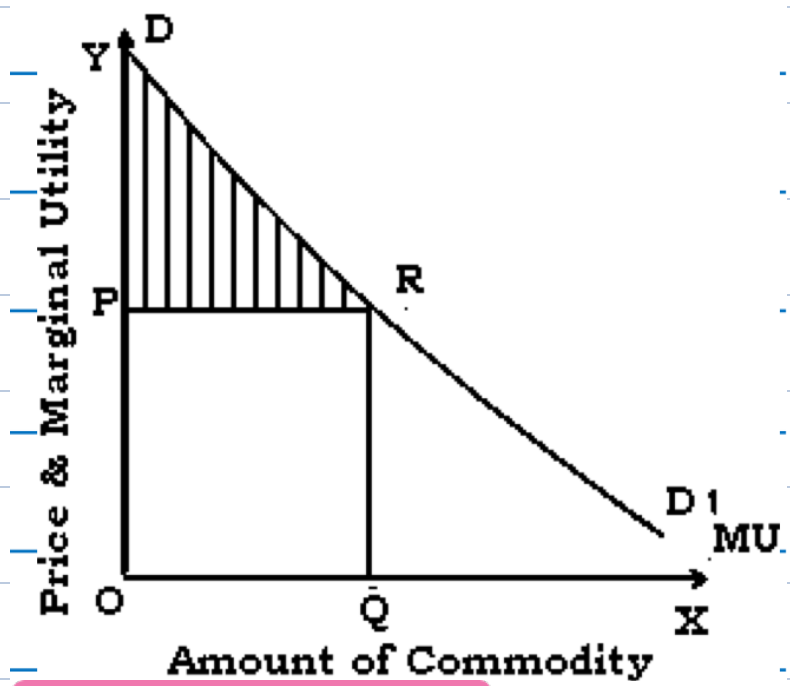
Consumer Surplus

Units	MU_x	P_x	Con. Surplus = MU − Price
1	30	20	30 − 20 = 10
2	28	20	28 − 20 = 8
3	26	20	6
4	24	20	4
5	22	20	2
6	20	20	0
7	18	20	−

Consumer Surplus is derived from Law of Diminishing Marginal Utility.

Given by Alfred Marshal



Consumer Surplus → DPR

Total Utility = ODRQ

P	MU	C.S.
10	12	2
11	12	1
9	12	3

P ↑ Cons. Surplus ↓

Price ↓ Con. Surplus ↑

note to self:

Consumer Surplus is area below Demand Curve (MU Curve) but Above Price Line

note to self:

What Customer is Ready to Pay (-) What he Actually Pays

Concomer Surplus.

Application of Consumer Surplus

① Consumer Surplus Measure Welfare that People Gain From Consumption

② By Having Understanding of Extent of Surplus Can help Managers to Set Prices

③ Firm Can Go by Price Discrimination, if Firm Identify Consumer with Different Elasticity.

④ Large Scale Investment Decision Take into Account Consumer Surplus

⑤ If Price to be Raised, Consumer Surplus should be Concidered

⑥ P ↑ ⇒ Sales will Reduce

⑦ Consumer Surplus Act as Guide to "Finance Minister"

↓

To decide on Amount of Tax/ Rate of Tax

Limitations of Consumer Surplus

1. Consumer Surplus Cannot be Measured Precisely
2. In Case of Necessity → Consumer Surplus is Infinite
3. Consumer Surplus is affected by → Availability of Substitutes
4. No Simple Rule deriving Utility.
5. Consumer Surplus Can be Calculated only if Utility is Measured in terms of Money.

Budget Set

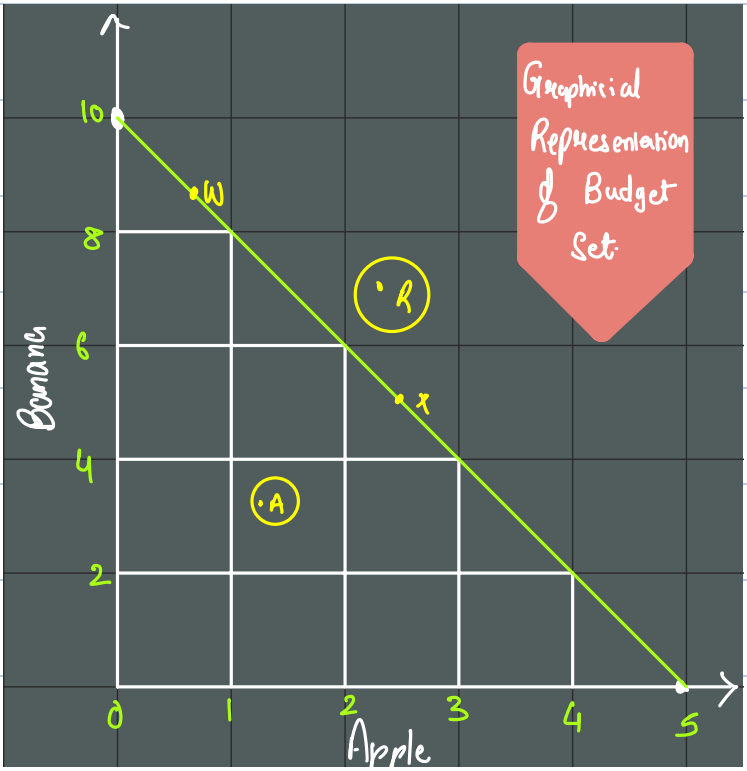
"Possible Combination of two Goods which Can be Purchased with Given level of Income"

Income - 20 ₹

Apple → Price → 4₹

Banana → Price - 2₹

Points on which Equal Satisfaction is there	Units of Apple	Units of Banana	Money Spent
P	5	0	20
Q	4	2	20
R	3	4	20
S	2	6	20
T	1	8	20
U	0	10	20



Point W, x, A
↓
Attainable Combinations

Point - R
↓
Unattainable Combination

Slope of Budget line

$$\text{Slope} = \frac{\Delta \text{ Units Sacrificed}}{\Delta \text{ Units Gained}}$$

$M = P_A \times Q_A + P_B \times Q_B$

M = Money Spent
P_A = Price of Apple
P_B = " " Banana
Q_A = Qty of Apple
Q_B = " " Banana

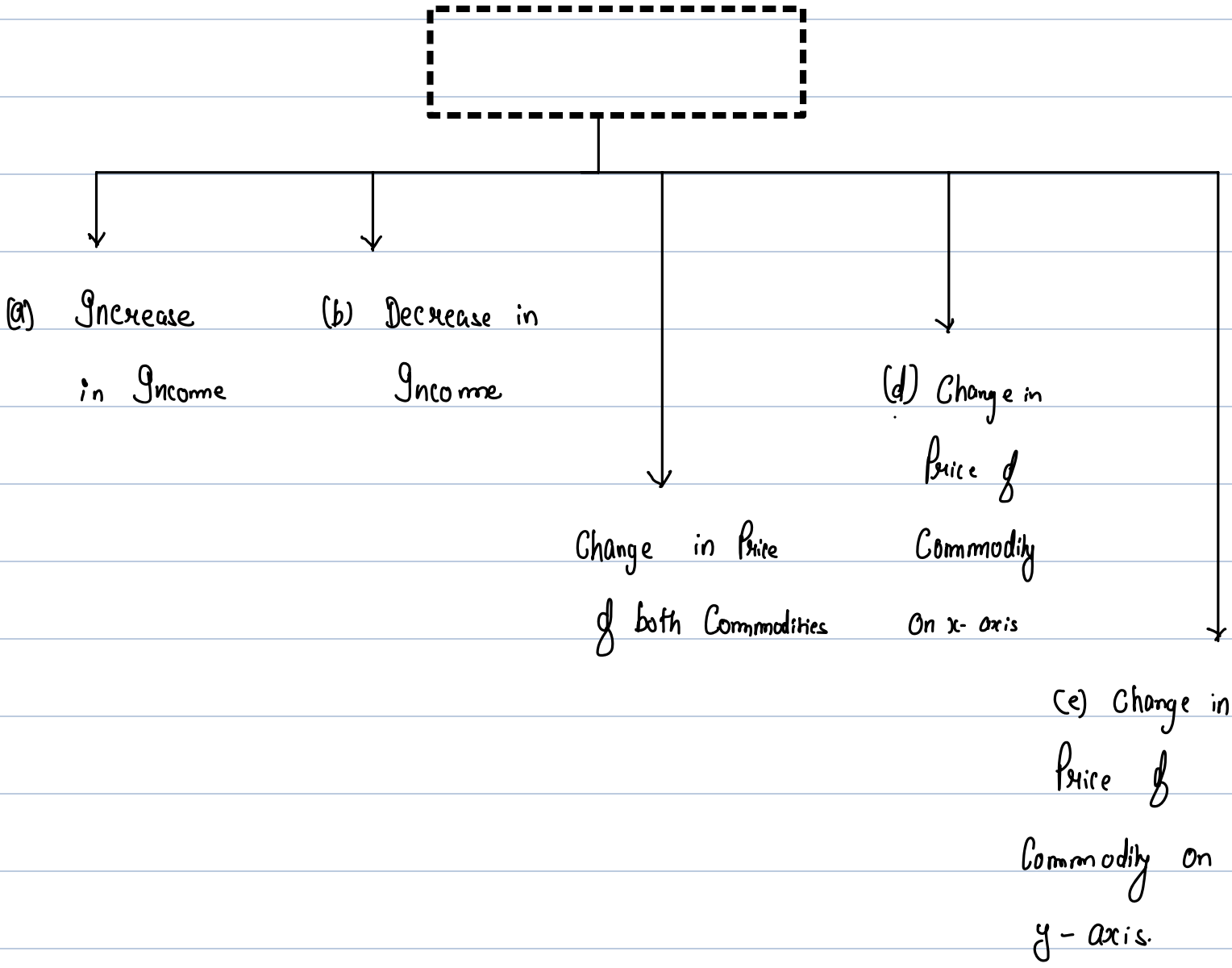
Budget line is Graphical Presentation of Budget Set

Properties of Budget Line

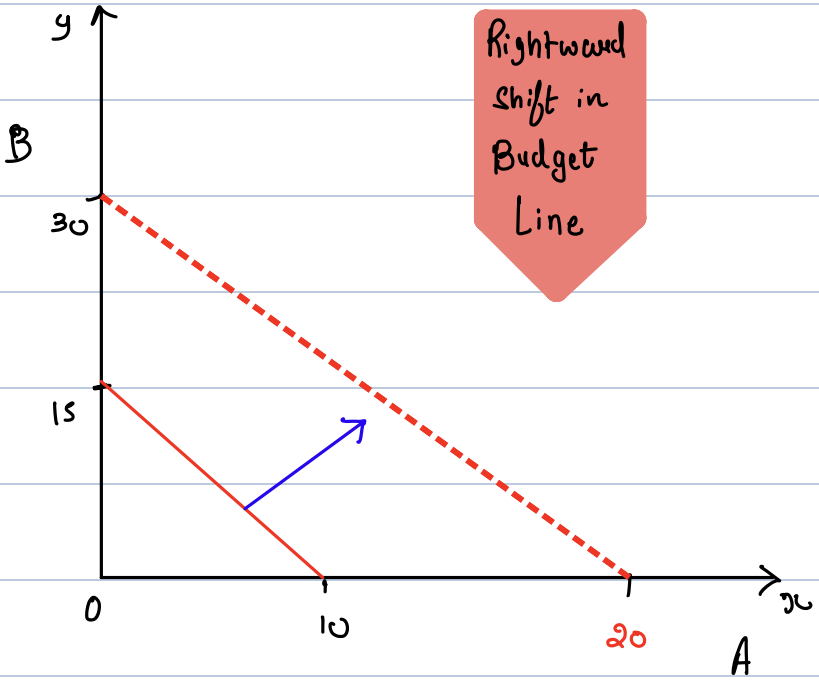
① Budget line is Straight line, because Price is Constant and Income is Constant.

② Budget line is downward slopping, because More Units are Sacrificed to Gain one Unit.

③ Budget Set Can be Explained by
- Price line
- Budget line



(a) Increase in Income

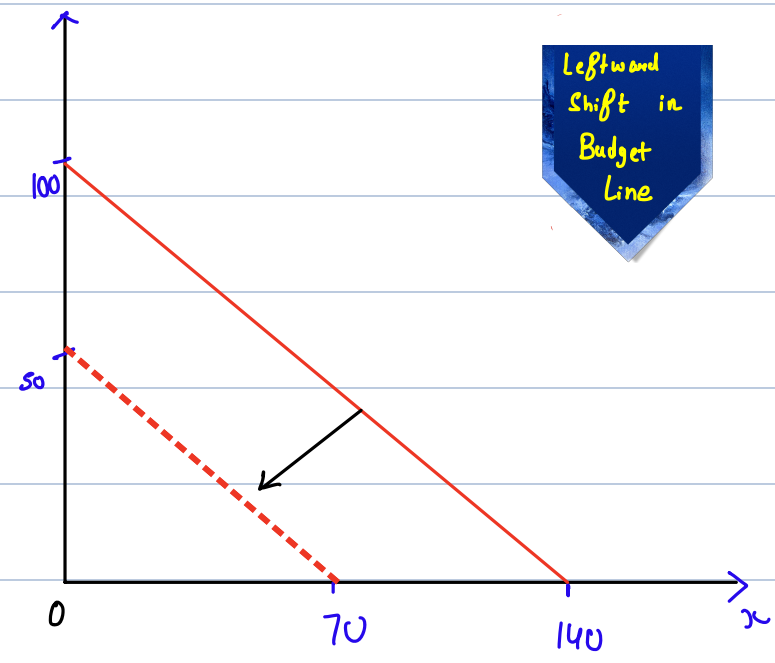


Income	Qty_A	Qty_B
1000	10	15
2000	20	30

↓

As Income Increases, More will be purchased of both the Commodities, hence Budget line will shift to Right

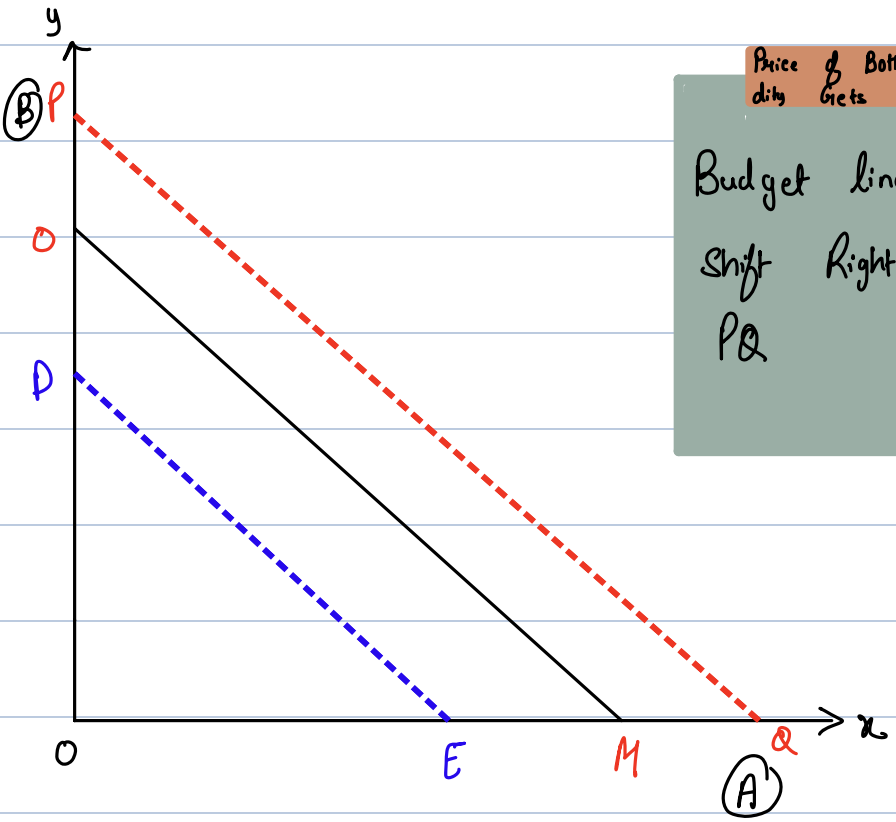
(b) Decrease in Income



Income	Qty_A	Qty_B
2000	140	100
1000	70	50

As Income Decreases, Less will be purchased of both the Commodities, hence Budget line will shift to Left.

(c) Change in Price of Both the Commodity



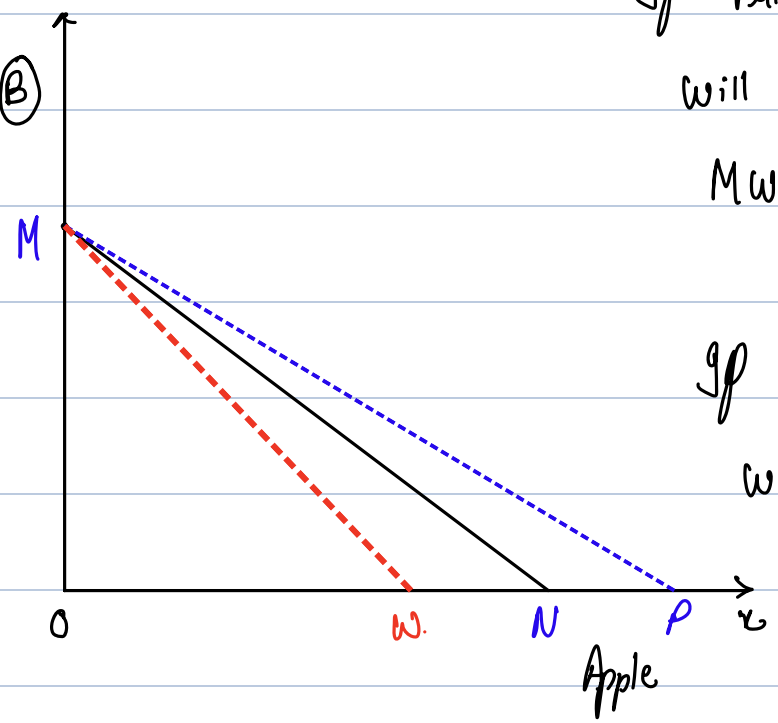
Price of Both Commodity Gets Reduced.

Budget line will shift Right to PQ

Price of Both Commodity Increases.

Budget line will Shift left to DE

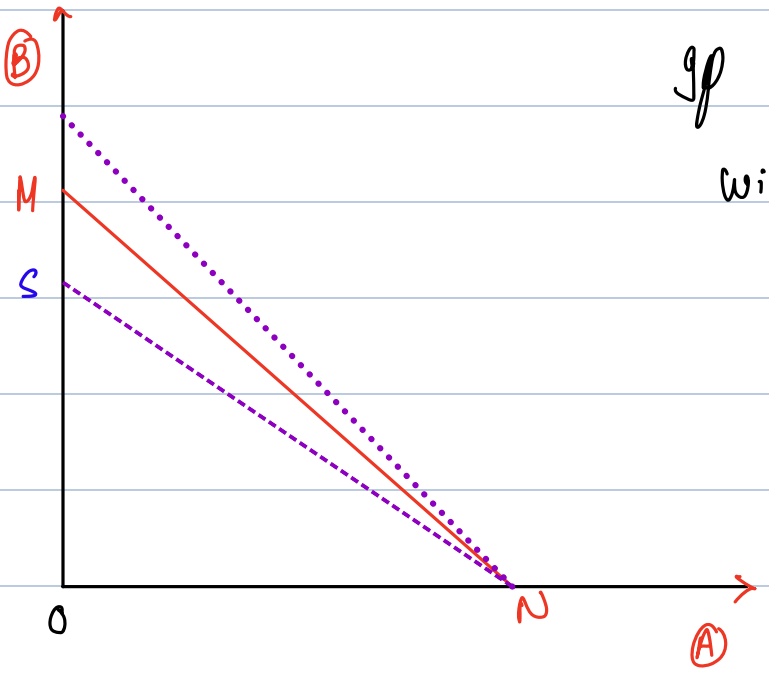
(d) Change in Price of Commodity on x-Axis [Apple]



If Price of Apple Increases, Qty of Apple will Fall, New Budget line will be MW.

If Price of Apple Decreases, Qty of Apple will Increase, New Budget line will be MP.

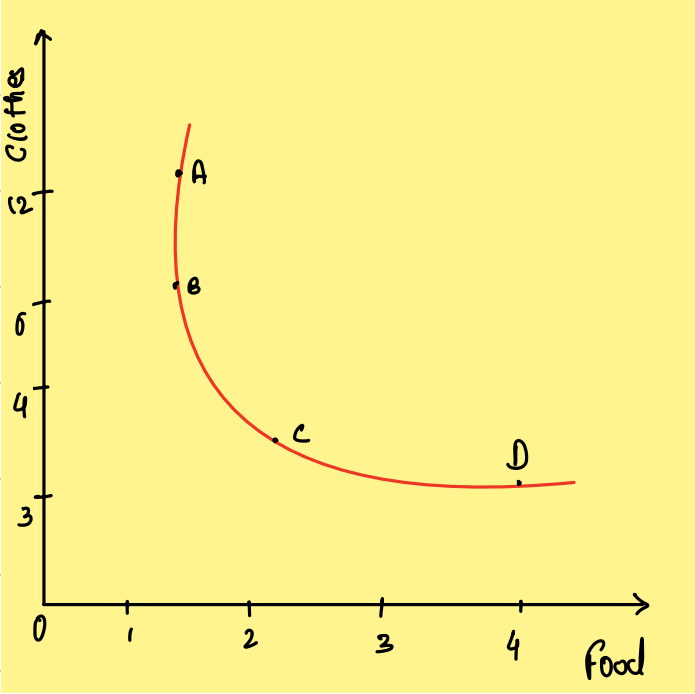
(c) Change in Price of Commodity on y-axis



If Price of Banana increases, Qty of Banana will fall, New Budget line will be NS

If Price of Banana falls, Qty of Banana will Inc New Budget line will be NW

Indifference Curve Analysis.



Combination	Food	Clothing	MRS = Δ Unit Sac. / Δ Unit Gained
A	1	12	–
B	2	6	$\frac{6}{1} = 6$
C	3	4	$\frac{2}{1} = 2$
D	4	3	$\frac{1}{1} = 1$

Given by Hicks and Allen.

A, B, C, D
↓
Equally Satisfied.

Also known as.

- Iso-Utility Curve
- Equal Utility Curve.

Indifference Curve is Graphical Representation of Various Alternative Combination of two Good, on which Consumer is Equally Satisfied.

Assumptions of Indifference Curve.

① Consumer knows his Taste and Preferences and has full information

② Consumer is Rational and Takes Rational Actions.

③ Utility is Ordinally Expressible [According to Ranks]

④ Consumer is Capable of Ranking all Combination of Goods.

⑤ Consumer Choice are transitive

Red Label Black Dog

A → B

Black Dog B → C old Monk

Red Label old Monk.

A → C

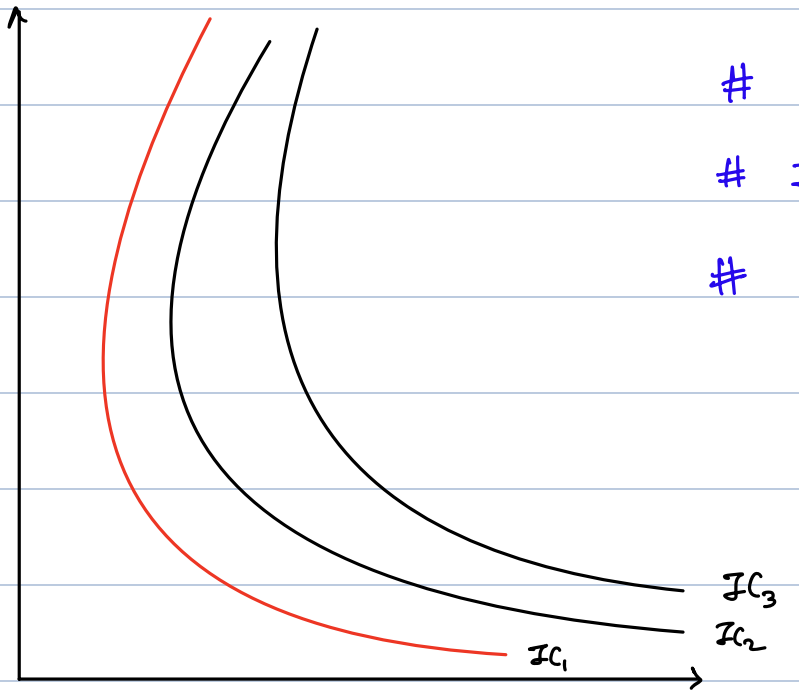
⑥ If Combination A has More Commodity then Combination B, then A Must be Preffred.

B → 2 Popcorn + 1 Cold drink

A → 3 Popcorn + 1 Cold drink

Indifference Map

- Indifference Map is Family of Indifference Curve.



IC_3 = Highest Satisfaction

IC_1 = Lowest Satisfaction

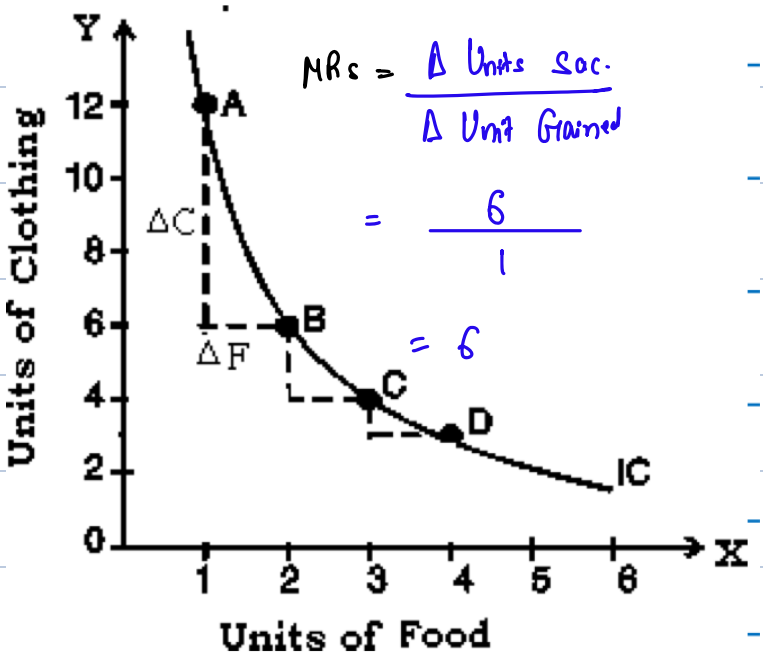
Higher the Indifference Curve Higher the Satisfaction.

Marginal Rate of Substitution.

$$MRS = \frac{\Delta \text{ Units Sacrificed}}{\Delta \text{ Units Gained}}$$

Maximum Rate at which Consumer is willingly Exchange Units of One Commodity to Another.

MRS on any Point of IC will Equal to Slope of Curve.



$$MRS = \frac{\Delta \text{ Units Sac.}}{\Delta \text{ Unit Gained}}$$

$$= \frac{6}{1}$$

$$= 6$$

$$MRS_{xy} = \frac{MU_x}{MU_y}$$

Properties of Indifference Curve

① Indifference Curve Slopes Downwards :-

In Order to Gain One Commodity, More then One Commodity is Sacrificed.

② Indifference Curve is Convex to Origin

Due to Diminishing MRS

Two Extreme Situations

Perfect Substitute Good.

- Constant MRS
- Constant Slope
- Indifference Curve Parallel.

Perfect Complementary Good

- Two Straight line Intersect at 90° Angle [Right Angle]
- L Shaped Indifference
- Convex to Origin

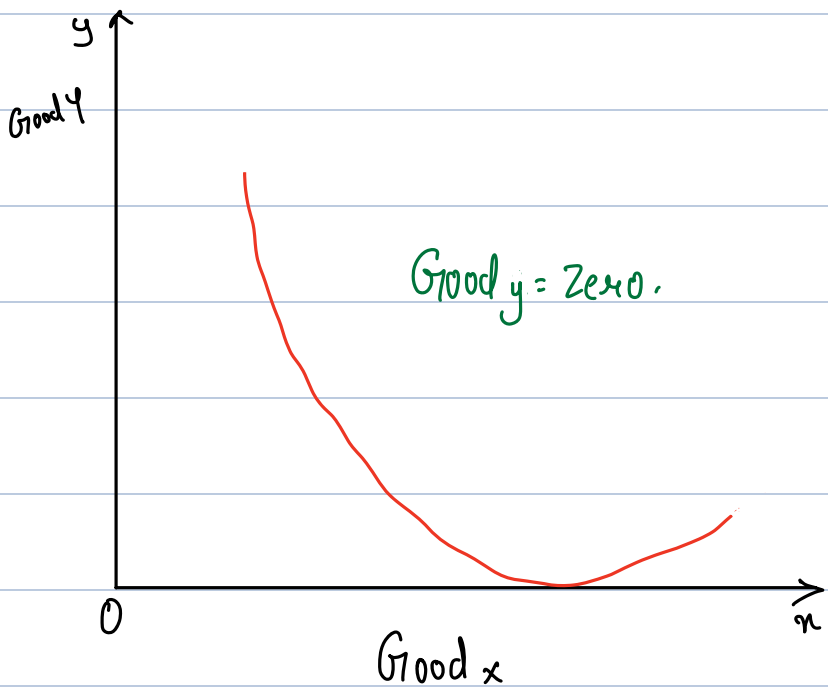
③ Indifference Curve Never Intersect Each other.

Because two IC which have higher and lower Satisfaction Cannot Intersect Each other.

④ Higher Indifference Curves Represent higher level of Satisfaction.

⑤ Indifference Curve Never Touches Axis

Because we Assume two Goods are Consumed



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Consumer Equillibirum with Indifference Curve and Budget line

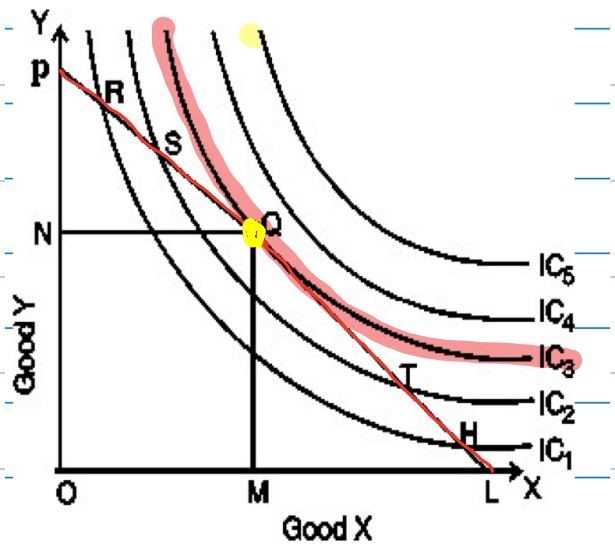
Assumptions

→ Income is fixed and Income will spend on two Goods x and 4

→ Price of Goods x and 4 are fixed

→ All Goods are Homogenous

→ Consumer is Rational and Acheives Maximum Satisfaction



Consumer's Equilibrium

Ek Consumer ka Equillibirum Tab aaeya Jab Uski Budget line Sabse uppare plotted IC Curve ko Cut Kare

↓

At Point Q

Consumer Equilli birum
↓
Indifference Map + Budget line.

Supply.

Stock → Jo Goods Godown etc Me Rakhe hai, Par offer For Sale Nahi kare hai [Ex → 3000 kg of Cashew in Big Bazaar Godown]

Supply → Jo Goods Big Bazaar ke Shopping Mart Me Rakh diye and offer for Sale hai → 250kgs, Ye 250 kg Supply Hai

Sale → Jo Goods Actually Sale ho Gaye, Ex → 3 kg of Cashew. Ye 3 kg Sale hai aur 3 kg Demand bhi hai.

Meaning of Supply

Quantity of Commodity that a Firm is willing and offer For Sale at a Given price Over Given Period of time

Types of Supply

Individual Supply

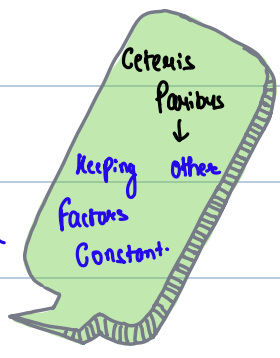
Qty of Commodity that a firm is willing and offer for sale at Given price over Given Period of time.

Market Supply

Qty of Commodity that all firms are willing and offer for sale at Given price over Given Period of time.

Determinants of Supply / Factors Affecting Supply.

1. Price of Commodity



P ↑ Q.S ↑

P ↓ Q.S ↓

② Price of Related Good

LG

Microwave

Washing Machine

P_{LG} ↓ Q.d ↓

P ↑ Q.d ↑

If Price of Relate Good [Washing Machine] increases, then Q.d. of Related Good increases, hence Q.d. of our Good [Microwave] decreases, but there is no change in Price of Microwave.

③ Price of Factors of Production

Cost of Factors of Production ↑ → TC ↑ → Chances of Profit ↓ → Supply ↓

Cost of Factors of Production ↓ → Total Cost ↓ → Chances of Profit ↑ → Supply ↑

✦ Cadbury Silk

	Old	New
Milk	30	35
Chocolate Powder	20	20
Others	10	10
TC	60	65
Sale Price	80	80
Profit	20	15

④ Levels of Technology

Technology upgrade ↑ Cost of Production ↓ Chances of Profit ↑ Supply ↑

Technology degrade ↓ Cost of Production ↑ Chances of Profit ↓ Supply ↓

Photo Copy Shop.

Old Machine	New Machine
Per Copy Cost → 0.50 Per Copy	Per Copy → 0.35 Per Copy
Sale Price → 0.75 Per Copy	Sale Price → 0.75 Per Copy
Profit → 0.25 Per Copy.	Profit → 0.40 Per Copy.

⑤ Government Policy

Taxes ↑ COP ↑ Chances of Profit ↓ Supply ↓

Taxes ↓ COP ↓ Chances of Profit ↑ Supply ↑

Agar Subsidy Mili ; COP ↓ Chances of Profit ↑ Supply ↑

⑥ Goals / objective of Firms

If Goal is Profit Maximisation → P ↑ Supply ↑

⑦ Expectation of Change in Price

If Price is Expected to Rise in Neare Future → Supply will decrease Currently

If Price is Expected to fall in Neare Future → Supply will Increase Currently

⑧ No. of Firms

No. of Firms ↑ → Supply ↑

No. of Firms ↓ → Supply ↓

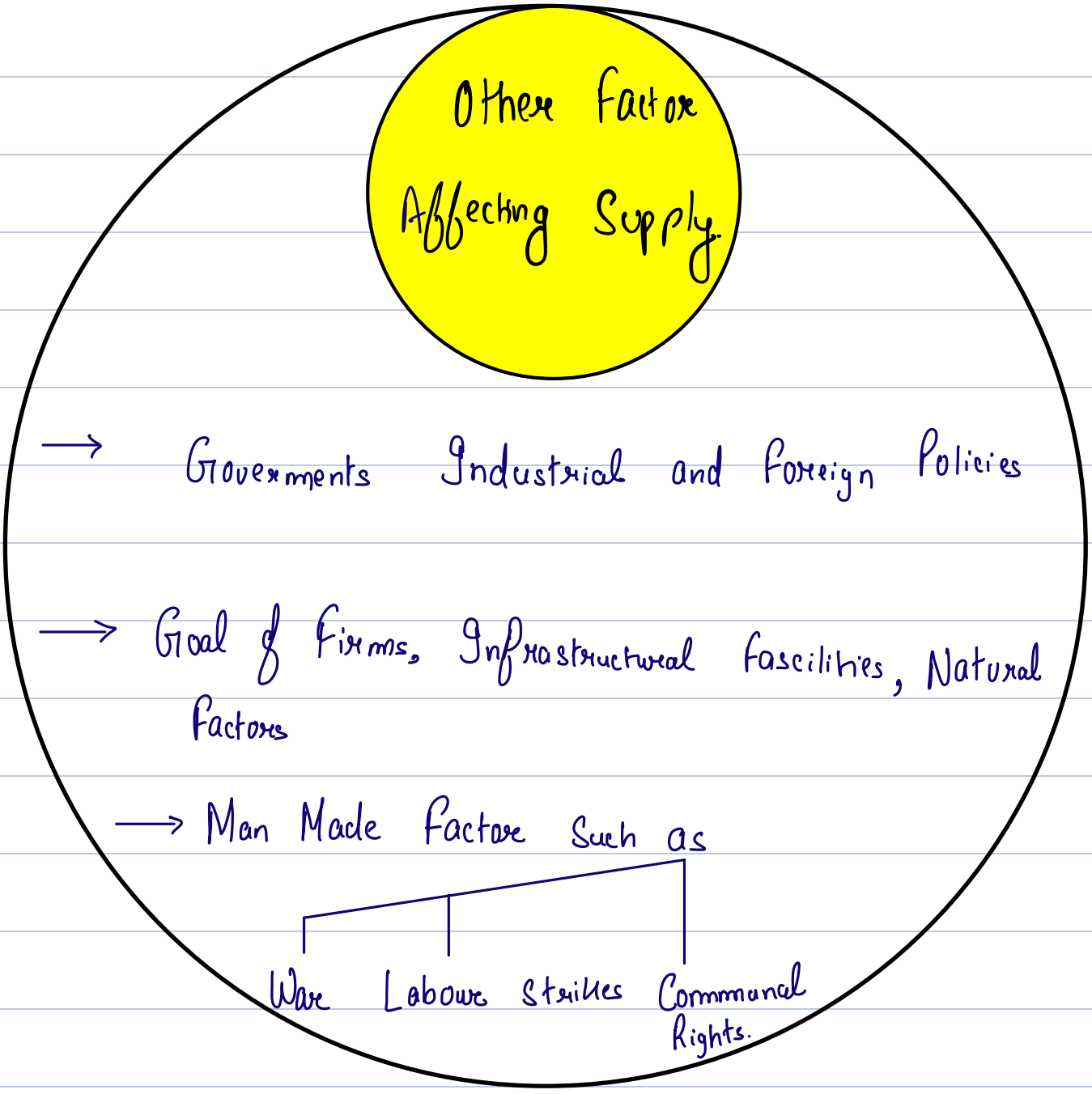
Zara [Indore]

1 Outlet

Shirt — S, M, L, XL, XXL

2nd Outlet

Shirt — S, M, L, XL, XXL


Other Factor
Affecting Supply
→ Goverments Industrial and Foreign Policies
→ Goal of Firms, Infrastructural Fascilities, Natural Factors
→ Man Made Factor Such as
War
Labour strikes
Commmanal Rights.

Supply Schedule

It is Tabular Presentation of Price and Qty Supplied.

Individual Supply Schedule

Tabular Presentation of Price and Qty Supplied by a Firm

Market Supply Schedule

Tabular Presentation of Price and Qty Supplied by all Sellers/ Firms.

P	Q.S
1	10
2	15
3	26
4	29
5	46

P	Q.S$_A$	Q.S.$_B$	M.S.
1	10	3	10+3 = 13
2	15	5	15+5 = 20
3	26	14	40
4	29	21	50
5	46	24	70

Supply Curve

Graphical Presentation of Supply Schedule.

Individual Supply Curve
↓
Graphical Presentation & Individual Supply Schedule

Market Supply Curve
↓
Graphical Presentation & Market Supply Schedule

Graph for Individual Supply Curve

Graph for Market Supply Curve

Law of Supply

When Price of Commodity Increases, Quantity Supplied Increases and Vice Versa, keeping other Factors Constants

Ceteris Paribus.

Assumptions of Law of Supply.

1. No Change in Price of Related Good
2. " " " " Factors of Production
3. " " " Levels of Technology
4. " " " Govt Policy
5. " " " Goals of Firms
6. " " " No. of Firms

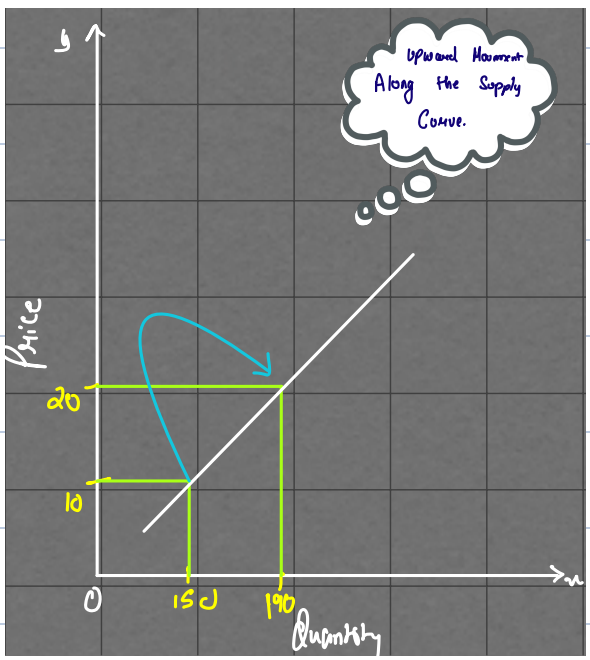
Changes in Quantity Supplied
(OR)
Movement Along the Supply Curve

due to → Change in Price of Commodity only.

Expansion in Supply

P ↑ Q.S ↑

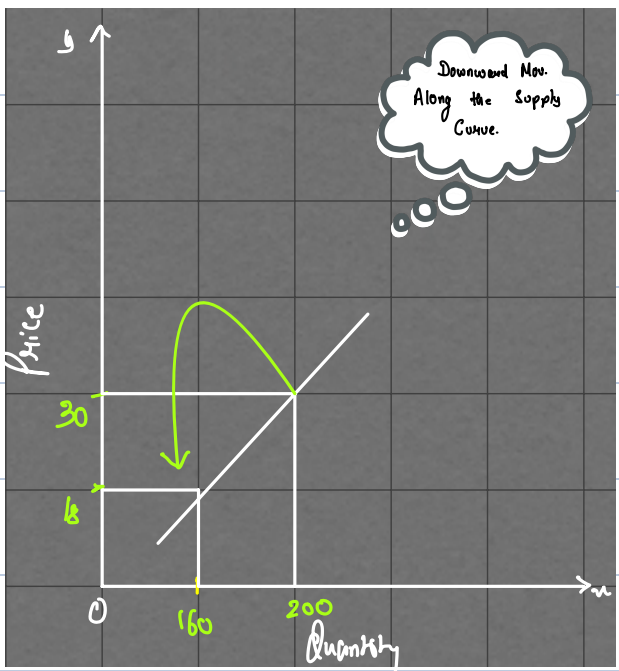
P	Q.S.
10	150
20	190



Contraction in Supply

P ↓ Q.S ↓

P	Q.S.
30	200
18	160



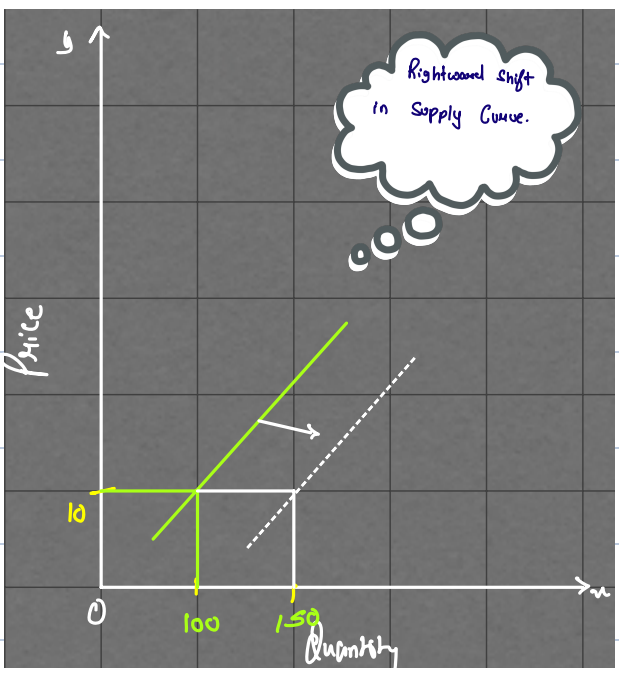
Changes in Supply
(OR)
Shift in Supply Curve

due to → Change in any factor other than Price

Increase in Supply

P_{xx} Technology ↑ S ↑

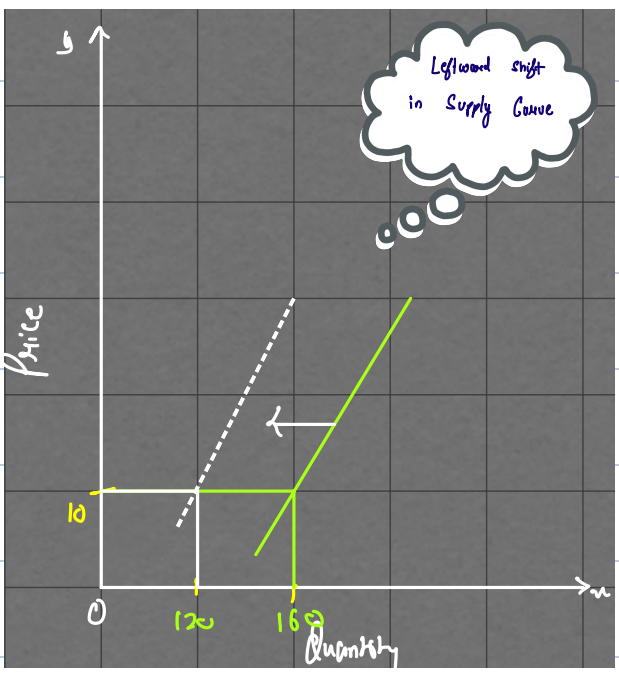
Price	Technology	Supply
10	Old	100
10	New	150



Decrease in Supply

P_{xx} Technology ↓ S ↓

Price	Technology	Supply
10	New	160
10	old	120



Elasticity of Supply.

For Practical Questions.

Logic - ①

$$E_s = \frac{\%\ \Delta \text{ in Quantity Supplied}}{\%\ \Delta \text{ in Price}}$$

Logic - ②

$$E_s = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

Price Elasticity is always Positive

P = Orig. Price

Q = Orig. Qty

P_1 = New Price

Q_1 = New Qty

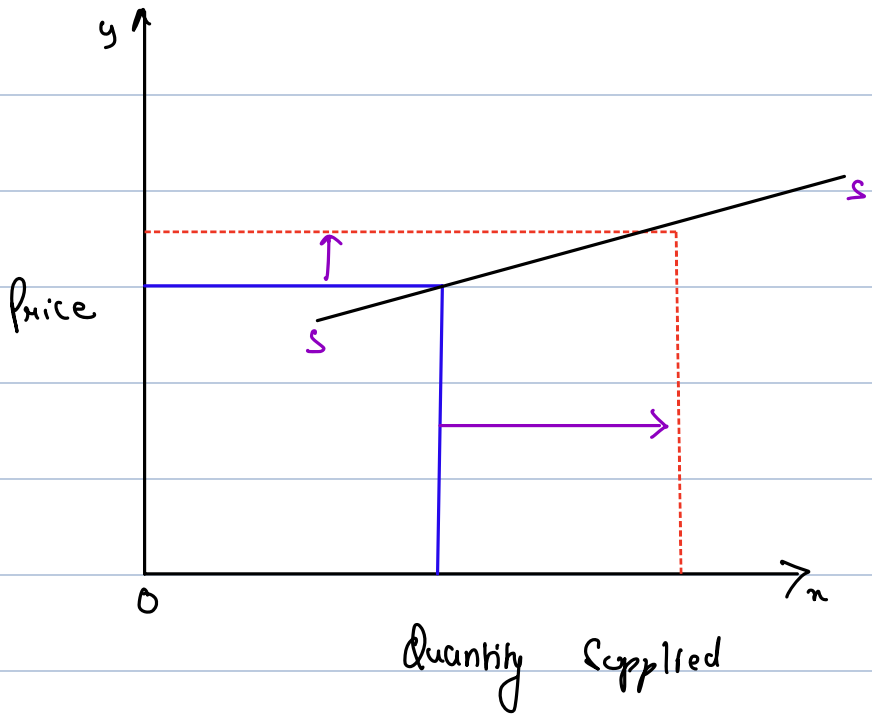
$\Delta Q = Q_1 - Q$

$\Delta P = P_1 - P$

GRAPHS

① Highly Elastic Supply ⇒

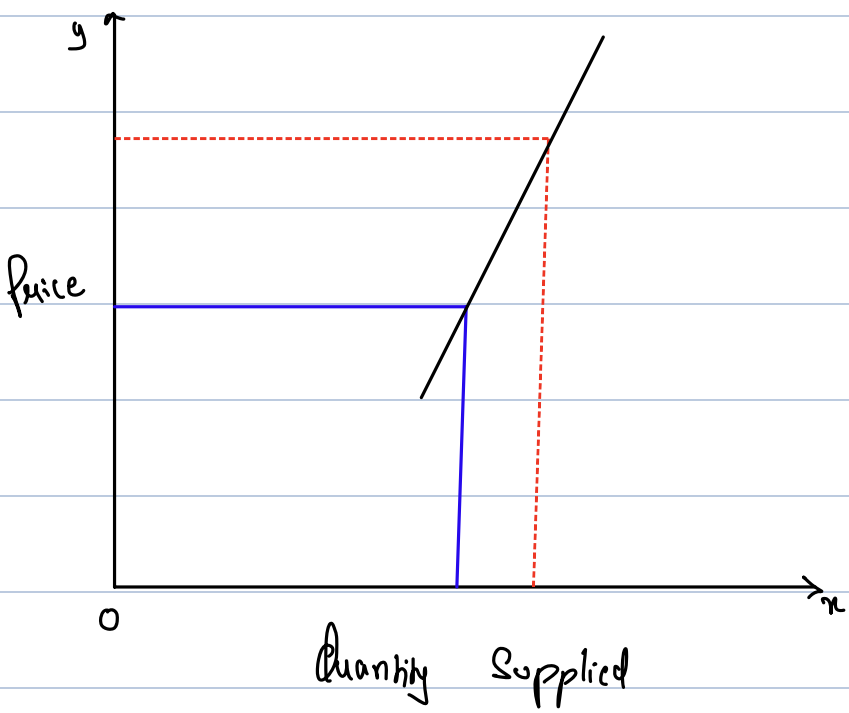
$E_s > 1$



> % Δ in Q.s > % Δ in Price

② Less Elastic Supply

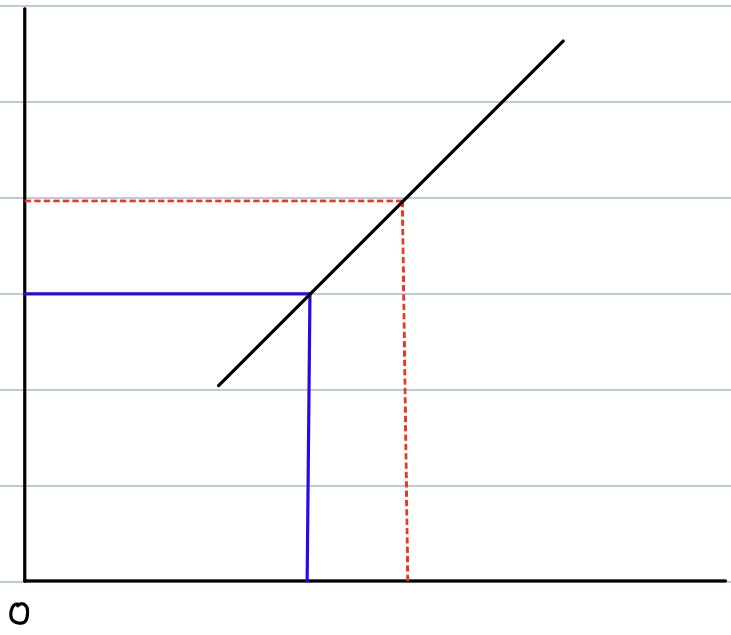
$E_s < 1$ $= \frac{1}{5}$



> % Δ in Quantity Supplied is less than % Δ in Price

③ Unitary Elastic Supply

$E_s = 1$

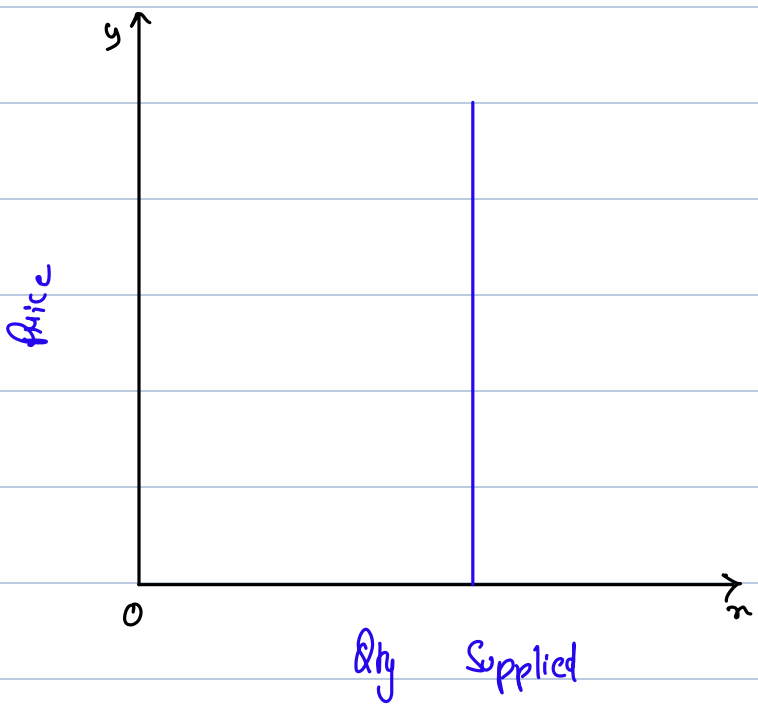


✦

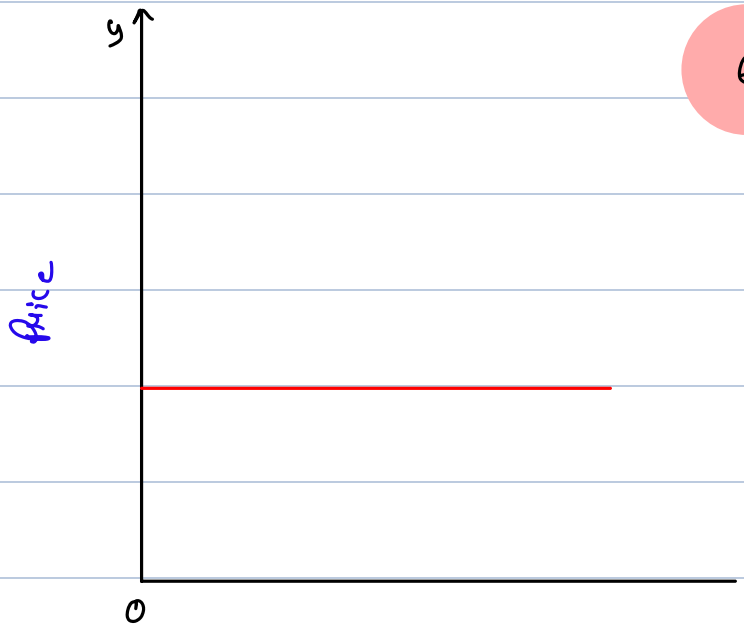
% Δ in Qs.
is Equal to
% Δ in Price

④ Perfectly Inelastic Supply

$E_s = 0$



(3) Perfectly Elastic Supply



$E_s = \infty$

ARC Elasticity

$$E_s = \frac{\frac{Q_2 - Q_1}{(Q_1 + Q_2)/2}}{\frac{P_2 - P_1}{(P_1 + P_2)/2}}$$

$$= \frac{Q_2 - Q_1}{(Q_1 + Q_2)/2} \times \frac{(P_1 + P_2)/2}{P_2 - P_1}$$

$$= \frac{Q_2 - Q_1}{Q_1 + Q_2} \times \frac{P_1 + P_2}{P_2 - P_1}$$

Determinants of Elasticity of Supply.

① Period of time

Longer ⇒ Supplies will be More Elastic

Shorter ⇒ Supplies will be less Elastic.

② No. of Producer

Producer ↑ High degree of Competition ↑ Supply ↑

③ Barriers to Entry

Barriers to Entry ↓ Supply ↑

④ Spare Production Capacity Available

Spare Production Capacity Available ↑ Supply ↑

⑤ Availability of Raw Material

If key Raw Material is Easily and Cheapely Available → COP ↓ Supply ↑

⑥ Adequate Stock of Raw Material and Finished Goods

Elasticity of Supply ↑

⑦ If Capital and Labour are Mobile

Elasticity of Supply ↑

⑧ Price Expected to Rise in Neare Future

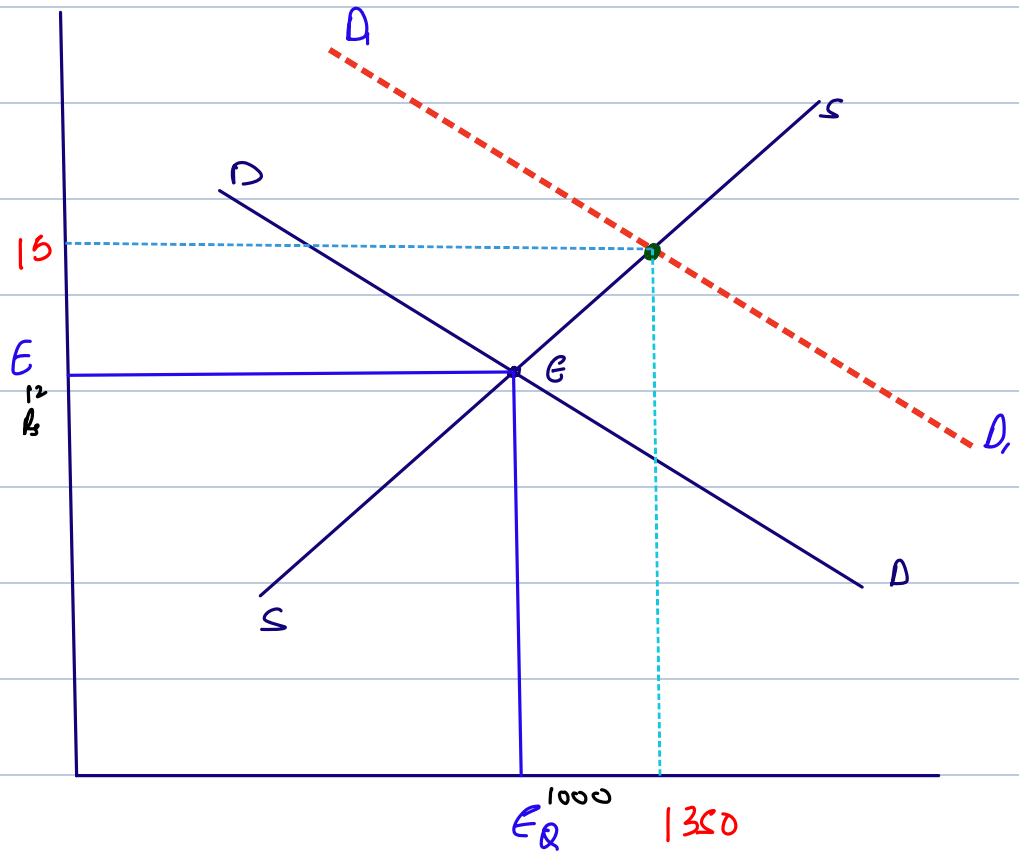
Elasticity of Supply ↑

3 Pages

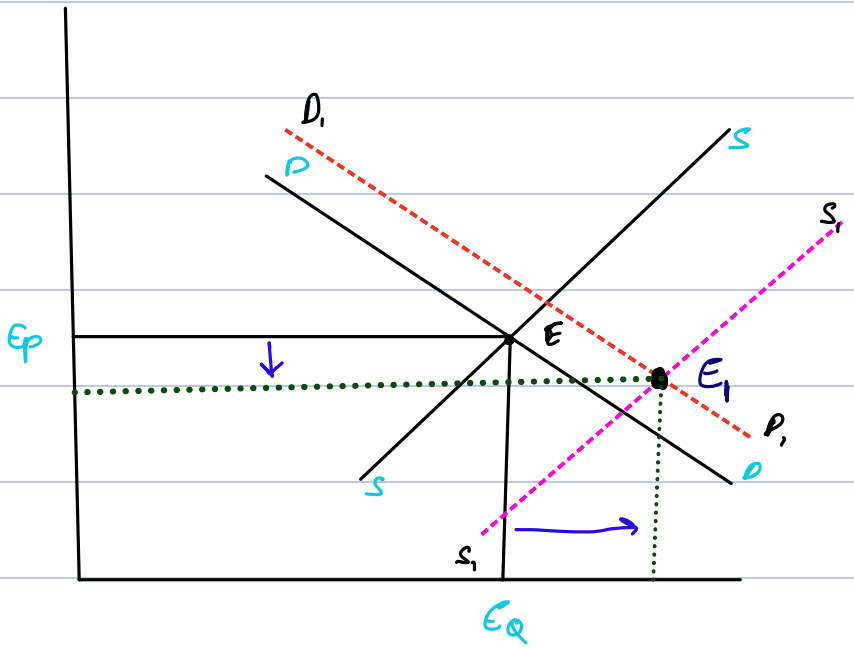
Chapter - 4

Unit - II → Price Determination

Demand	Supply	Excess	Competion Among ?	Effect on Price	Equillibirum
1000	1000	-	-	-	Yes
1200	1000	Excess demand	Buyers	Price ↑	-
1000	800	Excess demand	Buyers	Price ↑	-
1000	1300	Excess Supply	Seller	Price ↓	-



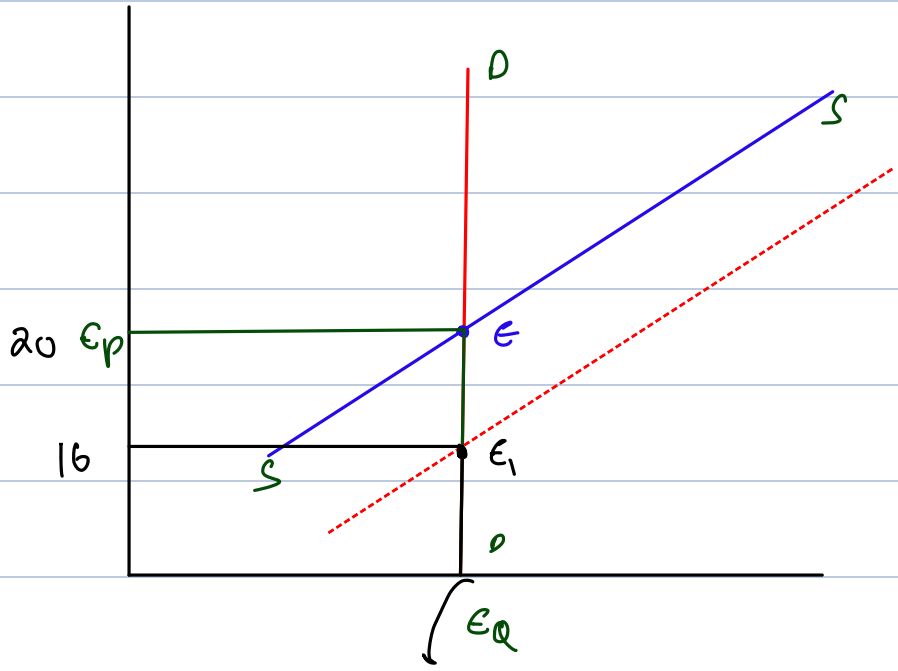
Inc in Supply > Inc in Demand



D	S	Eq.
1000	1000	✓
1250	1400	

Salt

D	S
1000	1000
	1300



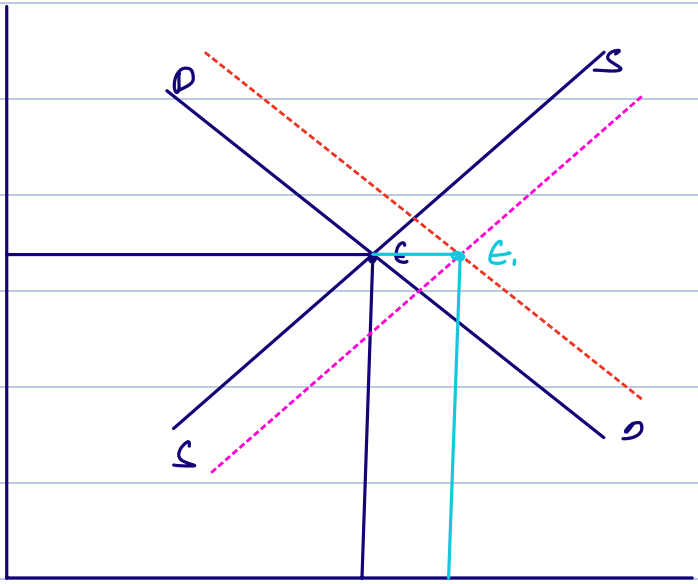
(a) Increase in Demand > Inc. in Supply — P ↑

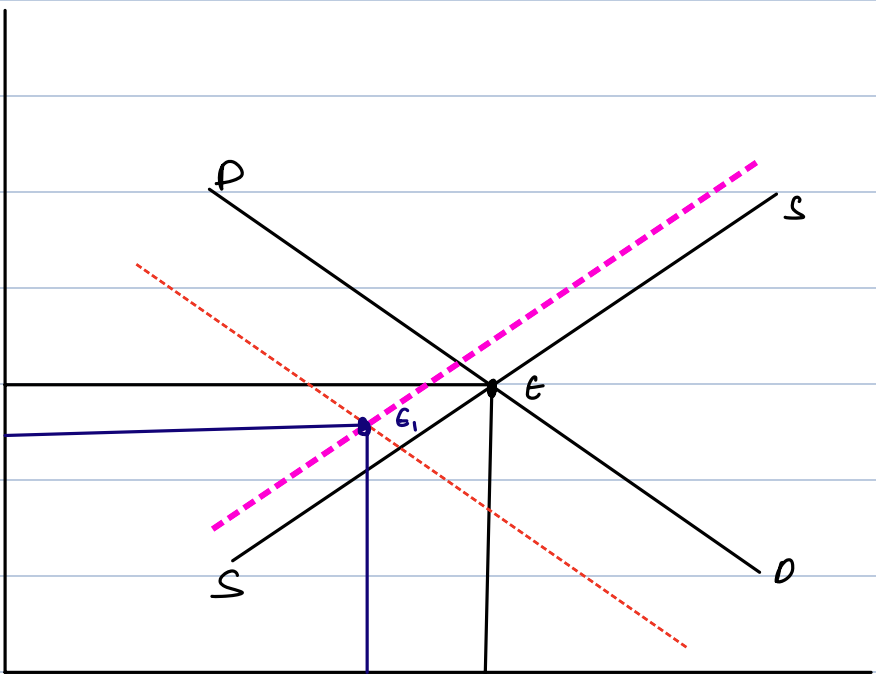
(b) Increase in Demand > Dec in Supply — P ↑

(c) " " " = Inc in Supply — E

(d) Dec in Demand > Dec in Supply

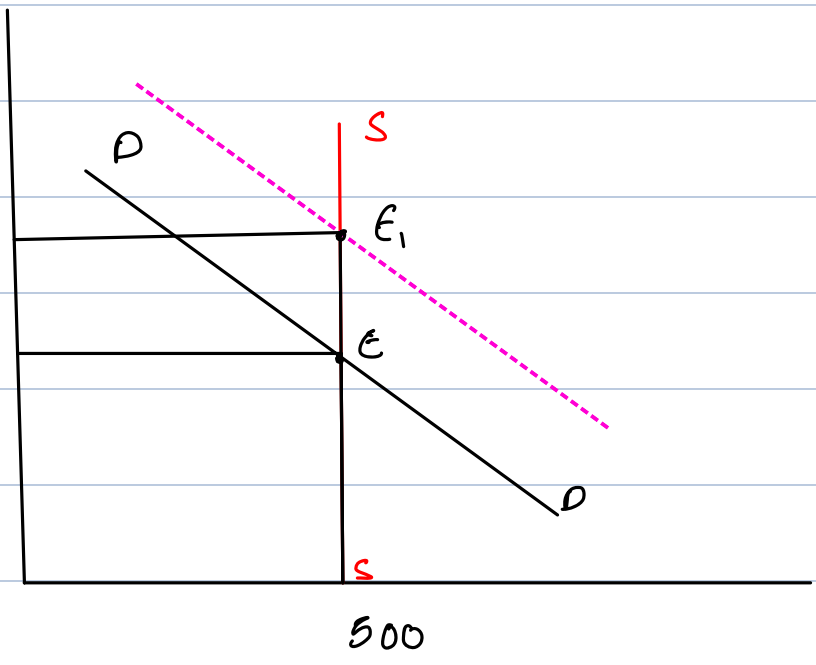
D	S
1000	1000
1200	900





25000Rs ⇒ Apple Magic
key Board.

Lakme / Nykaa
↓
Jhandu Balm.



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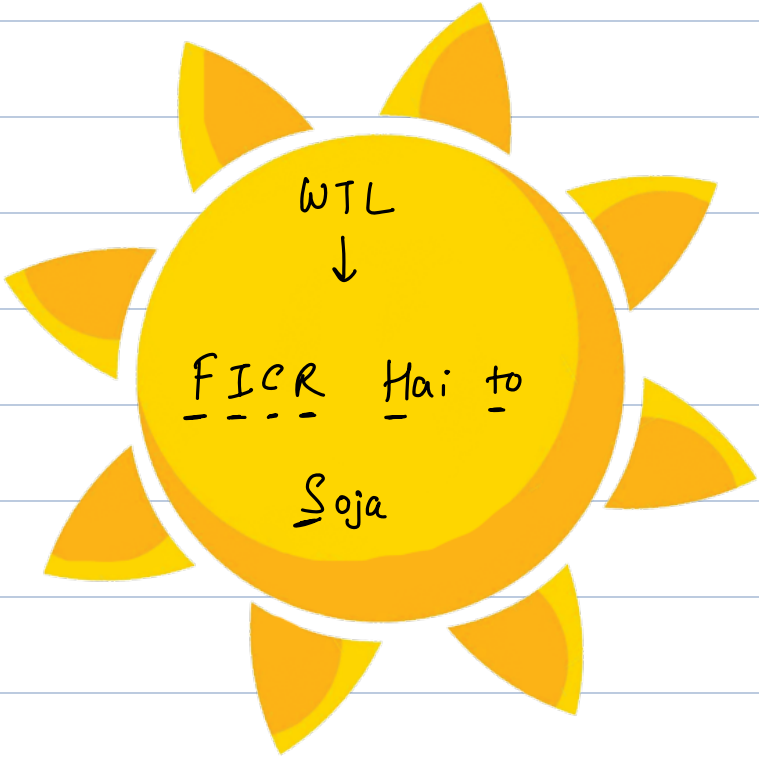
CHAPTER - 3
UNIT - I
THEORY OF PRODUCTION

Types of Capital

- Fixed Capital
- Circulating Capital
- Individual Capital
- Real Capital
- Human Capital
- Social Capital
- Tangible Capital



Fixed Capital

- Exists in Durable shape
- Renders Series of Service

Example → Tools, Machine Used in Form of Tools.

Individual Capital

- Owned by Individual as Personal Property
- Group of Individual as Personal Property

Ex- Assets owned by Individual

Circulating Capital

- Used in Production as Single Use
- Cannot be Reused Again Production

Ex → Seeds, fuel, Raw Material.

Real Capital

- Refers to physical Goods

Ex → Building, P/M

Human Capital

☞ Human Skills & Ability.

Tangible Capital

☞ Intangible Capital is in Form Certain Rights/ Benefits

Ex → Goodwill, Patents, Trademark, Copy Right

Social Capital

☞ Belong to Society only

Ex- Roads, Bridges

Capital Formation

☞ Sustained Increase in Stock of Real Capital of Country.

Stages of Capital Formation

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Income = 1000 ; Consumption = 700

Saving = 300

APS = $\frac{S}{Y} = \frac{300}{1000} = 0.3$

APC = $C/Y = \frac{700}{1000} = 0.7$

Stage - ① Savings

- Depends on Ability to Save

Avg Propensity to Save = APS = $\frac{S}{Y}$

Avg Propensity to Consume = $\frac{C}{Y}$

Income ↑ Saving ↑

Stage - ② Mobilisation of Saving

- Availability of Financial Products/ Institution Must be Present
- Banking and other Financial Institutions Necessary
- Saving Gets Shifted in Financial Market.

Stage - ③ Investment

- Process of Capital formation Gets Completed →

"Real Saving Gets Converted into Real Capital Asset"

ECONOMIC OBJECTIVES

Accounting Profit

Total Revenue

(-) Total Cost [Explicit Cost]

Accounting Profit

Economic Profit

Total Revenue

(-) Explicit Cost

(-) Implicit Cost

Economic Profit

Normal Profit

- Normal Rate of Return on Capital Invested by Entrepreneur
- Remuneration for Labour of Entrepreneur
- Renemuration for Risk bearing

What all will be Included in Implicit Cost

Goals of Firms

- Profit Goal
- Production Goal
- Inventory Goal
- Sales Goal
- Market share Goal $\left[\frac{30,000}{50,000} \times 100\right)$

Given by Cygnet and March.

$= 60\%$

Production Function

→ Technological Relation between Input and Output

→

Dependent Variable ↓ Output

Independent Variable ↓ Input

$$Q = f(a, b, c, d \ldots\ldots n)$$

Where 'Q' stands for the rate of output of given commodity and a, b, c, d.....n, are the different factors (inputs) and services used per unit of time.

Assumption of Production Function

1. Relationship b/w Input and Output is Fixed for Specific Period of time
2. There is Given "State of Art" in Production Technology
3. Innovation would Cause change in Relationship between Input and Output

Meaning of Production Function

- The relationship between the maximum amount of output that can be produced and the input required to make that output. It is defined for a given state of technology i.e., the maximum amount of output that can be produced with given quantities of inputs under a given state of technical knowledge. (Samuelson)
- It can also be defined as the minimum quantities of various inputs that are required to yield a given quantity of output.

Given by Samuelson

Maximum Output with Minimum Input

Same Output with Less Inputs

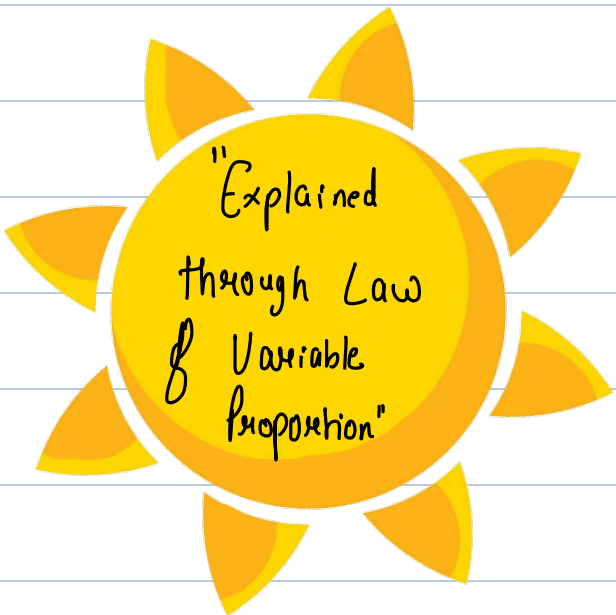
Short Run v/s Long Run.

Short Run

→ To Increase Production, only Variable Factor Can be Changed; Fixed Factor will not be Changed.

→ At least one Factor is Unchanged [Fixed Factor]

→ Machine/ Building etc Can not be Installed



Long Run.

→ To Increase Production, Fixed and Variable both the Factors can be Changed.

→ All Factors are Variable

→ Any Factor Can be Changed.

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Cobb- Douglas Production Function

- Suppose $x \propto y$; Iska Matlab hai Agar x badega to y bhi badega

$x = ky$ [k = Constant ; $\propto$ ka Sign hata diya]

Cobb Douglas Production Function.

Output Badega 3/4 Labour se $\rightarrow a$

Output Badega 1/4 Capital se $\rightarrow 1-a$

$$Q \propto L^a C^{1-a}$$

$$\Rightarrow Q = k L^a C^{1-a}$$

C = Capital

L = Labour

Q = Output

a = Constant

k = Constant

Full Names

Paul. H. Douglas

C. W. Cobb

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Total Product, Average Product, Marginal Product

Total Product

Total Qty of Output that Can be Produced with Given Inputs

Ex → If 10 Labours produce 70 kg of Rice, then 70 kg is total Output

Average Product

$AP = \frac{TP}{L}$

Output Per Unit of Variable Input

Ex → 10 Labours Produce 60 kg

Hence $AP = \frac{TP}{L} = \frac{60}{10} = 6$ kg

Marginal Product

Meaning.

Addition to Total Product When One More Unit of Variable Factor is Employed

Jab Unit ka difference is Equal to One	Jab Unit ka difference is MORE THEN ONE
10 Labours Produce = 60 kg Rice	10 Labours Produce = 60 kg Rice
11 Labours Produce = 72 kg Rice	16 Labours Produce = 72 kg Rice
$MP_n = TP_n - TP_{n-1}$	$MP = \frac{\Delta TP}{\Delta L}$
$MP_{11} = TP_{11} - TP_{10}$	$MP = \frac{72 - 60}{16 - 10} = \frac{12}{6}$
$= 72 - 60$	
$= 12$ kg / Labour	$MP = 2$ kg / Labour

Law of Variable Proportions

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✦ Law of Variable Proportion Kya Bolta Hai...

According to Law of Variable Proportion As we Increase More and More Variable Factor, Keeping Fixed Factors Fixed

- Initially TP Increase at Increasing Rate
- Then TP Increases at Diminishing Rate
- Then TP Increases at Negative Rate

Operated in short Run.

Stage - 1

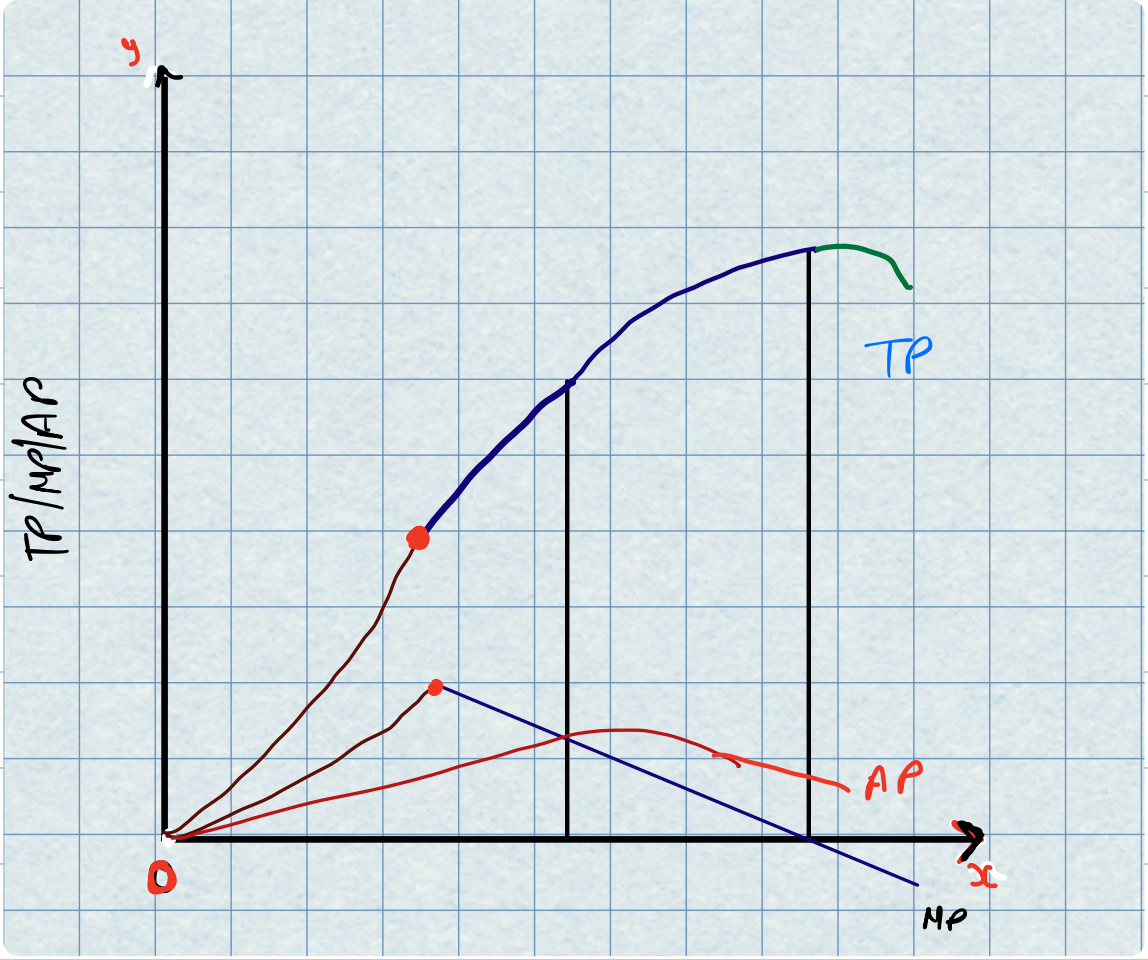
Increasing Returns to Factor

Stage - 2

Diminishing Returns to Factor

Stage - 3

Negative Returns to Factor



Stage ① and stage ③ are called as Stages of

- Economic Absurdity
- Economic Non Sense

Producer will Always Produce in Stag- ②

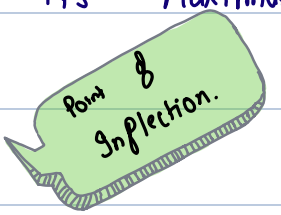
Fixed fac	Variable Factor	MP	TP	AP
1	1	6	6	6/1 = 6
1	2	8	14	7
1	3	10	24	8
1	4	4	28	7
1	5	0	28	5.60
1	6	-2	26	4.33

PHASE I

"Increasing Returns to Factor"

When MP Increases, TP Increases at Increasing Rate

☞ When MP is at its Maximum Point, TP Stops Rising at Increasing Rate



☞ When MP Starts Falling in phase I, TP Increases at Diminishing Rate

☞ When AP is at its Maximum, Phase I Ends.

PHASE - II

☞ In Phase. II, MP Continue to fall, but Remains +ve, TP Increases at Diminishing Rate

☞ When MP is Zero ; TP is Maximum.

☞ When MP = Zero, TP = Maximum, it is end of Phase II

☞ AP Starts Falling but is Positive

Phase III

- When MP becomes negative, TP starts falling.
- AP Continue to fall

Brain Teaser Questions ....

Can AP be Zero ?? = No

Can AP be Negative?? = No

When AP is Maximum, then what is AP Called = Nothing
[Stage 1 Ends.

Can MP be Zero = Yes

Can MP be Negative = Yes [3rd Phase]

From When MP Falls → After Point of Inflexion.

When MP is at its Maximums → "Point of Inflexion"

Jab AP Apne Max Par Hoga, Waha AP will be Equal to MP.

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Can TP be Negative = No

Can TP be Zero = No

When TP is at its Maximum = At End of Stage-2

When TP Stops Rising at Increasing Rate = Point of Inflexion.

Law of Returns to Scale

Returns to Scale Refers to change in output, when ALL Factors of Input are Changed Simentaneously

↓

in Same Proportion in Long Run.

Stages of Returns to Scale

Increasing Returns to Scale

Constant Returns to Scale

Diminishing Returns to Scale

Increasing Returns to Scale

Input	Output
10C+12L	100
20C+24L	220

When Proportionate Increase in Total Output is More Proportionate Increase in Total Input, it is known Increasing Returns to Scale.

Inc in Output is More then Inc. in Input.

Constant Returns to Scale

Also called as Linear Homogeneous Production Function.

Input	Output
10C+12L	100
20C+24L	200

When Proportionate Increase in Total Output is Equal to Increase in Total Input, it is known Constant Returns to Scale.

Inc in output is Equal to Inc in Input

Dimishing Returns to Scale

Input	Output
10C+12L	100
20C+24L	185

When Proportionate Increase in Total Output is Less then Increase in Total Input, it is known Dimishing Returns to Scale.

When Inc in Output is less then Inc in Input.

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Cobb - Douglas Return to Scale

$$Q = k L^a C^b$$

Q = Output

L = Qty of Labour

C = Qty of Capital

k = Constant

a = Constant

b = Constant

$a + b > 1$, Increase in Output is More than Increase in Input

↓

Increasing Returns to Scale

$a + b = 1$, Increase in Output is Equal to Increase in Input

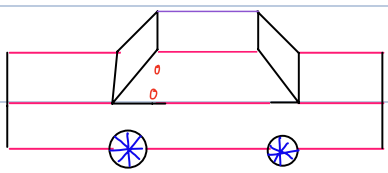
↓

Constant Returns to Scale

$a + b < 1$ Increase in Output is Less than Increase in Input

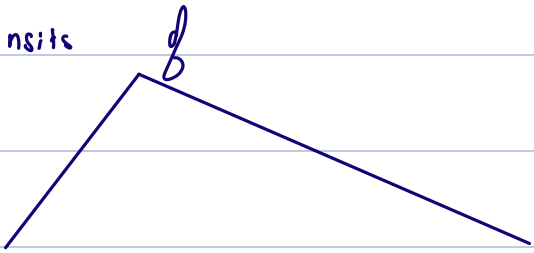
↓

Decreasing Returns to Scale



Product optimisation.

Product optimisation is consits of



Production function

↓

Isoquants

Cost function

↓

Iso Cost Lines

Iso Quants

10C + 50 L = 3000 Units of Output
11C + 35L = 3000 Units of Output
12C + 30L = 3000 Units of Output

} All Combination of Inputs Which Give Same Qty of Output

↓

" Isoquants"

- Producer is Indifferent on all Combinations.

Also Called as...

- Equal Product Curves
- Iso Product Curves
- Production Indifferent Curves.

Producer is Indifferent on all Points

	Capital	Labour	Output	Marginal Rate of Technical Substitution ⇒ MRTS ⇒ $\frac{\Delta \text{ Factor Sac.}}{\Delta \text{ Factor Gained}}$
A	1	12	1000	-
B	2	08	1000	$\frac{4}{1} = 4$
C	3	5	1000	$\frac{3}{1} = 3$
D	4	3	1000	$\frac{2}{1} = 1$
E	5	2	1000	$\frac{1}{1} = 1$

Properties of Isoquants

- Negatively sloped
- Convex to Origin → Due to Diminishing MRTS
- Non-Intersecting. on the x-axis and y-axis.

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Iso - Cost Lines

Also Called as...

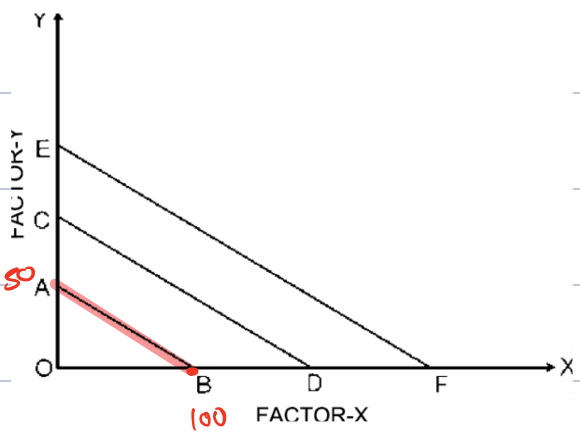
- Equal Cost Lines
- Budget Line
- Budget Constraint Line

Example Income → 1000 Rs Factor x = Rs 10

Factor y = Rs 20

Whole Income Spent on x ⇒ 100 Units

Whole Income Spent on y = 50 Units

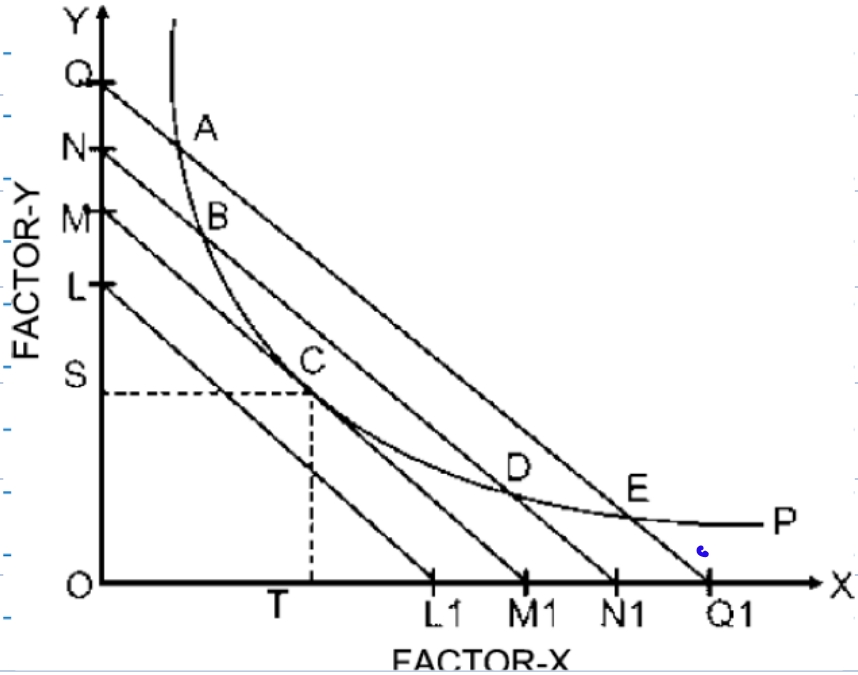


- AB line → Iso Cost line

- Iso quants Represent Technical Condition of Production
- Iso Cost line Represent level of Cost

Producers Equilibrium

"least Cost Combination of Factors"



Suppose we want to buy 1000 Units Represented by Isoquants P.

This 1000 Units Can be Manufactured by any Cost Combinations which is lying on P ie A, B, C, D, E.

- Cost of Producing 1000 Units will be Minimum at Point C.
- At Point C Isoquant MM_1 is tangent to Isoquant P
- Hence Point C is optimum Combination for Producer

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Chapter – 5
Unit - 2
COST

Cost Functions

☞ Mathematical Relation between

- Cost of Product
- Various determinants of Cost

☞ Cost function is obtained from

- Production function
- Market Supply of Inputs

Types of Cost Functions

Short Run Cost functions

Output Can be changed by Change in Only Variable factors

Long Run Cost functions

Output Can be Changed by Changed by Change in all factors

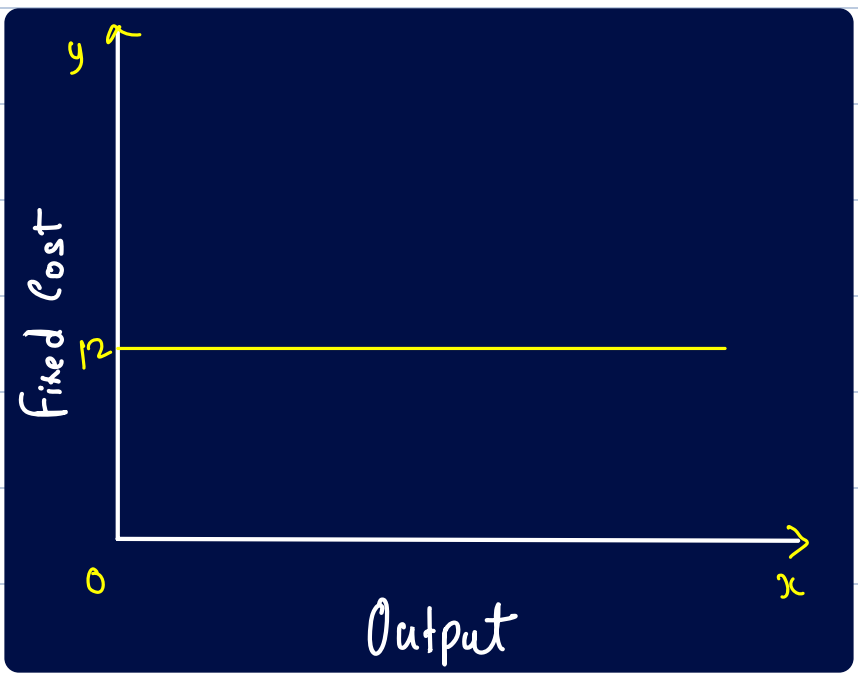
Total Fixed Cost

☞ Does not Vary with Change in Total Output

- Cost Remains Same whether Output is
  - Increased
  - Decreased
  - Zero

Also known as ...

- Supplementary Cost
- Overhead Cost
- General Cost
- Indirect Cost
- Unavoidable Cost
- Shut Down Cost



Output	TFC
0	12
1	12
2	12
3	12
4	12

Shape
↓
Straight Line
Parallel to
x- axis

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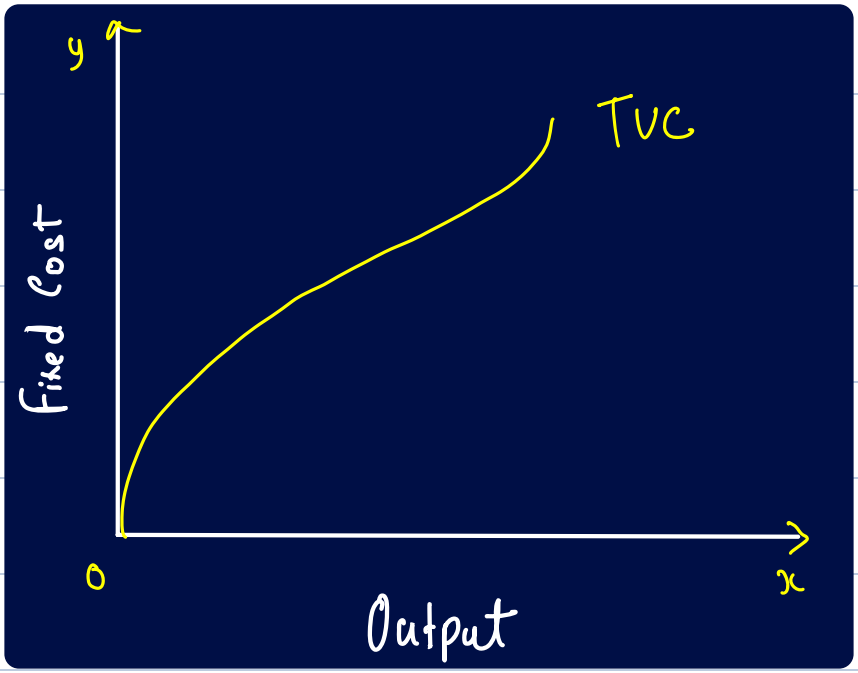
Total Variable Cost

☞ Cost which Vary with Change in Output

☞ Variable Cost
- Rises with Rise in Output
- Fall with Fall in Output
- Zero at Zero Level of Output

Also known as ...

- Prime Cost
- Direct Cost
- Avoidable Cost



Output	TVC
0	0
1	6
2	10
3	15
4	24
5	35

Shape of Graph ↴
"Inverse S-Shaped"

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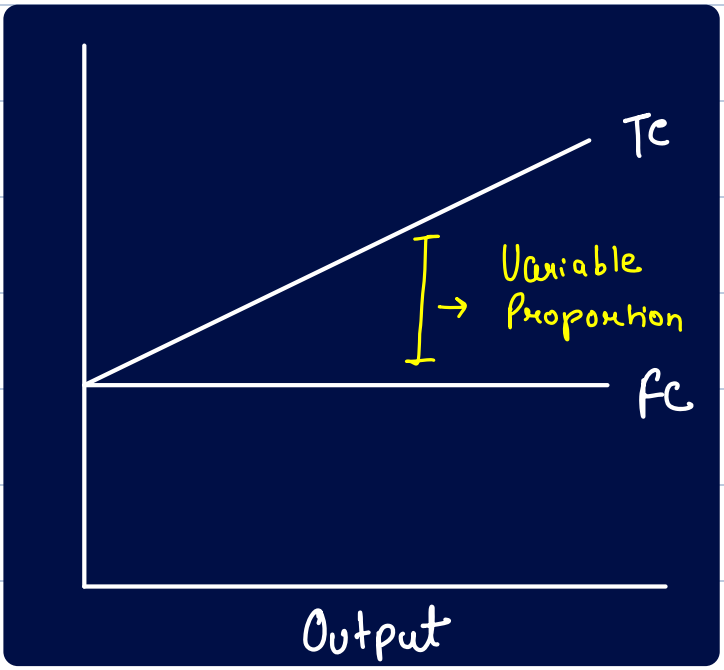
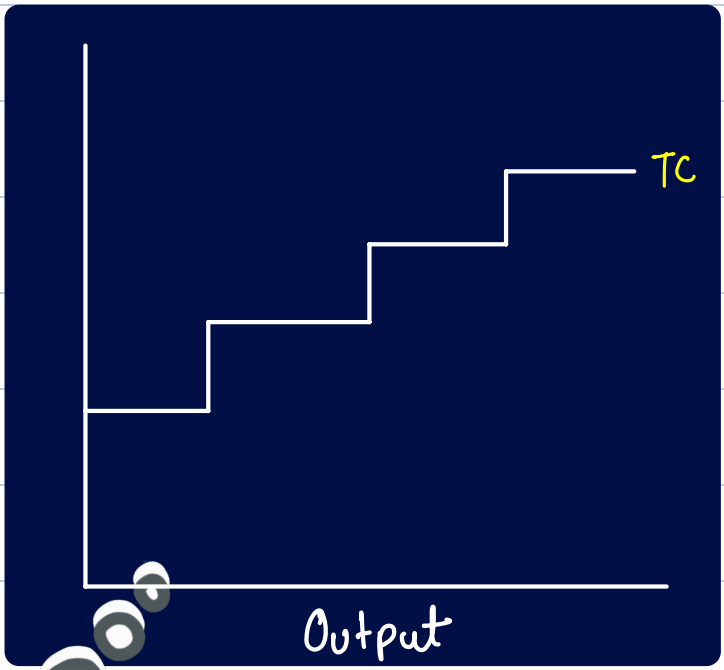
Semi Variable Cost

☞ Neither Perfectly Variable and Nore Perfectly Fixed.





Stair Step Fashion Semi Variable Cost

Stair Step Fashion. They Remain Fixed over Certain Range of Output but Suddenly Jump to New High level When Output Goes beyond limit

Total Cost

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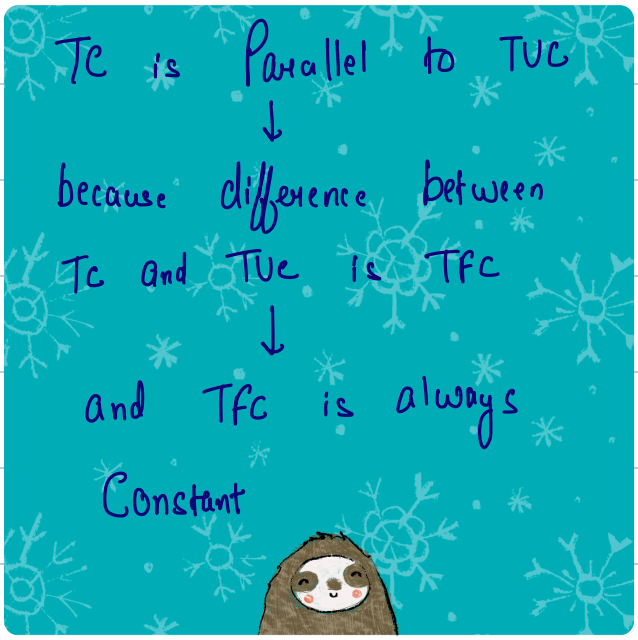
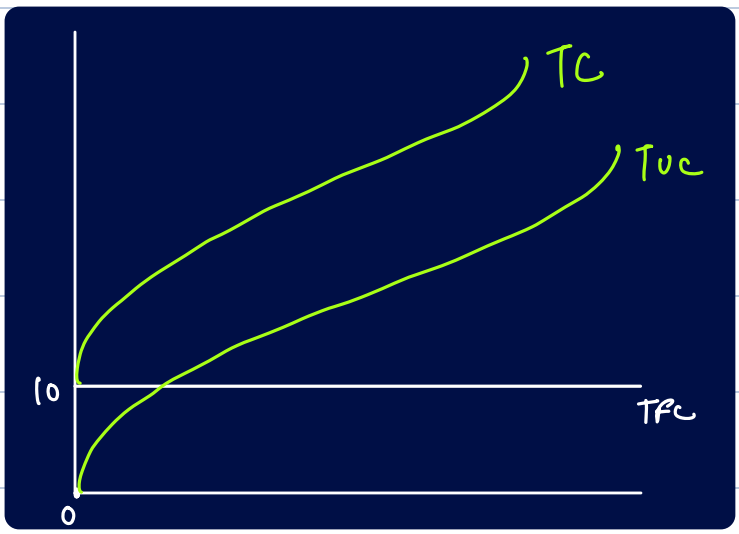
- It is the Sum Total of Fixed Cost + Variable Cost

.



$$TC = TFC + TUC$$



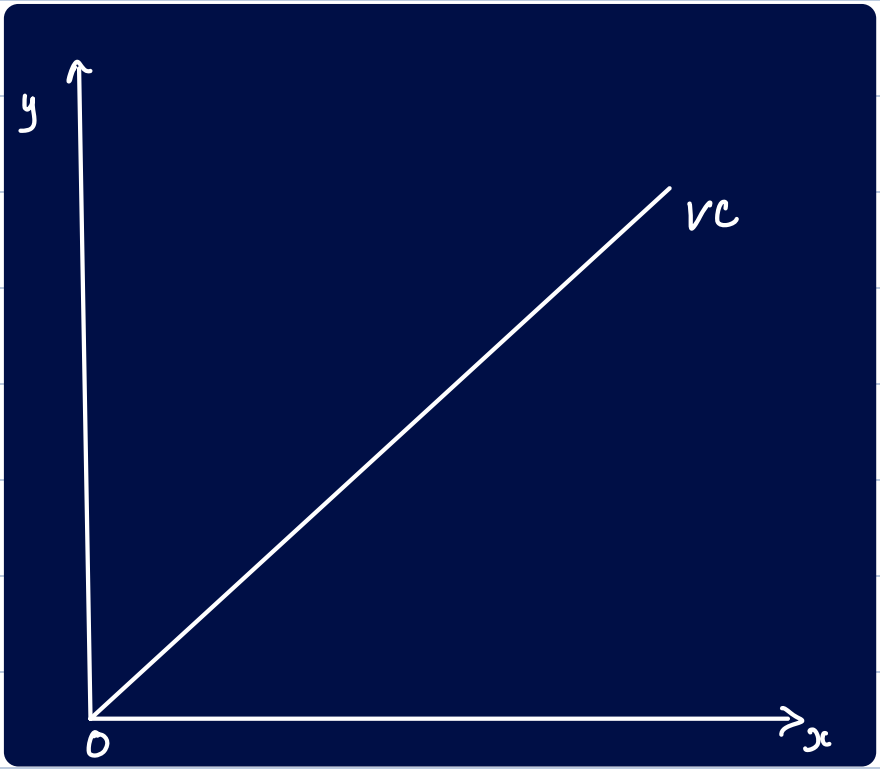
Output	TFC	TUC	TC
0	10	0	10
1	10	3	13
2	10	7	17
3	10	12	22
4	10	19	29
5	10	30	40
6	10	43	53

note to self:

At Zero Unit of Output there is Just One Cost which is TFC, also this will be Equal to TC

Special Case

Variable Cost Change line Early with Changes in Output



Average Fixed Cost

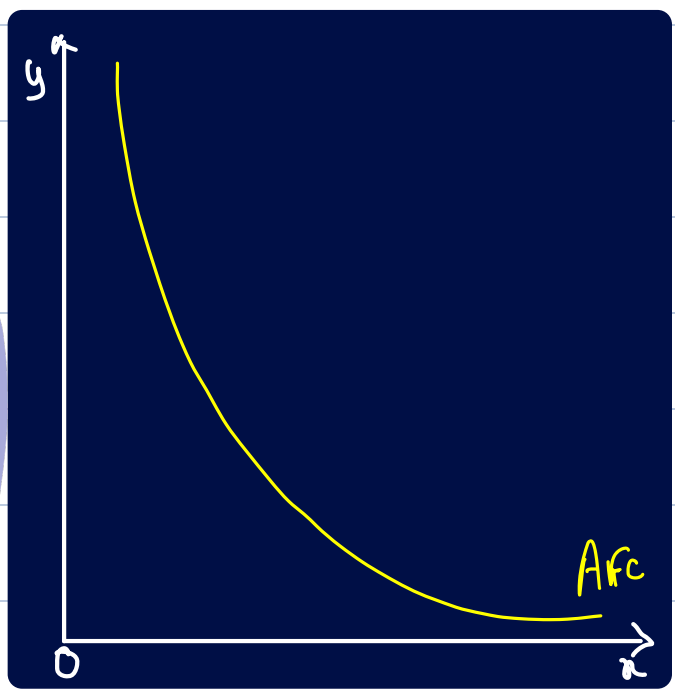
- It is Per Unit Fixed Cost of Production

$$AFC = \frac{TFC}{Q}$$

Shape ↓

Rectangulare Hyperbola.

DON'T forget

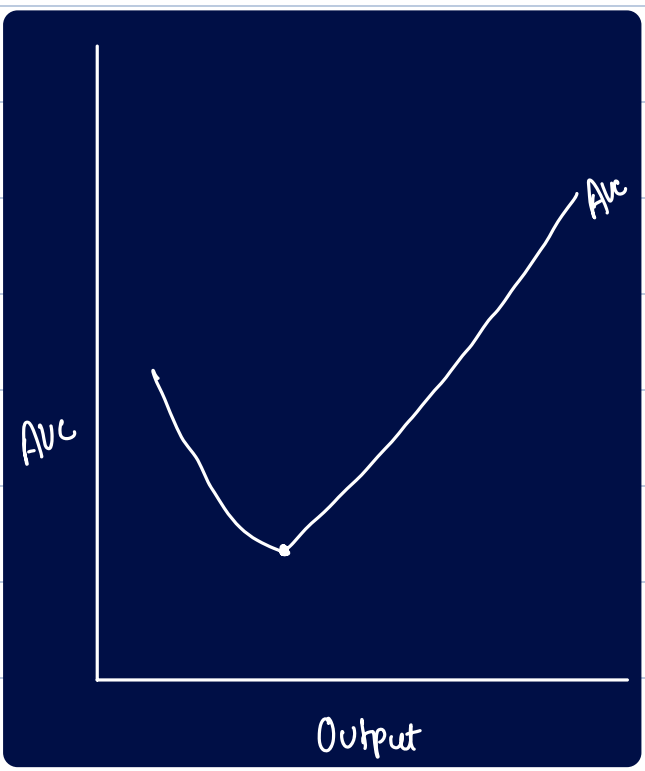


Units	TFC	AFC
0	30	-
1	30	30
2	30	15
3	30	10
4	30	7.5
5	30	6

- AFC will fall as Output Increases
- AFC will not touch X- axis
- AFC Can Never be Zero.

Average Variable Cost

It is Per Unit Variable Cost of Production



Units	TVC	AVC
0	0	-
1	6	6
2	10	5
3	15	5
4	24	6
5	35	7

$$AVC = \frac{TVC}{Q}$$

Zero to Normal Capacity

Avg Variable Cost Normally Falls as Output Increases

↓

due to occurence of Increasing Returns to Variable Factor

Beyond Normal Capacity.

↓

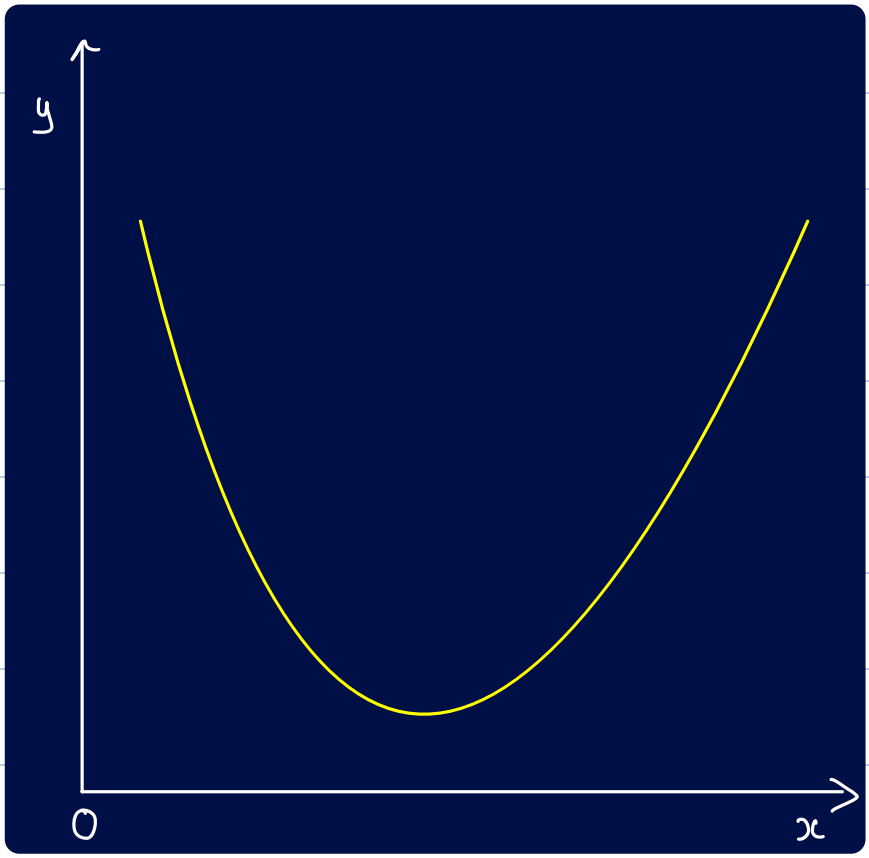
Avg. Variable Cost will Rise Steeply because of Operation of Diminishing Returns.

Average Cost

- It is Per Unit Cost of total Production.

$$AC = \frac{TC}{Q}$$

$$AC = AFC + AVC$$



Shape
↓
"U Shaped Graph"

Marginal Cost

- Addition to total Cost when More Output is Produced

Formulae Box

$$MC_n = TC_n - TC_{n-1}$$

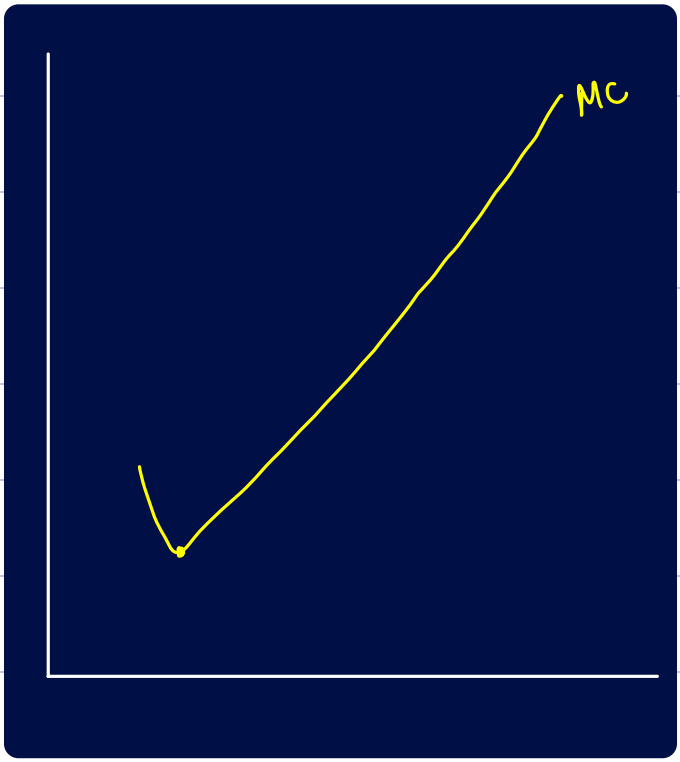
$$MC_n = TVC_n - TVC_{n-1}$$

$$MC = \frac{\Delta TC}{\Delta Q}$$

TC = Total Cost

TVC = Total Variable Cost

MC = Marginal Cost



Shape
↓
"U Shaped Graph"

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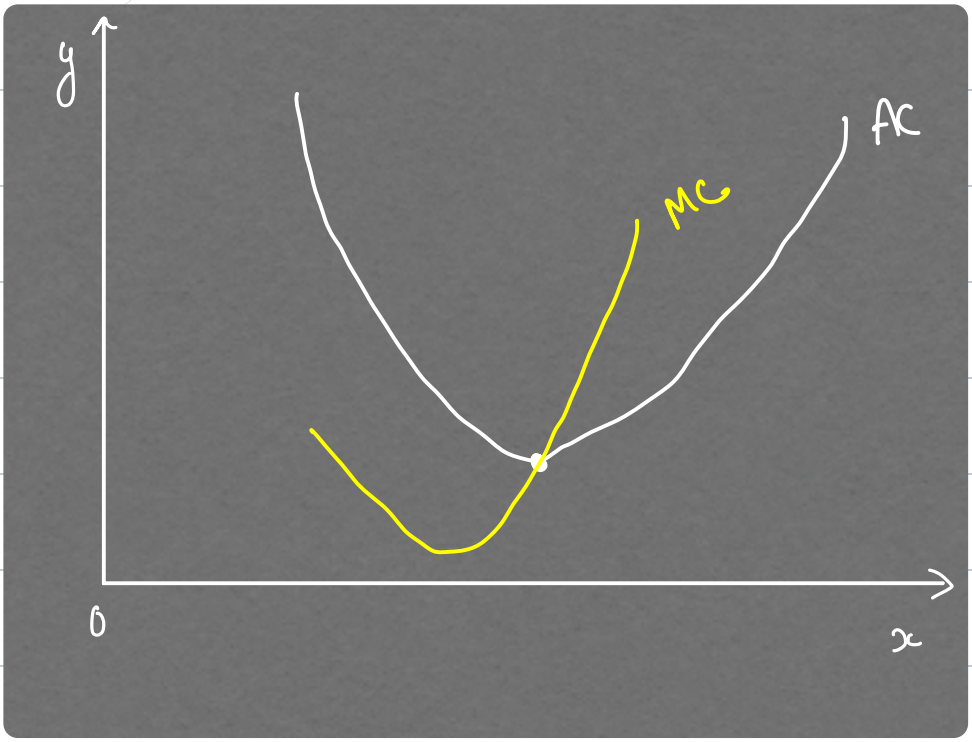
Baap Level Important Relation

Relation between Ac and MC



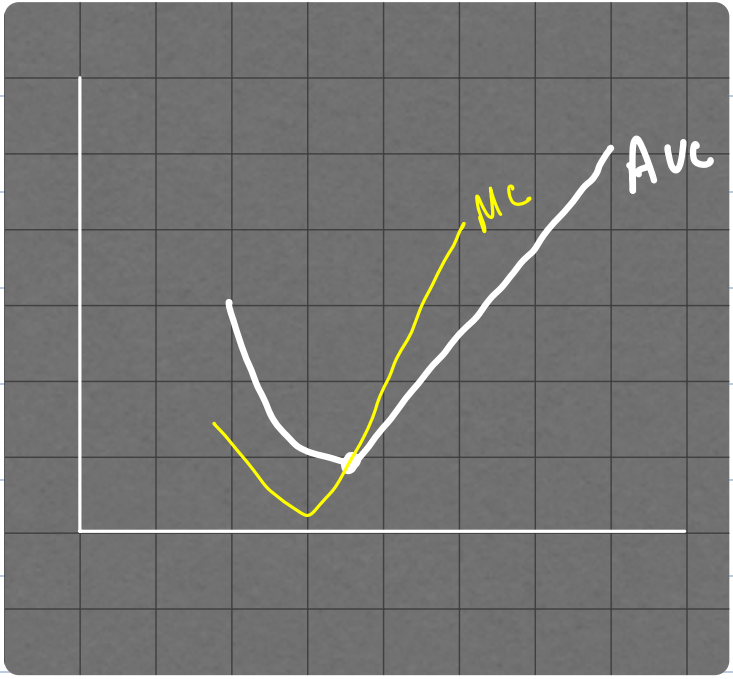
☞ When MC is less then AC;

Ac Falls

☞ MC Cuts AC, when AC is at its Minimum.

☞ When MC is More then AC; then AC Rises.

Relation between AVC and MC

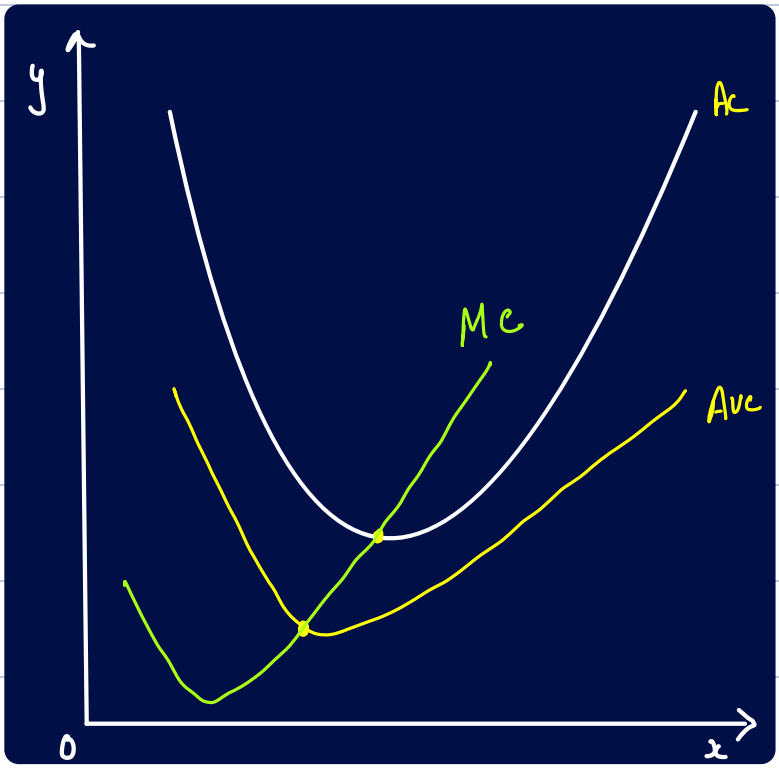


☞ When MC is less then AVC; AVC Falls

☞ MC Cuts AVC, when AVC is at its Minimum.

☞ When MC is More then AVC; then AVC Rises.

Relation between AC, AVC and MC

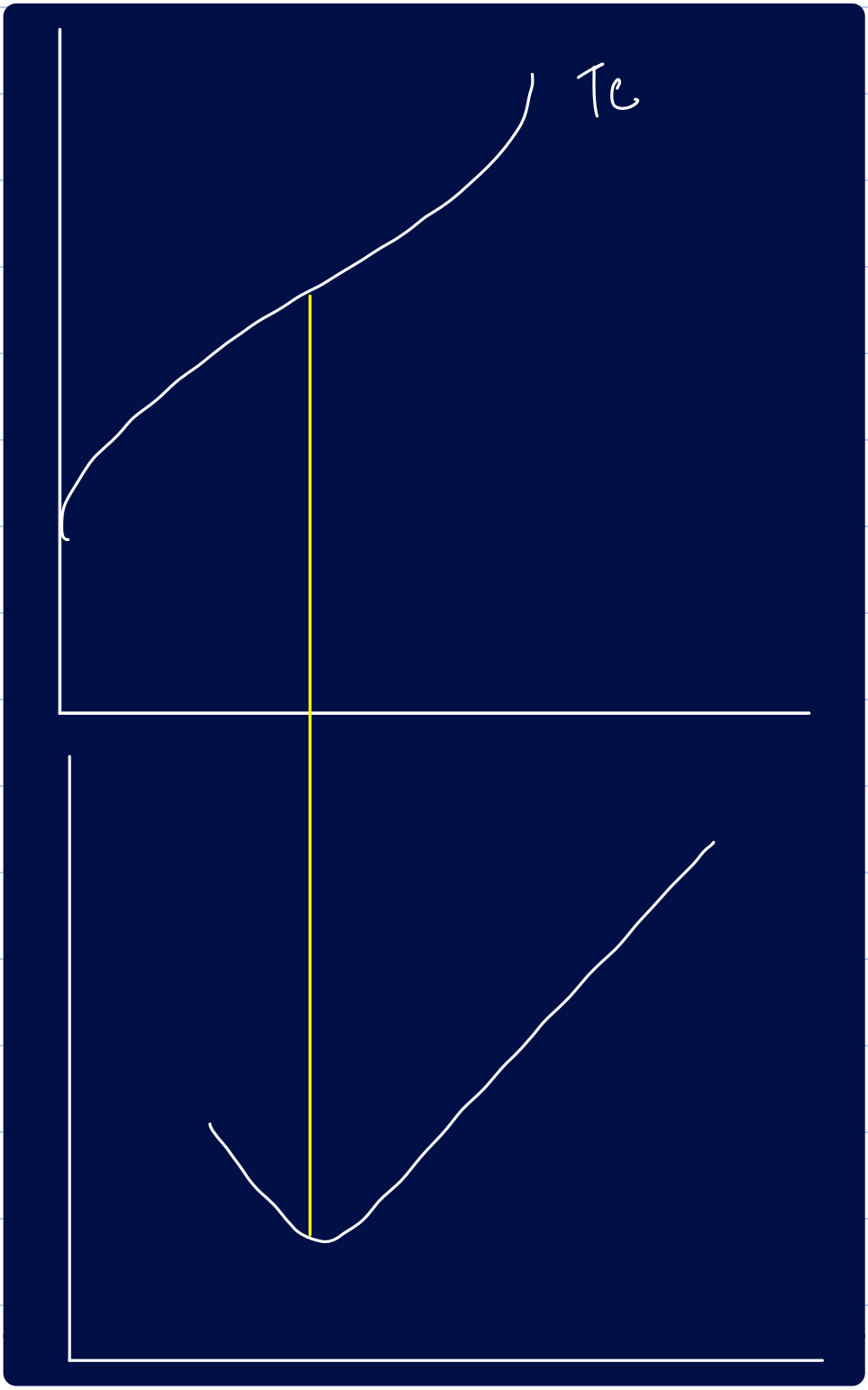


- When MC is less then AC & AVC; both AC and AVC Falls

- MC Cuts AC and AVC; when both AC and AVC are at its Minimum

- When MC is More then AC & AVC; Both AC and AVC Rises.

Relationship Between TC and MC



- When MC Declines, TC Rises at Diminishing Rate

- When MC is at its Minimum; TC Stops Rising at Diminishing Rate

- When MC Rises, TC Rises at Increasing Rate

Long Run Cost Curves

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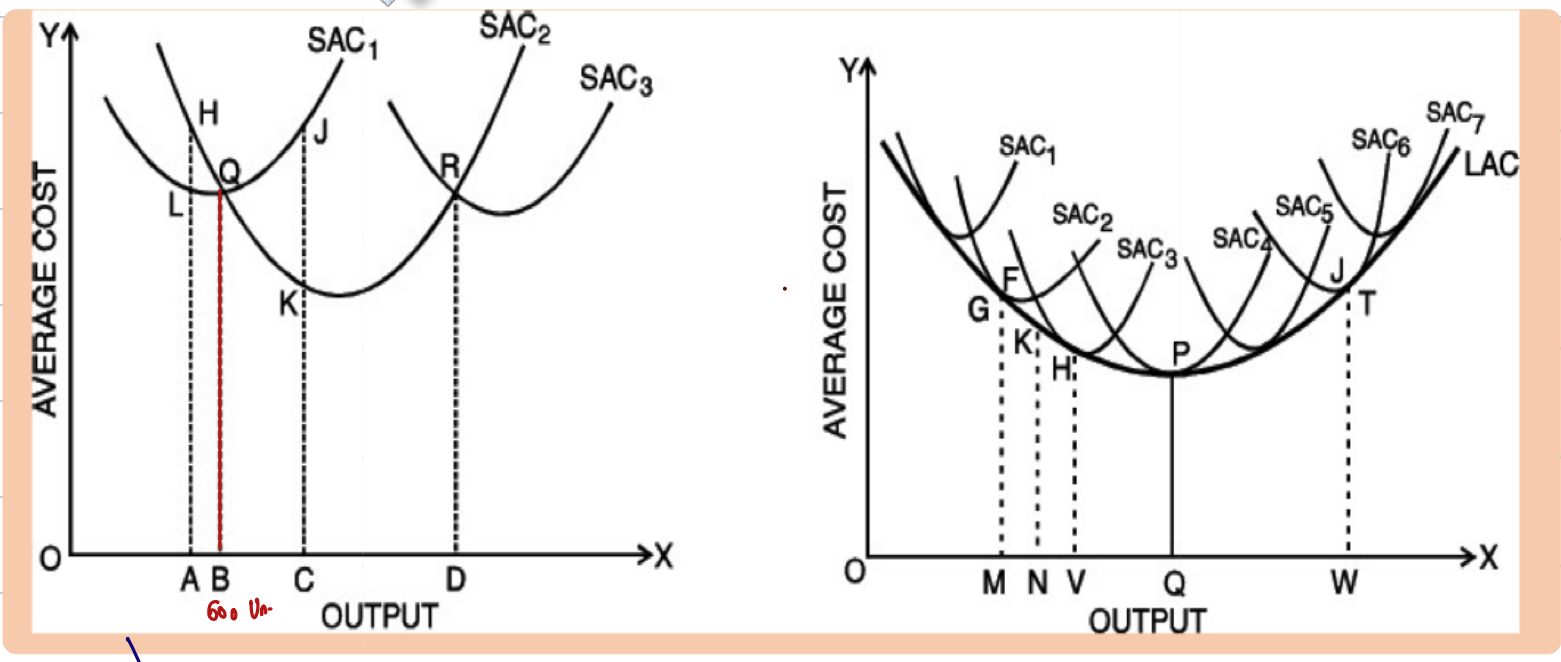
Meaning

Long Run Cost of Production is "Least Possible Cost of Producing any Level of Output

- A Long Run Cost Curves depicts Functional Relationship between

Output & Long Run Cost of Production



Parle G.

upto OB Amount of Output, the firm will operate on SAC_1, though it could be produced with SAC_2

↓

as Cost per Unit on SAC_1 is lower then SAC_2

↓

When Output OA is produced on SAC_1, Cost Per Unit will be AL [say ₹ 13 Per Unit]

↓

and when same Output is produced on SAC_2 Cost Per Unit will be AH [say ₹ 15 Per Unit]

↓

Now as AH is More then AL, Produce on SAC_1

Suppose if Output Now is More then OB but less then OD, then not Economical to Produce on SAC_1

↓

then Production to be done on SAC_2

Short Run Average Cost Curve are also called as "Plant Curves"

Long Run Average Cost Curve are also called as "Envelope Curve" and "Planning Curve"

"Long Run Avg Cost Curve will be Smooth Curve

↓

Enveloping all these Short Run Avg Cost Curve"

U shaped LAC arises due to "Return to Scale

Why is LAC "U shaped"

Increasing Return to Scale Causes

↓

Fall in Long Run AC Curve

↓

Result from Internal and External Economies of Scale

Decreasing Return to Scale Causes

↓

Rise in Long Run AC Curve

↓

Result from Internal and External diseconomies of Scale

When Firm Expands → Return to Scale Increases → After a Range of Constant Returns to Scale → Return to Scale Finally Decreases

Similarly → LAC Curve First Declines ↓ then Finally Rises

Economies and Diseconomies of Scale

Economies Means ↓ Advantages

you got this

Diseconomies Means ↓ Disadvantages

you got this

Economies

- Internal → Advantage within the Organisation
- External → Advantages From Outside World

Diseconomies

- Internal → Disadvantage within the Organisation
- External → Disadvantage From Outside World.

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Internal Economies and Diseconomies

- Technical Economies and Diseconomies
- Managerial Economies and Diseconomies
- Commercial Economies & Diseconomies
- Financial Economies and Diseconomies
- Risk Bearing Economies and diseconomies

Technical Economies and Diseconomies

Technical Economies

- Firm Increase, Most Specialised Forms of all Factors
- Output ↑ Efficient Machinery → Cost Per Unit ↓
- Advantage of Composit Technology
- Production ↑ Division of Labour Hoga → Cost Per Unit ↓
- Benefits of Linked Process.
- Dependence on other Firm ↓
- We only Undertake Process From Input to Final Stage.

Technical Diseconomies

- All Labour and Machinery fully Utilised, if still Used further Large Cost of Machinery will be Incurred
- Scale of operation ↑, difficult for Management to Control and bring Proper Coordination.

Managerial Economies and Diseconomies

Managerial Economies

- It Means Reduction in Managerial Cost
- Output ↑ Division of Labour Hoga
- Management divided into Specialised dept → under Spec. Personnel
- Further these dept Can be further Divided.
- Decentralised of Decision Making and Mechanisation of Managerial function.

Managerial Diseconomies

- When Production Goes beyond limit Managerial Diseconomies occurs
- Communication b/w Manager and Labour Gets difficult
- Decision Making delayed
- Coordination is Poor
- Managerial Structure Complex

भूलने नहीं देंगे तुझे

- Greater Bureaucracy
- Red Tapism
- Lengthy Communication line.

Commercial Economies and Diseconomies

Commercial Economies

- A Large Firm will be able to Place bulk Order → Cost will Reduce.
- If Marketing is done Properly then Behvaior of Sales Staff will not Reduce Sales Qty.
- Output ↑ Advertisment Cost Per Unit ↓
- A Large Firm will Sell By Products and Earn Profits.
- Benefits of Transportation & Storage.

Commercial Diseconomies

- If Working after optimum Scale, then diseconomies will Come.
- Adv. Expenditure will Inc. optimum Production.

Financial Economies and Diseconomies

Financial Economies

- Advantages will be Related to Procurment of Fund
- Firm Can offer better Security to Bankers and Easy Advance will be Given.
- Also has a benefit of Shares Can be listed on Stock Exchange.
- Capital Can be Raised at low Cost

Financial Diseconomies

- If Fund is Raised beyond Certain limits
  ↓
  then Cost of Raising finance will be More.
- Dependence on External finance will Increase.

Risk Bearing Economies & Diseconomies

Risk Bearing Economies.

- Business with Diverse and Multi Production Capablity, it Can handel Economic ups and Down.

Risk Bearing DisEconomies.

In Case of diversifications Risks will be High.

External Economies

- Cheaper Raw Material and Capital Equipment
- Development of Skilled Labour
- Technological External Economies
- Growth of Ancillary Industries
- Economies of Information
- Better Transportation and Marketing Facilities

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External Economies

(a) Cheaper Raw Material and Capital Equipment

- Production Expand → Raw Material Cheaper
  → Machineries Cheaper.

- Firm Can Get this Raw Material and Capital Equipment at Competetive Pricing.

- This will Reduce COP and Price ↓

(b) Technological Economies

- Output Expand → New Technology will be discovered
  ↓
  Use of Improved and Better Machinery and Process.

- Production ↑ COP ↓

(c) Development of Skilled Labour

- Production Expand → Labour will develop Itself For New Production Process and Learn From Experience.
- Pool of Trained Labour get developed.

(iv) Growth of Ancillary Industries

- Expansion of Industry → Leads to Growth of Ancillary Industries such as
  - → Supply of Raw Material
  - → Supply of Tools
  - → Repairs Service
- Input Price Go Down in Competetive Market → Benefits will Go to all firms.
- Cost of Production ↓

(V) Better Transportation and Marketing facilities

- Expansion of Industry ↑ Entry of New firms ↑ → Making Transportation Effective and Marketing Network.
- CoP ↓
- Communication System Modernised.

(Vi) Economies of Information

Necessary Information Regarding
- Technology
- Labour
- Price
- Products

From
- Information Bulletins Industry Booklet Association.

External Dis Economies

- Output ↑ Pressure on Input Market
- Cost of Factor of Production ↑ Price ↑ Demand ↓
- Higher transportation Cost, Pollution ↑ Etc.

Classification of Market

- Geographical Area
  - Local
  - Regional
  - National
  - International
- Time Period
  - Very Short Period (OR) Market Period
  - Short Period
  - Long Period
  - Very Long Period (OR) Secular Period
- On the Basis of Regulation
  - Regulated
  - Unregulated Market
- On the basis of Nature of Transactions
  - Spot Market
  - Forward Market
- On the Basis of Volume of Business
  - Wholesale Market
  - Retail Market

Ch. 4 Unit I

Meaning and Types of Market

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Meaning of Revenue

Revenue Refers to Sale ⇒ P x Q

Meaning of Total Revenue

TR is total Receipts by Selling Given Qty of Commodity.

Total Revenue = Price x Q. Sold.

Meaning of Average Revenue

- Revenue Per Unit of Output sold.

$$AR = \frac{TR}{Q}$$

Ex → If Price is Rs 10 and 500 Qty is sold. Calculate TR/AR??

Sol. ⇒ TR = P x Q

⇒ 10 x 500 = 5000Rs

$$AR = \frac{TR}{Q} = \frac{5000}{500} = 10 \text{ Rs}$$

Meaning of Marginal Revenue

- Extra Revenue Received by Selling One Extra Unit

Formulae Box

$$MR_n = TR_n - TR_{n-1}$$

$$MR = \frac{\Delta TR}{\Delta Q}$$

When Difference of Unit is More then 1

$$TR = MR_1 + MR_2 + MR_3 + \dots + MR_n$$

Ex If Total Revenue of 500 Units is Rs 5000, and Total Revenue of 501 Units is Rs 5010. Calculate MR??

$$MR_n = TR_n - TR_{n-1}$$

$$MR_{501} = TR_{501} - TR_{500}$$

$$= 5010 - 5000$$

$$= 10 \text{ Rs.}$$

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Relationship Between

[Bhaut kaam ke Relations....]

When Price is Constant.

When Price is Constant ↓

then

P = AR = MR = Demand Curve.

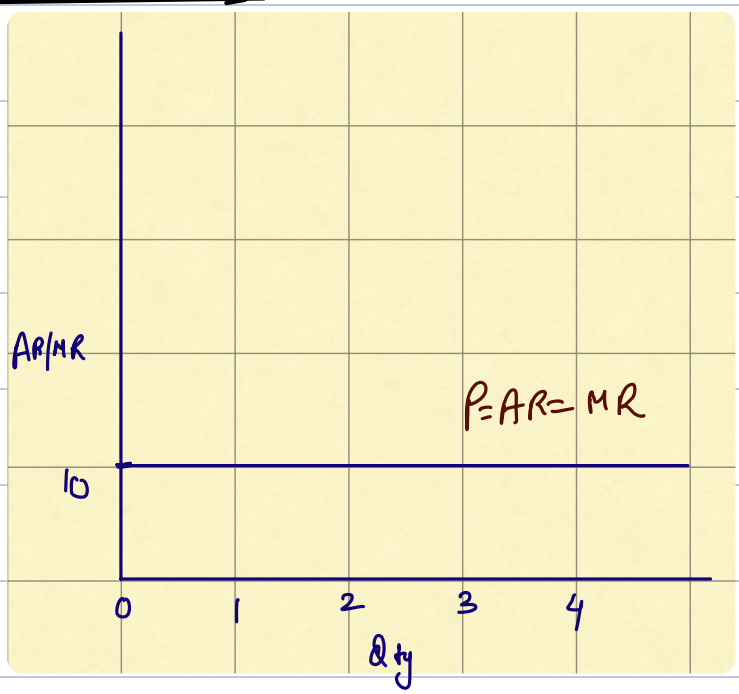
Qty	Price	TR = P × Q	AR = TR/Q	$MR_n = TR_n - TR_{n-1}$
1	10	10	10/1 = 10	10-0 = 10
2	10	20	20/2 = 10	20-10 = 10
3	10	30	30/3 = 10	30-20 = 10
4	10	40	40/4 = 10	40-30 = 10

(a) Between AR and MR [Price Constant]

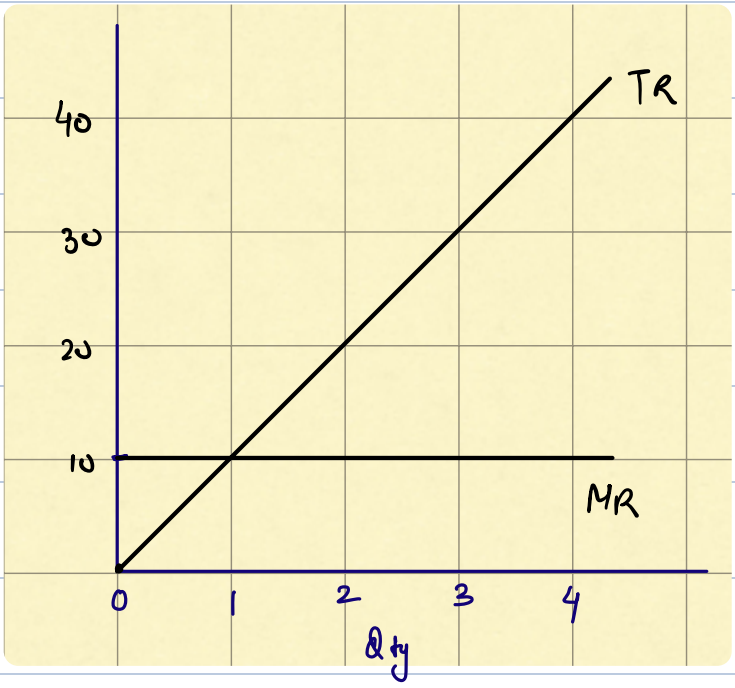
AR and MR Curve Co-incide

↓

and is Horizontal line Parallel to x-axis.

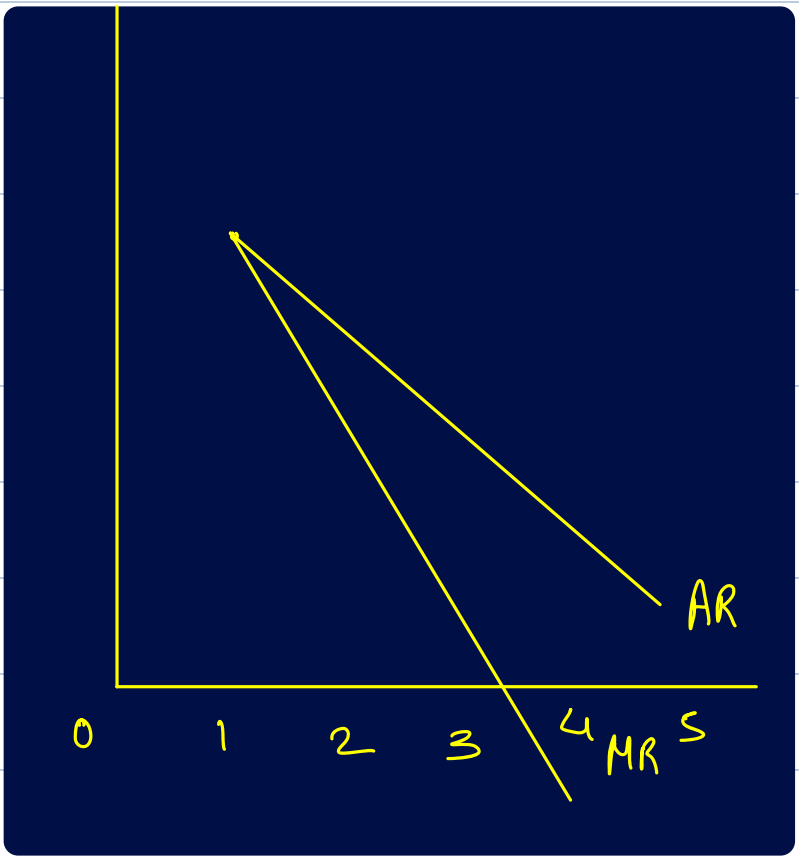


(b) Between TR and MR [When Price is Constant]



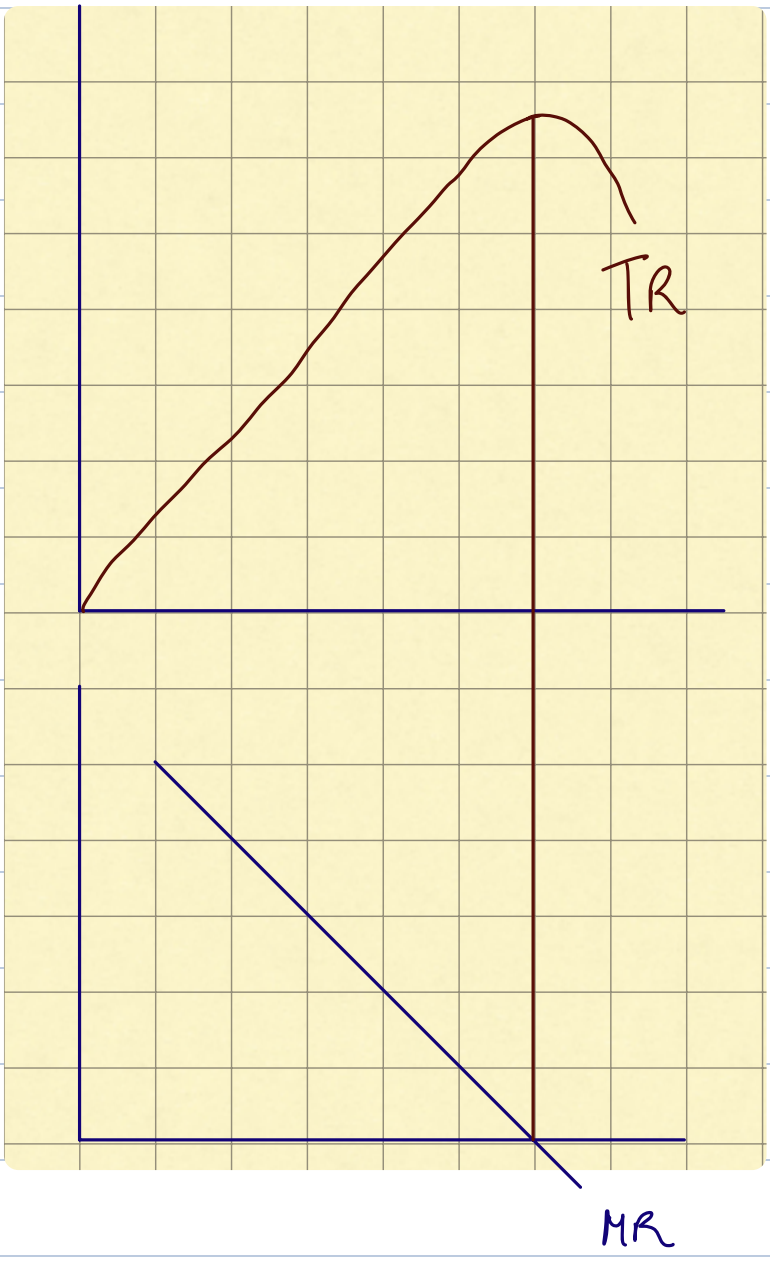
When MR is Constant, TR Increases at Constant Rate

(c) Between AR and MR [When Price is falling]



Qty	Price	TR=P×Q	AR = TR/Q	$MR_n = TR_n - TR_{n-1}$
1	10	10	10	10
2	8	16	8	6
3	7	21	7	5
4	3	12	3	-9
5	1	5	1	-7

(d) Relation between MR and TR



- When MR falls, TR Increases
- When MR is Zero ; TR is Maximum
- When MR is -ve ; TR Starts Falling

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Relationship Between AR, MR, TR and Price Elasticity.

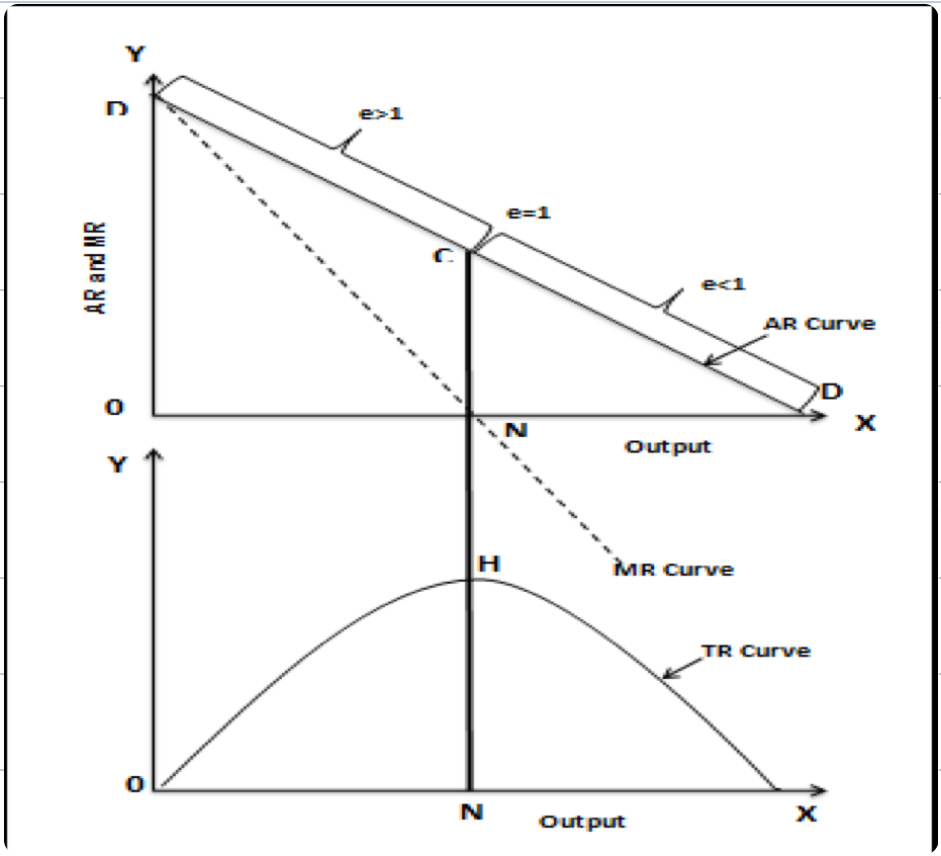
$$MR = AR \times \frac{e-1}{e}$$

Brain Teasers.

If $e = 1$ ↓ then MR = Zero

If $e > 1$ ↓ then MR will be Positive.

If $e < 1$ ↓ then MR will be Negative.

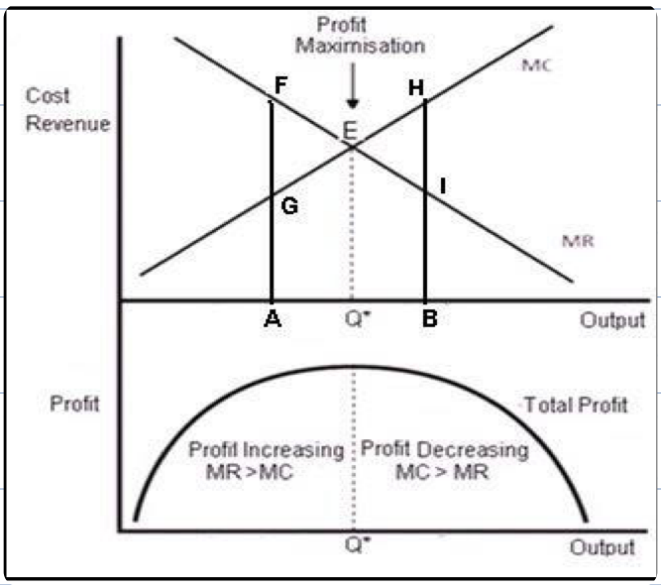


Principle 1

	Profit / (Losses)	Shut - Down	Remarks
Price < AVC P = 300 AVC = 350	Loss	Yes	Not Able to Cover Ave, Chup Chap Shut down kardo.
Price is Equal to Ave P = 350 ; AVC = 350	Loss	Not Really	If Price Slightly Go below Ave Shut down karna Padega.
Price Above AVC but less then Ac AVC = 350, AFC = 200, AC = 550 ; Price = 420	Loss	Sochna bhi Mat.	Still in loss as Ac not Covered Yet.
Price Equal to AC AC = 550 ; Price = 550	No Loss / No Profit (BEP)	No Need	All Cost is Covered. [EP → Zero]

Price Above AC AC = 550 ; Price → 630 Profit = 80Rs	Profit	x x x x x x x	Positive Economic Profit Zone

Principle - 2



Producer Equillibirum ⇒ MR = MC

Profit Increasing ⇒ MR > MC

Profit Decreasing ⇒ MC > MR

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CHAPTER- 4
Unit- III
PRICE OUTPUT DETERMINATION UNDER DIFFERENT MARKET FORMS

FORMS OF MARKET STRUCTURE

- Perfect Competition
- Imperfect Competition
  - Monopoly
  - Monopolistic
  - Oligopoly

PERFECT COMPETITION

- A Market where there are
  - # Very Large No. of Buyers and Sellers
  - # Dealing in Homogenous Product
  - # Price Fixed by Market.

Feature of Perfect Competition.

Very Large No. of Buyers and Sellers
Homogenous Product
Freedom of Entry and Exit
Perfect Knowledge Among Buyers and Sellers
Perfect Mobility of Factors of Production.
Absence of Transportation Cost
Absence of Selling Cost

Pure Competition

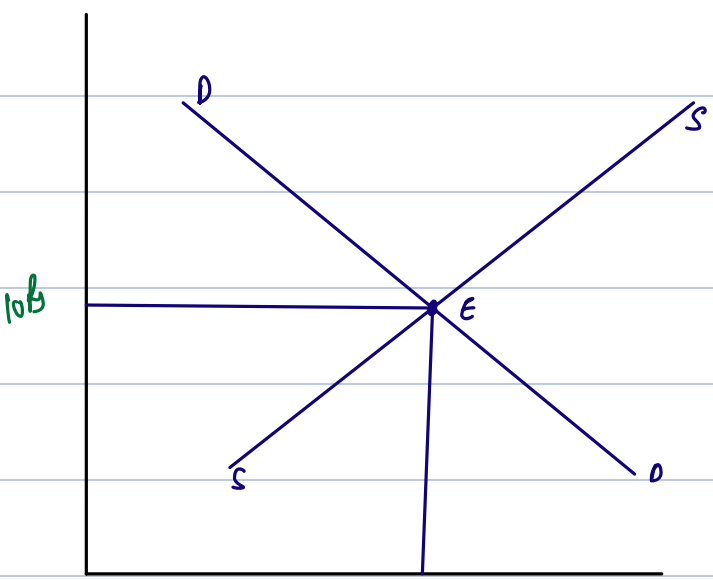
↓

Where First 3 Condition are Satisfied

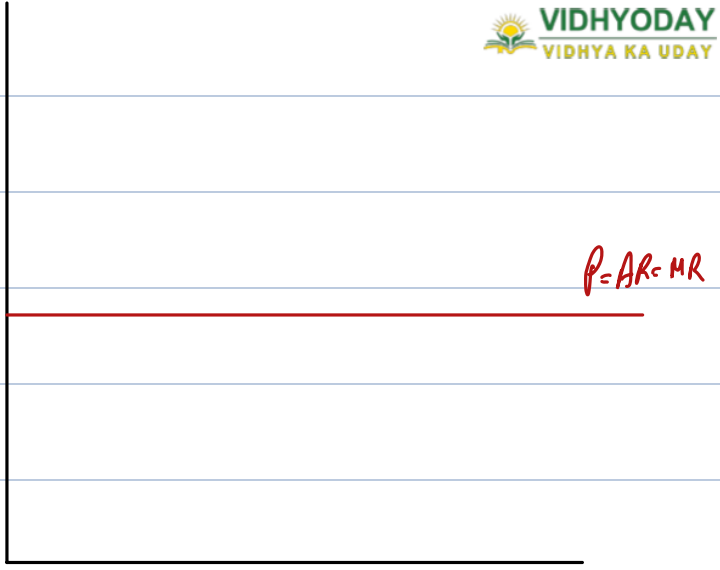
Perfect Competition

↓

When all 7 Conditions are Satisfied



Industry



Firm

Industry
↓
Price
Maker

Firm
↓
Price
Taker.

- Price is determined by Industry at a Point where Demand Curve Intersect Supply Curve

Firm Equilibrium Me kab Hogi??

- When Firm Earning Maximum Profit

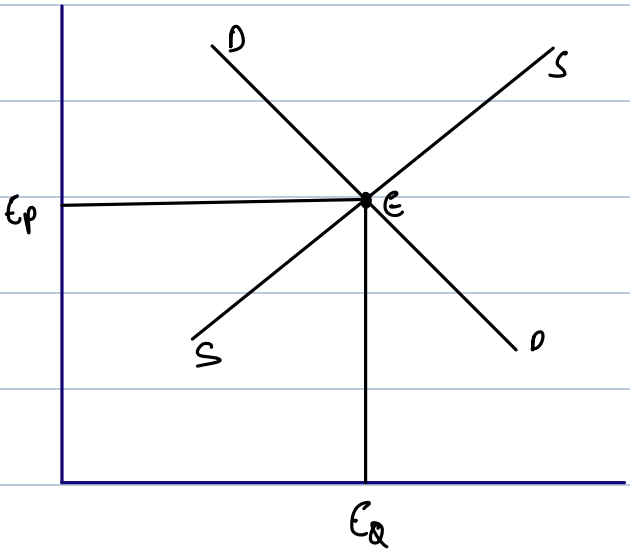
+

- Not Interested in Expansion or Contraction of Production.

How to Determine Price

Equillibirum of Industry

- When total Demand is Equal to Total Supply, then Industry is in Equillibirum
- Eq. Price is Calculated on Eq. Point
- No Buyer is disatisfied
- No Seller is disatisfied



Equillibirum of Firm.

- Firm is Price Taker
- Firm Cannot Influence Price
- Firm will Accept Price that is Calculated on Intersection of Demand and Supply Curve.
- Firm will be Equillibirum on Output which Gives Maximum Profit.

- Demand Curve is Perfectly
- Price Line of Industry = Demand Curve of firms
- Individual Firm Cannot Increase/ Decrease Price.

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Condition For Equilibirum of Firm.

Condition - 1

Marginal Revenue should be Equal to Marginal Cost

Condition - 2

MC Curve should Cut MR Cut From below

OR

MC should have Positive Slope

OR

After this Point, MC should be More then MR.

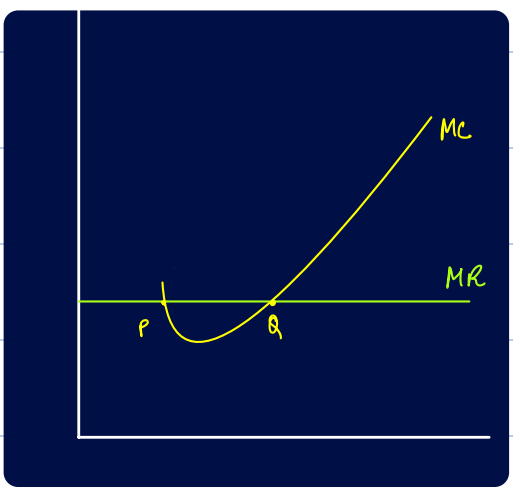
Point Q is Eq. Point as both Conditions are Satisfied.

MR > MC

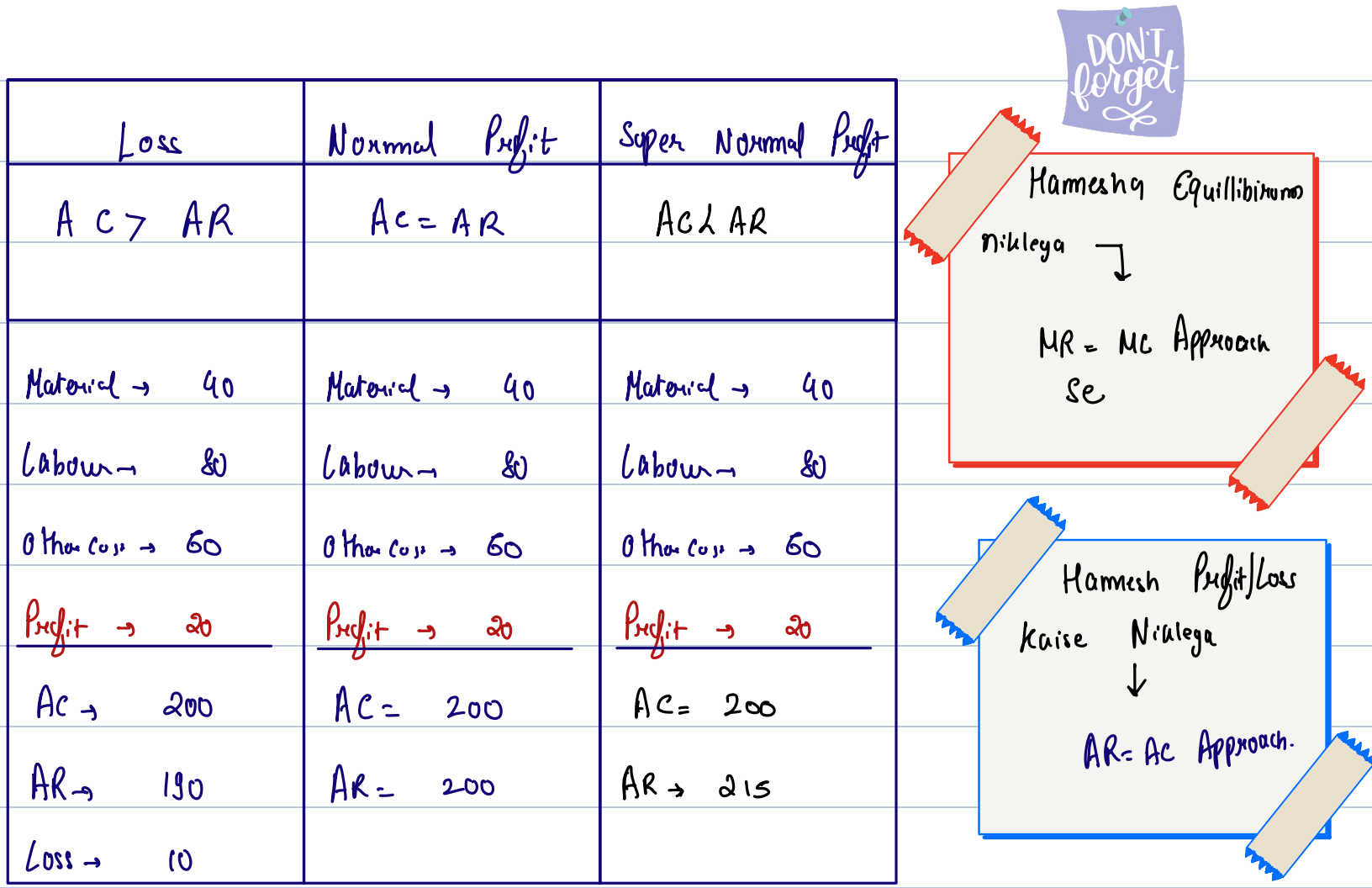
There is Incentive of Firm to Expand

MR < MC

Firm will have to Reduce Output, since Cost is More than Revenue.



Loss	Normal Profit	Super Normal Profit
AC > AR	AC = AR	AC < AR
Material → 40	Material → 40	Material → 40
Labour → 80	Labour → 80	Labour → 80
Other cost → 60	Other cost → 60	Other cost → 60
Profit → 20	Profit → 20	Profit → 20
AC → 200	AC = 200	AC = 200
AR → 190	AR = 200	AR → 215
Loss → 10		



SUPER NORMAL PROFIT

- When AR > AC
- In addition to Normal Profits, Firm Earns some additional Profits.

Practical Case

Explicit Cost = 15000 , Qty = 1000 , Investment = 50,000 , NRR = 10%

Selling Price = Rs 22

Implicit Cost will = $\frac{50,000 \times 10}{100}$ = 5000

Total Cost = 15000 + 5000 = 20,000 Rs

$AC = \frac{TC}{Q} = \frac{20,000}{1000}$ = 20 Rs

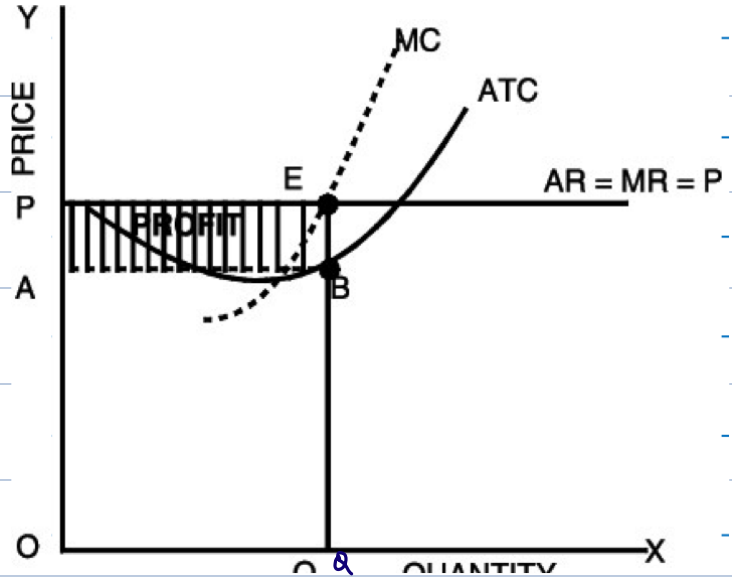
AR = 22 Rs

Super Normal Profit = AR - AC = 22 - 20 = 2 Rs

Equillibirum Point
↓
MR & MC
Se Nikalega

you got this

Profit/Loss
↓
AR and AC
Se Nikalega



"Equillibirum Tak, Jaha Jaha AR is More then AC, Vo Sab Super Normal Profit hoga"

Point of Equillibirum ⇒ Point E, where MR = MC

EB = Profit Per Unit

ABEP = Total Profits.

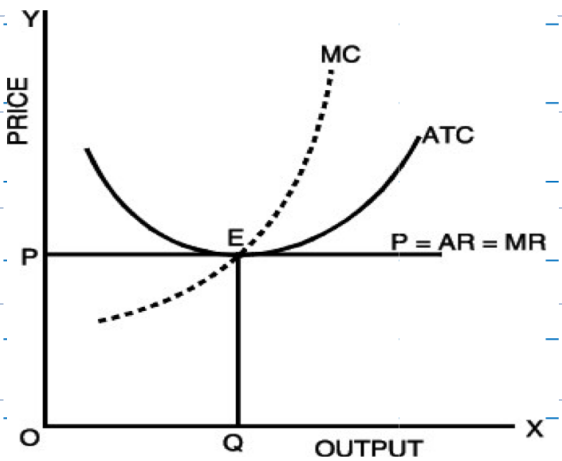
OQ = Equillibirum Output

EQ = Price Per Unit at Eq. Output

NORMAL PROFIT

AR = AC

- When AR = AC ⇒ Firms Earns Normal Profit / Zero Economic Profit.
- When AR Just Meets its ATC ; it Earns Normal Profit.



- Equillibirum Point = E
- Equillibirum Output = OQ
- At this Point Price Covers Full AC.
- Firm is Earning Just Normal Profit
- TR - TC = Zero [Earning Zero Economic Profit]

- Normal % of Profit for Entrepreneur for his Services to business is Already Included in ↓ Cost of Production

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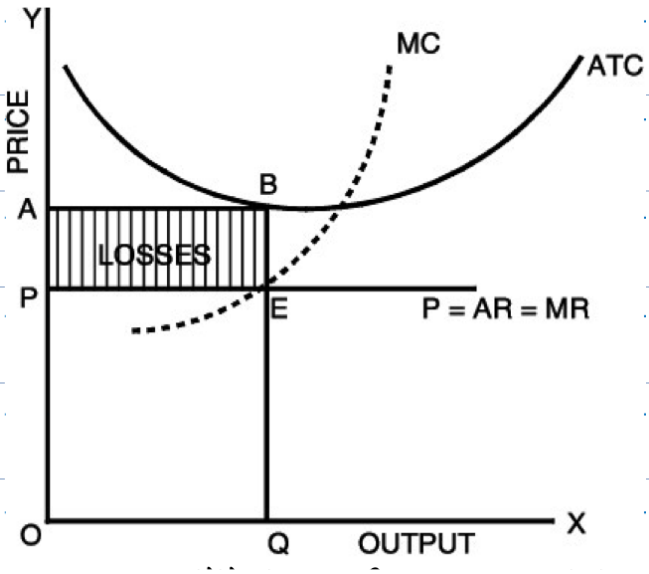
Losses

AC > AR

- Firm is in Equillibirum and Making Losses
- Firm is Minimising Losses

Equillibirum Tak, Joha Joha, AC > AR, Uo Sab Loss Hoga.



Point of Equillibirum = E

At E ; Avg Revenue = EQ

Avg Total Cost = BQ

As BQ > EQ = This is Per Unit Loss

ABEP = Total Loss

Monopoly

- Single Seller with Large No. of Buyers, with No Close Substitute

Feature of Monopoly Market

Single Seller of the Product
Barriers to Entry
No Close Substitutes
Market Powere

Monopolist face a Steep Downward Sloping Demand Curve.

DON'T forget

The Cross Elasticity of Demand For Monopolist Product and any other Product

↓

Is Zero and Small.

IMPORTANT

- Price Elasticity of Demand For Monopolist Product is

↓

Less then One

How Do Monopoly Arise

Strategic Control over [Scare Resource
Inputs/ Technology.

Developing/ Acquiring Control over Unique Product

Govt. Granting Exclusive Right to Produce and Sell a Good/ Service

Patents and Copyrights Given by Govt to Protect Intellectual Property Right

Business Combination/ Cartels

Extremely Large Set up Cost

Natural Monopoly → Due to Large Scale of operations

One firm Can Produce Industry whole Output at lower Cost Per Unit.

Enormous Goodwill Enjoyed by Firm, Creates barriers for other Firms.

Stringent [Very Strong] Legal and Regulatory Requirements

Firms Use Various Anti Competetive Practices

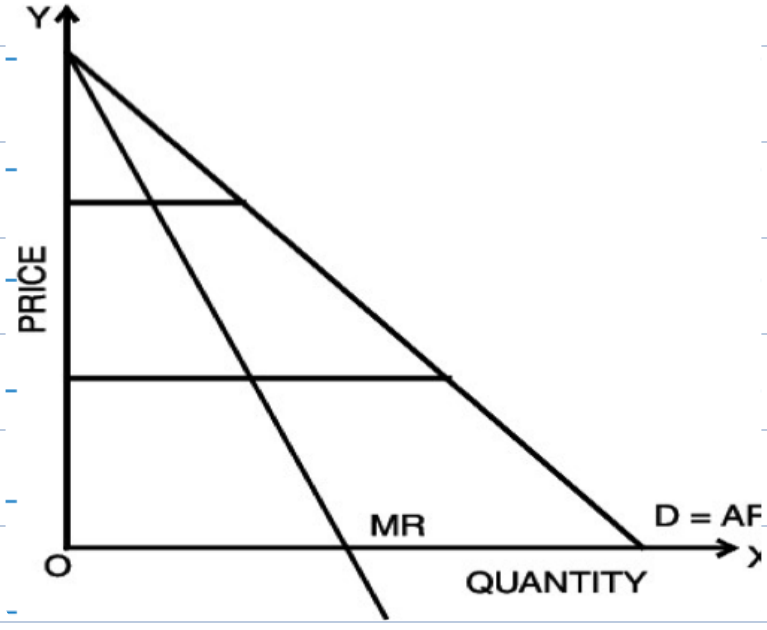
↓

Reffered as "Predatory Tactics"

↓

Such as Limit Pricing (OR) Predatory Pricing

About Revenue Curves



Since Monopolist is only Producer, Individual Demand Curve = Market Demand Curve

- We Assume Monopolist Set Single price and Sell to all buyers.

Relationship between AR and MR [In Monopoly Market]

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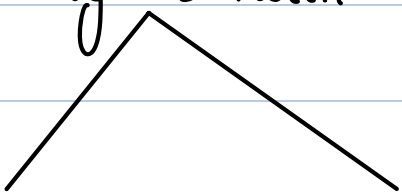
AR and MR both Negatively Sloped
Slope of MR Curve is twice of AR Curve
MR Curve lies half way between



AR Curve Y- Axis

"MR Curve Cuts Horizontal line between y- axis and AR Curve in two Equal Parts"

YOU GOT THIS

AR Cannot be Zero

MR Can be Zero

MR Can be Negative

Types of Monopoly

Simple Monopoly

Where Monopolist Charges Uniform Price From all buyers

Discriminating Monopoly

Where Monopolist Charges different Price From different buyer.

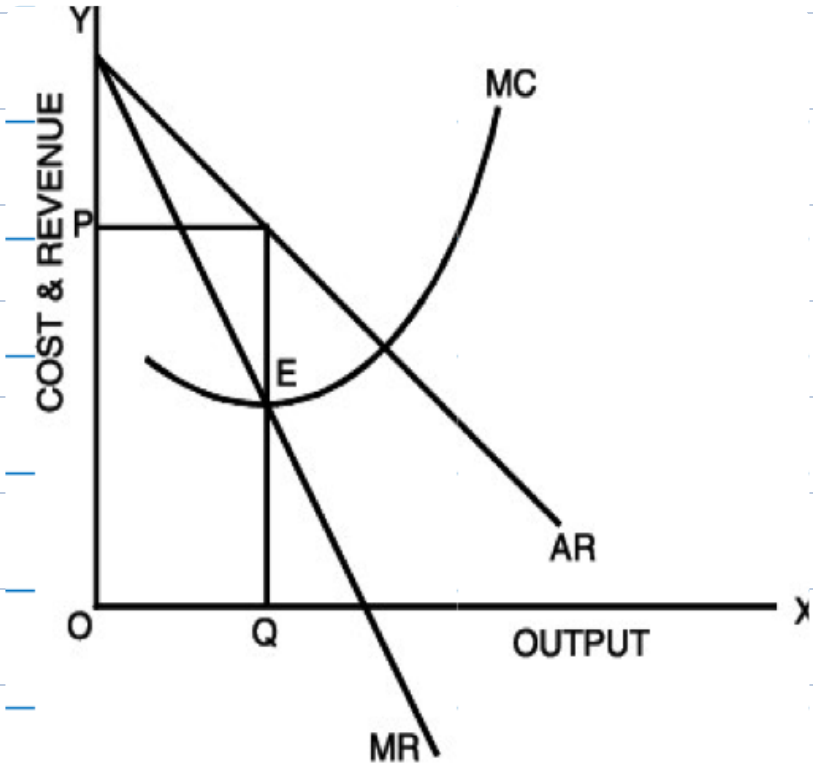
Points to Remember...

- If P ↑ D ↓
  P ↓ D ↑

- Equillibirum Output → The Output For which Profits are Maximum.

- Since only one Seller ⇒ Equillibirum of Firms = Equillibirum of Industry

Short Run Equillibirum [In Monopoly Firm]



- Equillibirum Point is E where MR = MC
- Equillibirum Output is OQ
- Now EQ will Extend till AR Curve [Demand Curve]

↓

Gives the Profit Maximisation Equillibirum Price → OP

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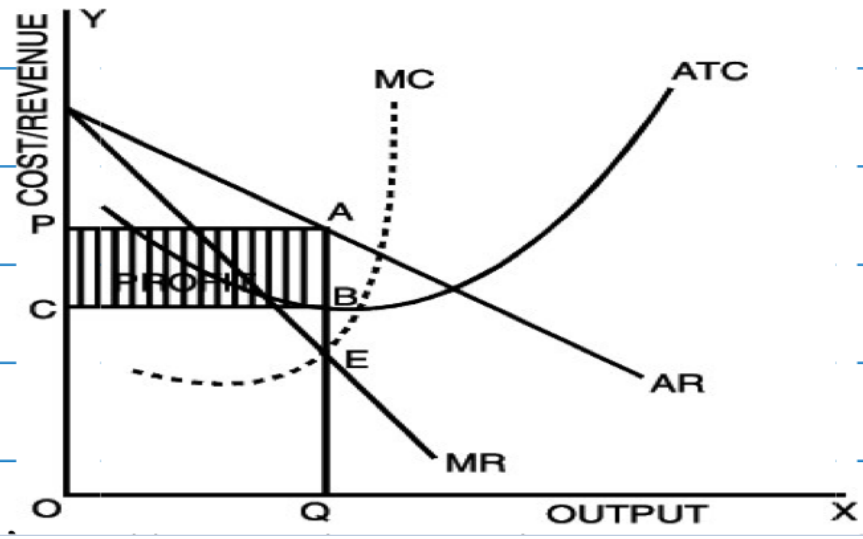
How to Calculate Profits



Cost Per Unit = BQ

Price Per Unit = AQ

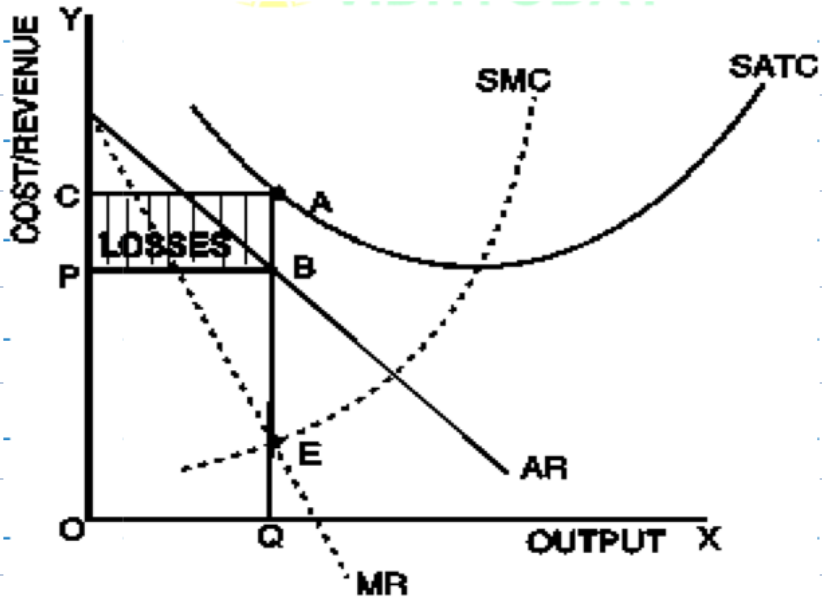
Economic Profit = AB [AQ - BQ]
(Per Unit)

Total Profit = ABCP

" Profit is Calculated by = AR - ATC "

" Equillibirum is Calculated by MR = MC.

How to Calculate Losses



E = Point of Loss Minimisation
[Equillibirum]

QA = Cost Per Unit

QB = Revenue Per Unit

QA - QB = Loss Per Unit

ABPC = Total Loss

Price Discrimination

- Price Discrimination occurs when a Producer Sells Specific Commodity to two different buyers at different Price and Reason for this is not Related to Cost.

- Price discrimination is Method of Pricing adopted to Earn Abnormal Profit

- In this different Price are charged from different Customers for Same Commodity.

Conditions of Price Discrimination

Condition - 1

The Seller should have "Price Setting Power"

Condition - 2

The Seller should be Able to Divide his Market into two Sub Markets

Condition - 3

- Price Elasticity of Demand is different in different in Sub-Market

Monopolist Fix High Price of Product where Price Elasticity is Less then One

Condition - 4

It should not be Possible For buyers of Low Priced Market to Resell the Product in High Priced Market ie there Must be No Market Arbitrage

Objective of Price Discrimination.

To Earn Maximise Profit
To Dispose of Surplus Stock
To Enjoy Economies of Scale
To Capture Foreign Market
To Secure Equity through Pricing

Degree of Price Discrimination.

Given by Prof. Pigou.

First Degree

- In First Degree Monopolist Seperates Market ↓ Into Individual Consumers and Charges From them, what they are Able to Pay.

In this Entire Consumer Surplus is Extracted.

Example → Doctor, Lawyer, Consultants Etc.

Second Degree

- Different Price is charged from different Quantities are Sold.

Only Part of Consumer Surplus will be taken by Monopolist

Possibility - 1

- Different Consumer Pays different Price for different Quantity
- Large Qty is Available at lesser Cost Per Unit.

Possibility - 2

- Each Consumer Pays different Price for Consecutive Purchases.
- Electricity bill is highese when Consumption Exceeds Particular limit.

Third Degree

- In this Price Varies by attributes ; Ex — Location
  — Customer Segment.
- Monopolist will divide Customer into
  ↓
  Sub Market and charge different Price for different Sub Market

Example → Railway Charges are different For kids and Senior Citizen.

Equillibirum Under Price Discrimination.

If Simple Monopoly → Single Price is Charged for whole Output

If Price Discriminating Monopoly → Different Price Charged for different Monopoly

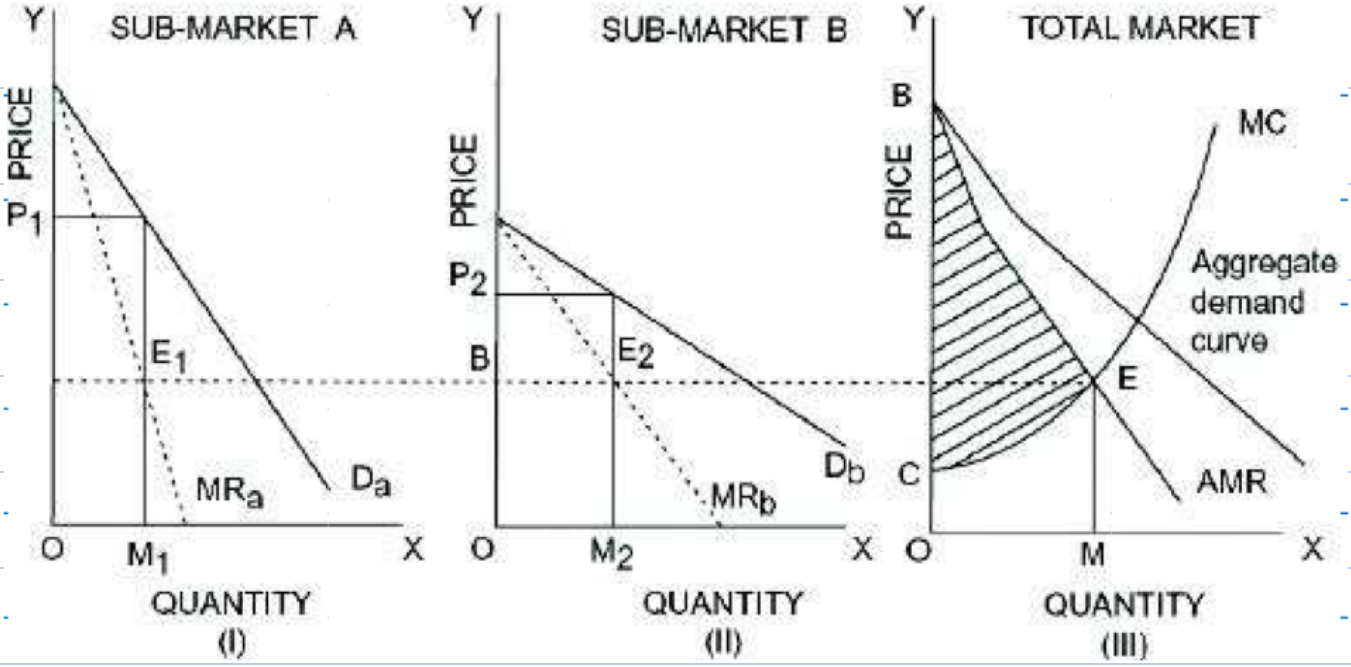
First of all Monopolist will divide Entire Market → into Various sub Market According to Different Elasticity of Demand

Decision Made by Discriminating Monopolist?

1. How Much Total Output should be Produced ?
2. How Total Output will be distributed in two Sub-Markets ?
3. What Prices should be Charged in two Sub-Market.

- After this Discriminating Monopolist will Compare

Aggregate Marginal Revenue of Sub Market **With** Marginal Cost of Output.



MR_a = MR Curve of Market A

MR_b = MR Curve of Market B

AMR = $MR_a + MR_b$

- Profits will be Maximum at level of Output at which MC Intersect AMR.
- So at Output OM ⇒ AMR = Marginal Cost.
- Discriminating Monopolist will Produce at OM level of Output.

SUBMARKET

When Total Output is decided, distribute Total Output between two Sub-Markets.

↓

Total Output of OM should be distributed in such a way that, MR in two Sub Market are Equal.

↓

If MR in two Sub Market are Equal, Profits will be Maximised

↓

If MR in two Markets are Equal then, it will be Unprofitable to shift any Good from One Market to another.

- Equality of Marginal Revenues with MC of whole Output Ensure that Amount Sold in two Sub-Market will togheter will be Equal to whole Output OM, which has been Fixed by Equating

↓

$$AMR = MC$$

Total Output OM Must be Equal to $OM_1 + OM_2$

Price OP_1 will be Set in Sub-Market A

OM_2 will be Sold at OP_2 in Sub-Market B

Price will be Highere in Market, where Demand is Less Elastic

Conclusion Box About Sub Market

- Price Discrimination Also Result in Reduced Consumer Surplus
- There is Loss of Economic Welfare
  ↓
  as Price Paid is higher then Marginal Cost

Economic Effects of Monopoly

It Reduces Economic Welfare

Charge Subsantially Higher Prices

Earn Economic Profit on Long Run

Price Exceeds Marginal Cost and therefore Reduces Consumer Surplus

Monopoly Restrict
- Consumer Sovereignty
- Consumer Opportunities

Monopolist Create Entry Barriers to Entry and Spend a lot to Maintain there Monopoly Position and Hence ATC ↑

Monopolies Use there Power to Pay lower Prices to there Suppliers

Monopolistic Competition

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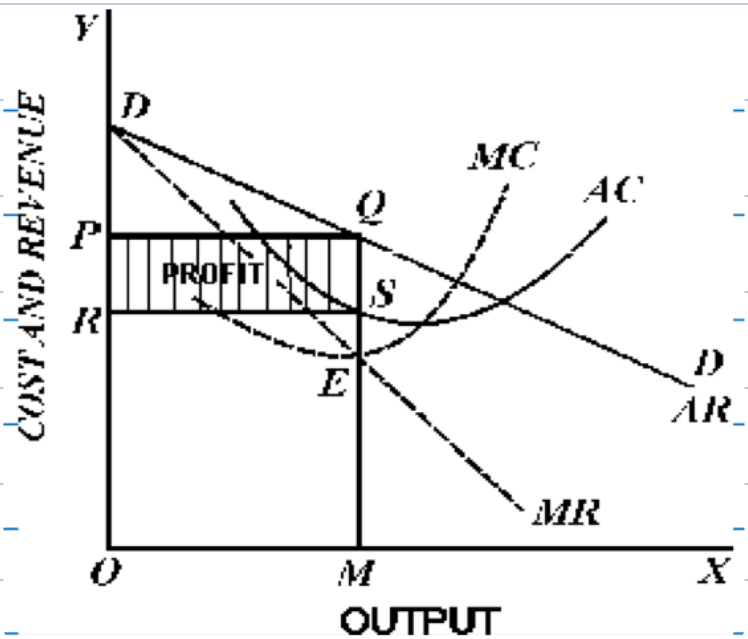
Features of Monopolistic Competition

Large No. of Sellers
Product differentiation
Freedom of Entry and Exit
Non Price Competition

Equillibirum of Firm [Short Run]

PROFITS



Equillibirum Condition

Condition - ① → MC = MR

Condition - ② → MC Cut MR Curve From Below

OR

After this Point MC should be More then MR.

Point E → Equillibirum Point

OP → Equillibirum Price

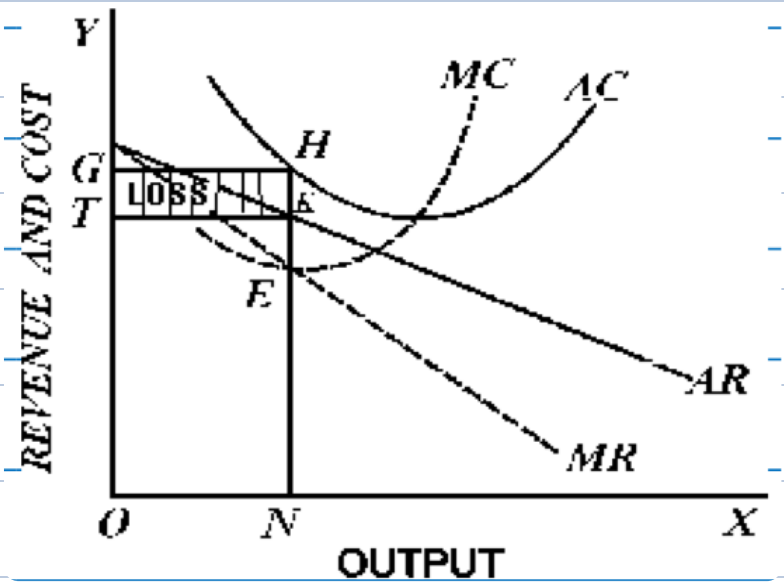
OM → Equillibirum Output

SM → Per Unit Cost

Qs → Super Normal Profit Per Unit

PQsR → Total Super Normal Profit

Losses For Monopolistic Firms.



- Loss Per Unit = KH [HN - KN]
- GHKT = Total loss

" Equillibirum Tak Jaha Jaha AC > AR, Wo sab loss hoga "

Baap Level Summary Chart

Perfect Competition	Monopoly	Monopolistic Competition
Large number of buyers and large number of firms in the industry	Single seller, no difference between firm and industry	Large number of buyers and large number of firms in the industry
Homogenous products which are perfect substitutes	No close substitutes	Differentiated products which are close substitutes, but not perfect substitutes
Insignificant market share	Command over the whole market	Each firm is small relative to the market
Competition among firms is perfect	Absence of competition	Imperfect competition
Complete absence of monopoly	High degree of monopoly power prevails	Some degree of monopoly power due to product differentiation
Free entry and exit	Strong barriers to entry	Free entry and exit
Price-taker	Price maker	Some control over price
Price is equal to marginal cost	Price is higher than marginal cost	Price is higher than marginal cost
Price less than other market forms	High equilibrium price	Price is high compared to perfect competition
Demand curve is infinitely elastic	Downward sloping and highly inelastic demand curve	Downward sloping and more elastic demand curve
MR and AR represented by the same curve	MR starts at the same point as AR, and is twice steep when compared to AR	MR starts at the same point as AR, and is twice steep when compared to AR
TR straight line positively sloping through the origin	TR inverted U shaped	TR inverted U shaped
No price discrimination-same price for all units	Can practice price discrimination by selling a product at different prices	Depends on the extent of monopoly power the firm has

No supernormal profits in the long run	Supernormal profits both in the short run and long run	No supernormal profits in the long run
No selling costs	Generally low selling costs, only for informing the consumers	Due to severe competition, selling costs are vital to persuade buyers
Price being given, decides only quantity of output	Decides on both price and output	Decides on both price and output
Product is produced at the minimum average cost	Produced at the declining portion of average cost curve	Produced at the declining portion of average cost curve
Equilibrium quantity is highest and produced at least cost	Equilibrium quantity less than other market forms	Equilibrium quantity less than optimal, there is excess capacity
No consumer exploitation	Consumers can be exploited by charging high prices	Consumers are influenced through price and non price competition
Efficient allocation of resources	Inefficient allocation of resource	Inefficient allocation of resource
No wastage of resources	Wastage of resource	Huge wastage of resources for advertisements

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OLIGOPOLY

Given by :-
Prof. Stigler

- It is Market described as "Competition Among Few"
- No. of Sellers are Usually between two to Ten.
- These Sellers Can Sell Homogenous/ Differentiated products

TYPES OF OLIGOPOLY

- Pure or Perfect Oligopoly
- Collusive and Competetive Oligopoly
- Syndicated (or) Organised Oligopoly
- open and Closed Oligopoly
- Partial or Full Oligopoly

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Pure Oligopoly

Also known as Perfect Oligopoly.

- It occurs when Product is Homgenous in Nature
- It Generally Posses Raw Material or tend to Process Intermediate Good.

Differentiated / Imperfect Oligopoly

Oligopoly occurs when Goods Sold is based on Product differentiation

Ex → Talcum Powder.

Collusive and Competetive Oligopoly.

When few Firms of Oligopoly Come to Common Understanding to Act in Collusion with Each other to Fix Price and Output

Open and Closed Oligopoly.

In Open Market → New Firms Can Enter into Market

In Close Market → New Firms Entry is Restricted.

Partial (OR) Full Oligopoly

Oligopoly is Partial when Industry is Dominated by one Large Firm

In Full Oligopoly the Market will be Conspicious by Absence of Price Leadership

Syndicated Oligopoly

Syndicated Oligopoly Refers to that Situation where Firm Sell there Product through

↓

Centralised Syndicate

Organised Oligopoly.

In this Firm Organise themselve into Central Association

↓

For Fixing
- Price
- Output
- Quotas

Characteristics of Oligopoly Market.

Strategic Interdependence

There is Interdependence in Decision Making
As Few sellers → Intense Competition Among them
Any Change in [Price / Output etc] Will Effect Rivals

Importance of Advertising and Selling Cost

Firms have to Employ Various [Aggressive / Defensive] Marketing Weapons to Get Greater Share in Market

Group Behaviour

No Generally Accepted theory of Group Behavior
All Firms Can Make Group to Promote there Common Interest
Group May / May not have a leader

3 Price Output Approach

Approach - 1

- It is Assumed that Oligopolistic Ignore Interdependence and take decision Independently.

- When Interdependence is Ignored
  ↓
  Demand Curve becomes definite
  ↓
  Equillibirum Output is found by Equating MR = MC.

Approach - 3

- Third Approach is Oligolist Entere in to Agreement and Pursue their Common Interest.

- In this Joints Profits are Maximised

- They share Profit, Market, Output among them as Agreed.

- They form Cartel but it is Illegal.

Approach - 2

- Some Economist Assumes that Oligopolist is able to Predict the Reaction Pattern of his Competitors and on basis of Predictions He Makes decision.

Cournot Model

In Cournot Model, Firms Control Variable is Output in Contrast to Price → They do no Collude.

Stakelberg's Model

In this Leader Commits to an Output before all other Firms.

The Rest of Firm are followers and Choose Output to Maximise Profit

Bertrand Model

- Price is Control Variable
- Each Firms Independently Sets Price in Order to Maximise Profits

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Price Leadership

Cartels → Few Firms of Similar Size

→ When Group of Firms Agree to Coordinate there Activities is Called Cartels

Cartel will have High Market Power, Earn Monopoly Profits Especially when Demand of Product is Inelastic.

Types Of Price Leadership

Strategy - 1

"Live and Let Live Philosophy"

Dominant Firm Sets Price to Maximise Profit also taking into Account Behaviour of Fringe Firms.

"Price Leadership by Dominant Firm"

Strategy - 2

Leadership by Low Cost Firm

Price Leader Sets Price in Such a Manner, it allows Some Profits to Followers also.

Strategy - 3

Barometric Price Leadership

An old, Largest, Experienced Firm sets Price which is best From all Firms Point of View.

Kinked Demand Curve

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- In oligopolistic Market Price Remain Inflexible or Sticky, For a Long time.

- This Concept has been Explained by kinked Demand Curve

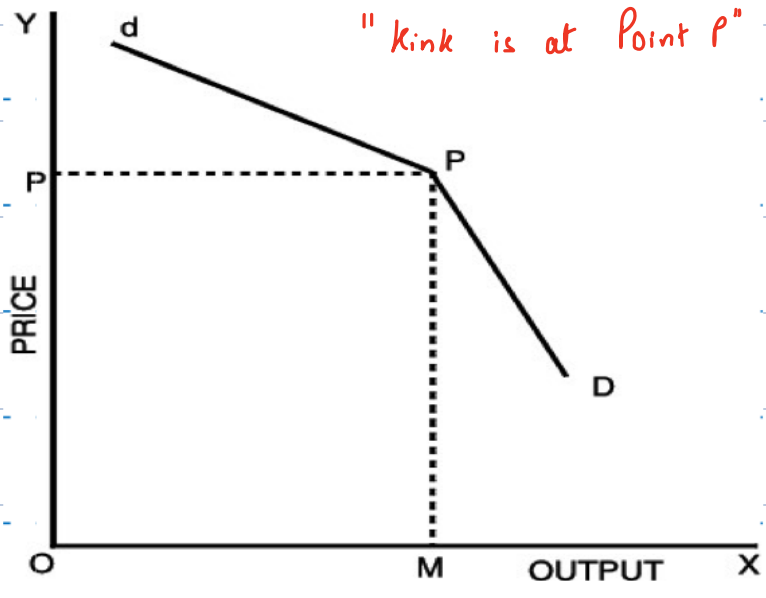
Given by an American Economist
↓
" Paul . A. Sweezy.

Also Called as Sweezy's Model.

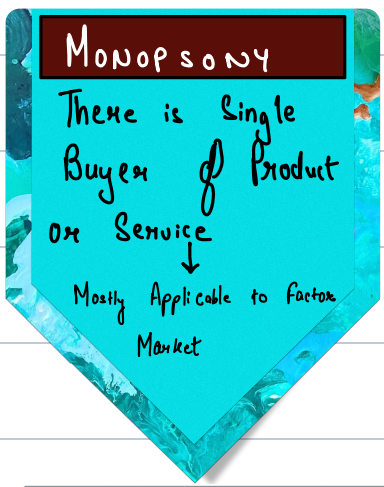
- Demand Curve of an Oligopolist has kink at Level of Prevealing Price

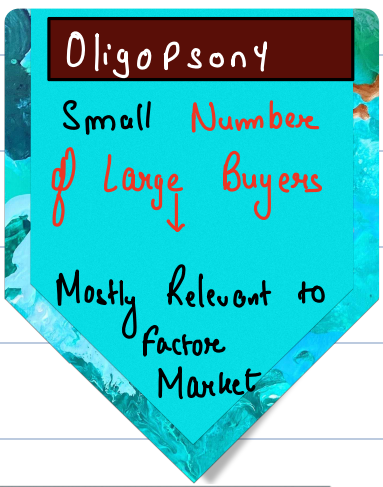
Above Prevaling Price (dP)
↓
Highly Elastic Demand

Below Prevoling Price (DP)
↓
Less Elastic/ Inelastic Demand



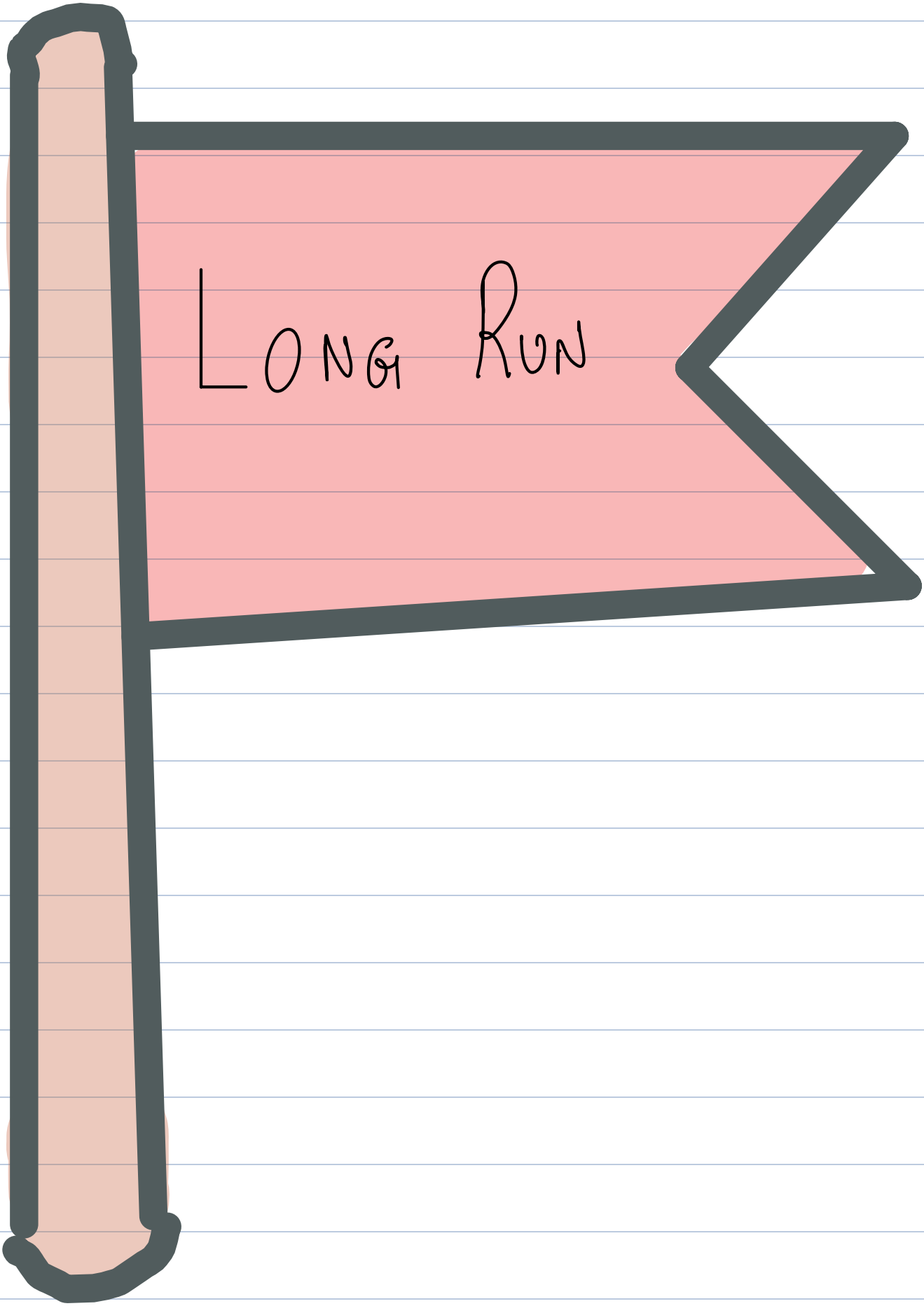
Other Important Market Forms.



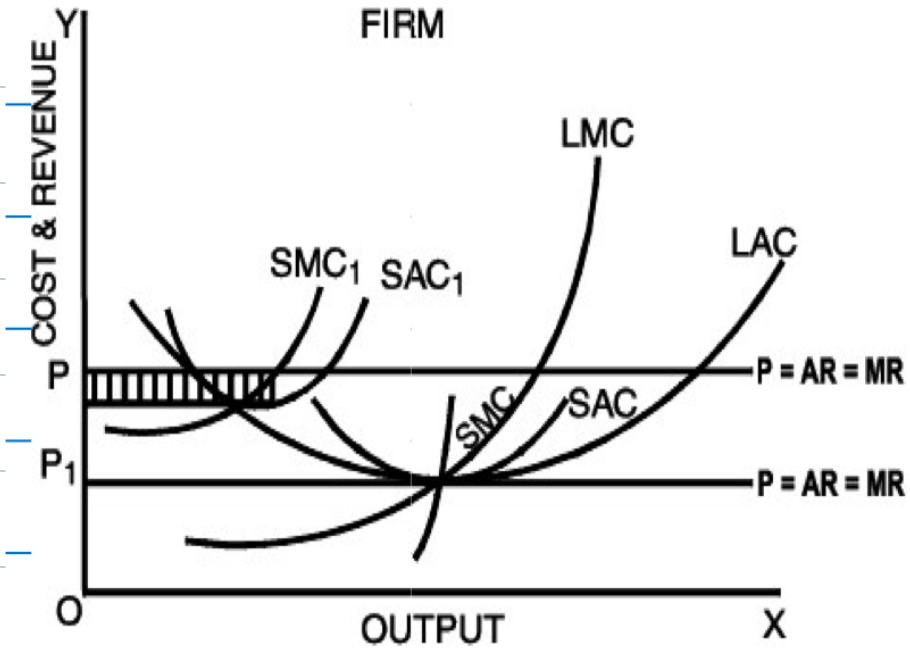


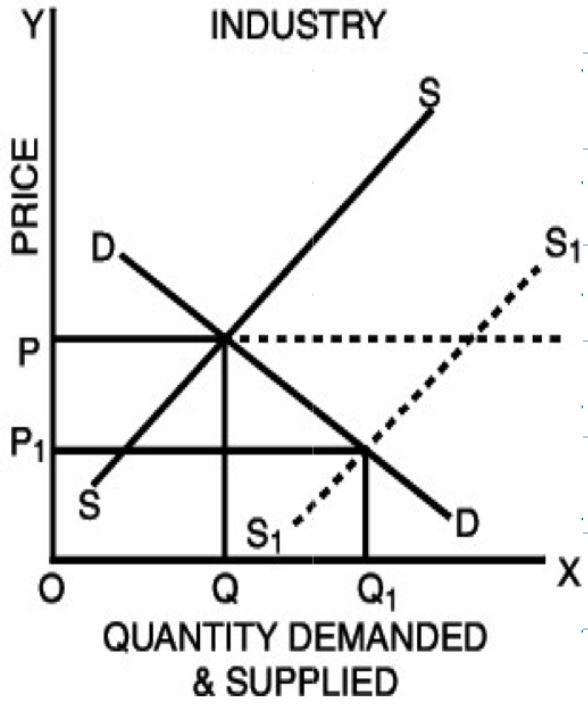
Baap Level Conclusion Table...

Form of Market Structure		Number of Firms	Nature of product	Price Elasticity of Demand of a firm	Degree of Control over price
(a)	Perfect competition	Large number of firms	Homogeneous	Infinite	None
(b)	Monopoly	One	Unique product without close substitute	Small	Very Considerable
(c)	Imperfect Competition				
	i) Monopolistic Competition	Large number of firms	Differentiated products	Large	Some
	ii) Oligopoly	Few Firms	Homogeneous or differentiated product	Small	Some


Long Run

Long Run Equillibirum of Competetive Firm.





"Long Run Firm in Competetive Market"

DON'T forget

Condition of Long Run Eq.

$SMC = LMC = SAC = LAC = P = MR$

Long Run Equilibirum of Industry.

- In Long Run, Output is Produced at Minimum Feasible Cost

- Consumer will Pay Minimum Possible Price, which Just Covers Marginal Cost ie $(P = MC)$ (OR) $[MC = AR]$

- Plants are Used to Full Capacity so there is no wastage ie = MC = AC.

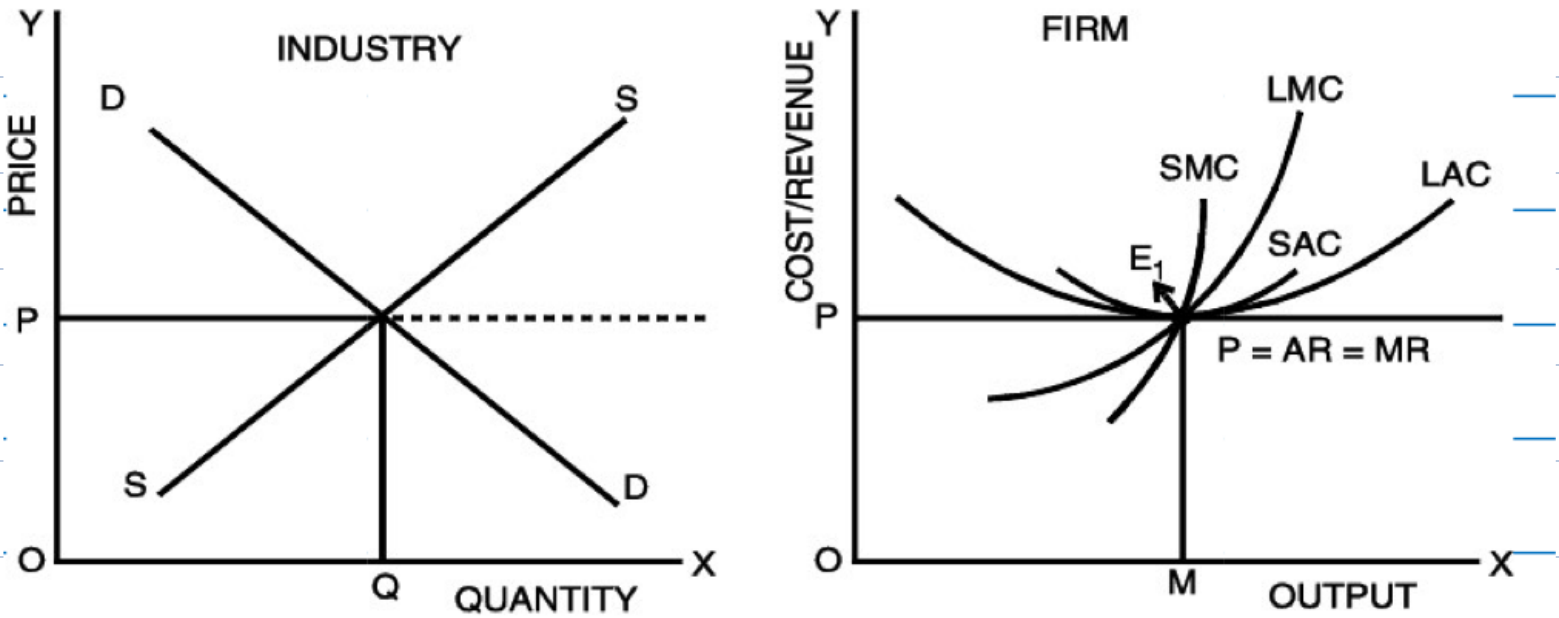
Firms Earn Only Normal Profit ie AC = AR.

Firm will Maximise Profit ie MC = MR, but level of Profits will be Just Normal

There is optimum No. of Firm in Industry.

Conditions of Long Run Equilibrium of Industry.

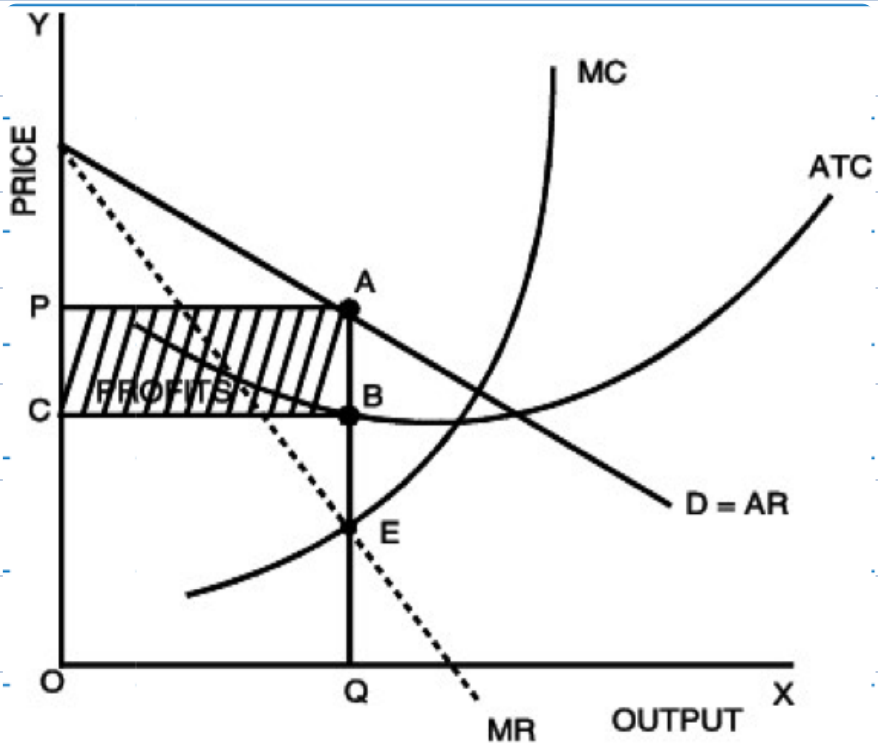
LAR = LMR = LMC = P = LAC



- Since E_1 is the Minimum Point on LAC Curve, Firm Produce Output OM at Minimum [optimum] Cost.

- Firm Producing at optimum Cost is optimum Firm

Long Run Equillibirum [In Monopoly Firm]



- Long Run is Period in which Monopolist Can Exist Plant Size to any Extent

- As there is No Competition, Monopolist Need Not Produce at optimum Level.

- He Need Not Reach Minimum LAC Curve

↓

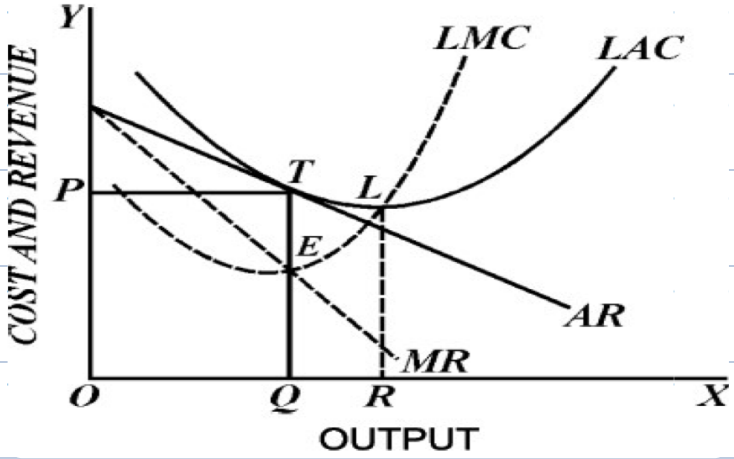
" He Can Produce at Sub- optimal Scale also".

note to self:

He Need not Reach the Minimum of LAC Curve.

He Can stop at any Point on LAC where his Profits are Maximum

Long Run Equillibirum Monopolistic Firm.



- If Firms are Earning Super Normal Profit in Short Run, it is Incentive for New Firm to Enter the Industry.

- When New firm Enters Profit Per Firm will ↓

- Now this will be Continued till all Super Normal Profits are wiped away, and Now will Firm Earn Just Normal Profits

- When MC = MR, it is Equillibirum Point

↓

Here Super Normal Profit are Zero

[as AR = AC]

↓

" All Firms are Earning Just Normal Profit.

Business Cycle.

Phases of Business Cycle.

- Expansion
- Peak
- Contraction
- Trough / Depression

EXPANSION

Expansion is Characterised by
- Employment ↑
- Aggregate Demand ↑
- Sales ↑
- Profits ↑
- Capital ↑
- Consumer Expenditure ↑
- Stock Price ↑
- Bank Credit ↑
- National Output ↑

→ Will Reach upto
- Production is Maximum
- Full Employment of Resources

→ Involuntary Unemployment → Zero

→ कौनसा Unemployment Kahega ??

Frictional Unemployment

Agar 22/6/23 to 1st Job khatam hui Aur Next Job 28/6/23 ko Joinning hai ↓ then 6 days ke liye Frictional Unemployment hai

Ex → Change of Job, Suspended from Job, Strikes in Factory etc.

Structural Unemployment

↓

Mis Match between type of Job and type of Worker Requirment

Ex → Heart Surgeon Required as Driver.

☞ Price ↑, Cost ↑, Investment ↑, Demand ↑

☞ When at Peak → Growth Rate slows down.

PEAK

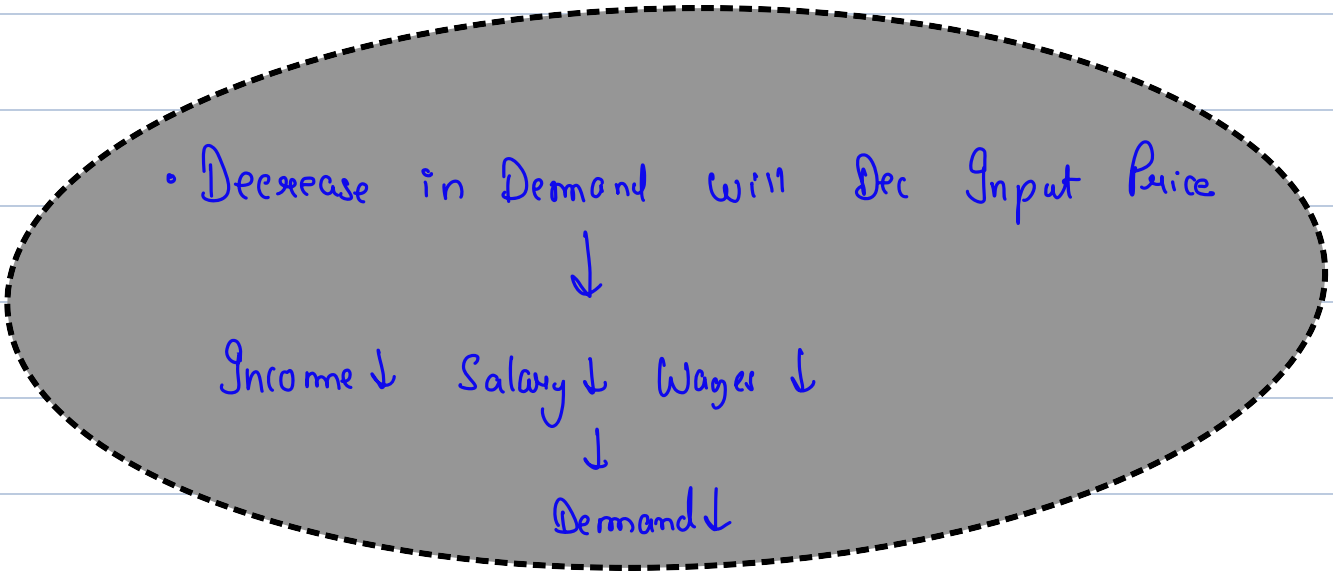
- Highest Point of Business Cycle
- Inputs will be difficult to find → Input Prices ↑
- Cost of Living ↑ Pressure on fixed Income Earner ↑ Price ↑
- Consumer Review Consumption → Actual Demand ↓
- This is "End of Expansion" ⇒ Biz Cycly will Now Move in opposite Direction

CONTRACTION

- Fall in Investments and fall in Employment
- Producers has not Realised in Position → hence Continue Anticipating higher Level of Demand
- Now Supply > Demand

- Investment ↓ , Future Plans Aage bada dega, Cancellation of Orders

- Recission will Start



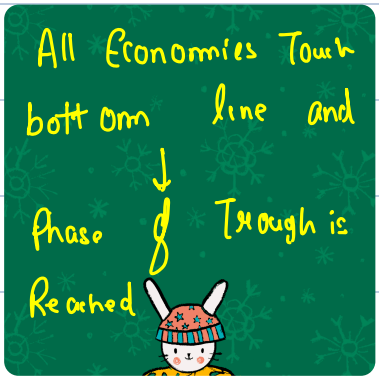
- Producer will Reduce Price → to Sell Extra Inventories

↓

Consumer Expects More Fall → Postpone Consumption

Spending ↓ Aggregate Demand ↓ Price will Fall.

Trough and Depression

- Growth Rate becomes Negative
- Level of National Income and Expenditure ↓
- Price is Lowest and Demand is Lowest
- Firm will Shutdown → Employment ↓
- Interest Rate Reduced by Bank ; Banking and Financial Crisis
- Capital and Consumer Durable Good Industry Suffer From Excess Capacity
- 

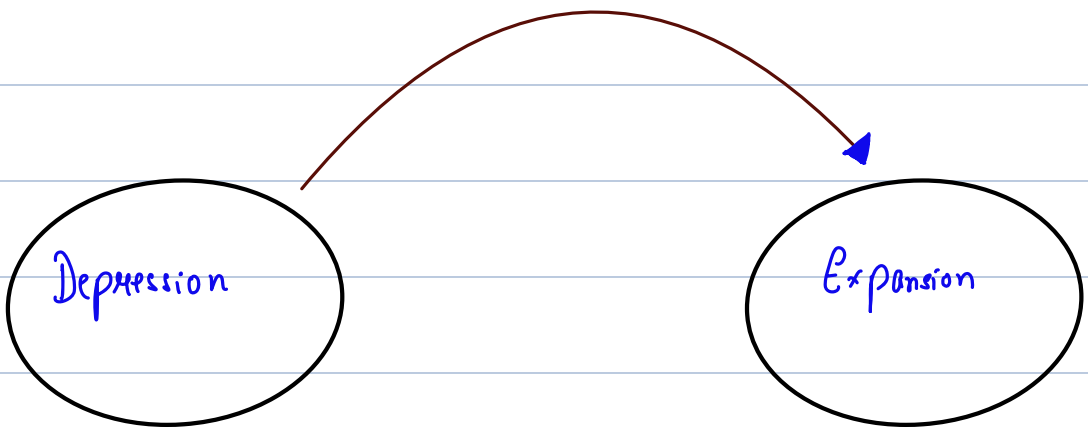
Recovery ....

VIDHYODAY
VIDHYA KA UDAY

- This Reverses the Process
- Initially Felt in Labour Market
- Labour will Start Working Lower Wages
- Producer Cost ↓ ⇒ Biz Environment Better

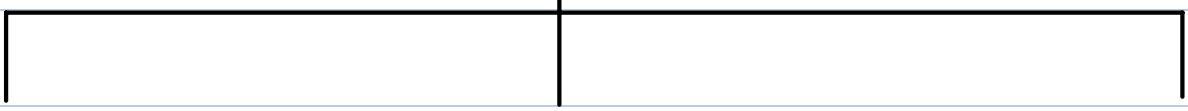
- Investment ↑ Stock ↑ Bank Credit ↑ Employment ↑
  Aggregate Demand ↑ Price ↑

- " Price Mechanism is Self Correcting Process"



Labour ↑ Unemployment ↓ Expansion of ↑ Economy

Economic Indicator



Leading Indicator | Lagging Indicator | Co-incidental Indicator

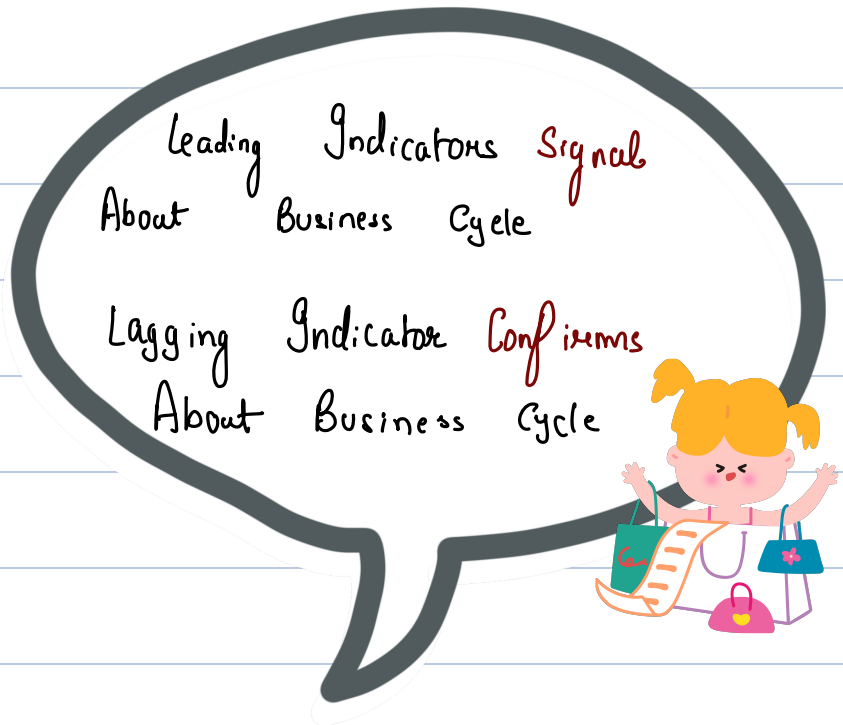
Leading Indicator

- It is Measurable Economic Factor, that changes before Economy changes
- It change Prior to large Economic Adjustment
- They are not always Correct

Examples → Change in RoI, Change in Stock Price

Logging Indicator

- It Reflect Economic Historical Performance
- These Indicators are observable after an Economic Trend has occurred.



Coincident al Indicators

- Also known as Concurrent Indicator
- Occur Simultaneously with business cycle
- They describe Current Status

Example→ Retail Sales, Personal Income

What to Read in Business Cycle From Book

Features of Business Cycle

[Pg. 265 to 267]

Causes of Business Cycle

[Pg. 267 to Pg. 273]