

BASICS

Effective Demand

- (a) Desire for a specific commodity
 - (b) Means / Resources to purchase the desired commodity (Backed By) Money / PP
 - (c) Willingness to spend
 - (d) Availability of the commodity at a certain PPT
- Place • Price • Time

Important Terms

- Quantity Demanded SQ, SP
- Demand VQ, VP
- Schedule Table
- Curve Graph
- Individual ONE BUYER OR ONE SELLER
House Hold Firm
- Market ALL BUYER OR ALL SELLER
INDUSTRY
- Stock Point of Time
- Flow Period of Time
- Demand is a FLOW Concept
- Substitute Goods Used in Place of other
- Complementary Goods Jointly Satisfy a need
- Inferior Goods Low Quality, Price, LIG
- Normal Goods IG ⊗

FACTORS AFFECTING DEMAND

$$D_x = f(P_x, P_r, Y, T, E, \text{ \& N, } Y_d, C, G)$$

- Price of Same Good (P_x)
 $P_x \uparrow \Rightarrow Q \cdot D_x \downarrow, P_x \downarrow \Rightarrow Q \cdot D_x \uparrow$
- Price of Related Good (P_r)
Psg $P_{Pg} \uparrow \Rightarrow Q \cdot D_{Pg} \downarrow \Rightarrow D_x \uparrow$
Pcg $P_{Cg} \uparrow \Rightarrow Q \cdot D_{Cg} \downarrow \Rightarrow D_x \downarrow$
- Income of Consumer (Y)
IG $Y \uparrow \Rightarrow D_{IG} \downarrow$
NG $Y \uparrow \Rightarrow D_{NG} \uparrow$
- Taste & Preference (T)
 $T \& P \otimes \Rightarrow D_x \uparrow, T \& P \ominus \Rightarrow D_x \downarrow$
- Future Expectations of Price, Income & Supply (E)
• $FEP \uparrow, FY \uparrow, Shortage \Rightarrow D_x \uparrow$
- Population (N)
 $N \uparrow \Rightarrow D_x \uparrow, N \downarrow \Rightarrow D_x \downarrow$
- Income Distribution (Y_d)
 $Y_d - Equal \Rightarrow D_x \uparrow$
- Consumer Credit Facility & Interest Rate (C)
• $CCF \uparrow \Rightarrow D_x \uparrow$
 $IR \downarrow \Rightarrow D_x \uparrow$
- Government Policy
 $Tax \uparrow \Rightarrow D_x \downarrow$
 $Subsidy \uparrow \Rightarrow D_x \uparrow$

- Demonstration Effect Ford Phone
Dekha - Dekhi + Prestigious Goods
- Veblen Effect BMW Bike
Status + Self + Prestigious Goods
- Bandwagon Effect Din Doyal Thandai
Dekha Dekhi + Normal Good
- Snob Effect Manish Malhotra
Dekha Dekhi + Abhi Liya

LAW OF DEMAND

$$D_x = f(P_x, P_r, Y, T, E, \text{ \& N, } Y_d, C, G)$$

Ceteris Paribus - Other things remaining Constant $\rightarrow P_x \uparrow \Rightarrow Q \cdot D_x \downarrow, P_x \downarrow \Rightarrow Q \cdot D_x \uparrow$

Assumptions of Law of Demand - CONSTANT

Features of the Demand Curve

- DC slopes Downward from left to the right.
- DC is Negatively sloped.
- DC is called Average Revenue Curve
- DC may be sometimes a straight-line or sometimes a free hand curve.
- The downward sloping DC explains the Law of Demand.
- The Market Demand Curve is a Latera summation (totalling) of Individual Demand Curves.

Rationale (Logic) behind the Law of Demand

Price Effect of a fall in Price

- Substitution Effect
- Income Effect

Other Reasons

- Law of Diminishing Marginal Utility
- New Consumers
- Different Uses

Exceptions to the Law of Demand

- Conspicuous Goods
- Giffen Goods +ve Price Effect -ve Income Effect Bread & Meat
- Ignorant/Irrational Consumer
- Basic Necessity
- Speculative Goods
- Expected Price Change

RULE BREAKER

CHANGE IN QUANTITY DEMANDED VS CHANGE IN DEMAND

Change in Quantity Demanded

Change in Quantity Demanded	
Change in P_x	
Extension of Q.D	Contraction of Q.D
$\Delta P_x \downarrow$	$\Delta P_x \uparrow$
\Rightarrow Shown on Graph by Movement of Point from Top to Bottom on Same DC	\Rightarrow Shown on Graph by Movement of Point from Bottom to Top on Same DC

Movement Along DC

Change in Demand

Change in Demand	
$P_r, Y, T, E, N, Y_d, C, G$	
Increase in Demand	Decrease in Demand
$\Delta P_{Pg} \uparrow$ $\Delta P_{Cg} \downarrow$ $\Delta Y \uparrow$ $\Delta T \& P \otimes$ $\Delta FEP \uparrow$ $\Delta N \uparrow$	$\Delta Y_d - Equal$ $\Delta CCF \uparrow$ $\Delta IR \downarrow$ $\Delta Tax \downarrow$ $\Delta Subsidy \uparrow$
$\Delta P_{Pg} \downarrow$ $\Delta Y \downarrow$ $\Delta T \& P \ominus$ $\Delta FEPL$ $\Delta N \downarrow$	$\Delta Y_d - Unequal$ $\Delta CCF \downarrow$ $\Delta IR \uparrow$ $\Delta Tax \uparrow$ $\Delta Subsidy \downarrow$
\Rightarrow Shown on Graph by Rightward/Forward Shift of DC	\Rightarrow Shown on Graph by Leftward/Backward Shift of DC

Shift of DC

ELASTICITY OF DEMAND

↳ Measurement of Responsiveness / Change

PRICE ELASTICITY

1. Percentage Method / Proportionate Method

$$E_p = \frac{\% \text{ Change in Quantity}}{\% \text{ Change in } P_x} = \frac{\Delta Q}{\Delta P} \times \frac{OP}{OQ}$$

Calculator Steps:

- $\Delta P \div OP$ M+
- $\Delta Q \div OQ$
- $\div MRC =$

Case	1	2	3	4
Old Price	20	50	70	90
New Price	18	45	84	72
Old Quantity	3000	4000	?	5000
New Quantity	3900	?	4000	3800
E_p	?	4	1	2
a)		5000	6000	3000
b)		5200	5000	6000
c)		5400	7000	7000
d)		5600	8000	8000

2. Arc Elasticity

Arc Elasticity measures Average elasticity in case of Large change in prices and quantities (i.e. over an arc) on the Demand Curve, rather than on a point.

$$E_p = \frac{\Delta Q}{\Delta P} \times \frac{OP + NP}{OQ + NQ}$$

Calculator Steps:

- $\Delta P \div OP + NP$ M+
- $\Delta Q \div OQ + NQ$
- $\div MRC =$

	Price	Quantity
Old	10	2000
New	12	1200
E_p	2.75	

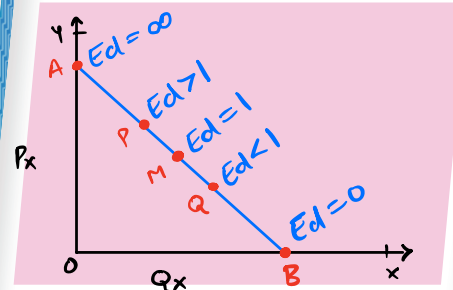
- $2 \div 22$ M+
- $800 \div 3200$
- $\div MRC =$

3. Method Of Derivatives

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

4. Point Elasticity / Graphical Method

E_p = Lower Segment (RHS)
Upper Segment (LHS)



5. The Total Outlay / Expenditure / Revenue Method

Price	Total Expenditure	Elasticity
↑	↓	$E_d > 1$
↓	↑	$E_d < 1$
↑	↑	$E_d < 1$
↓	↓	$E_d < 1$
↑	No change	$E_d = 1$
↓	No change	$E_d = 1$

CROSS ELASTICITY

INCOME ELASTICITY

$$E_c = \frac{\% \text{ Change in Quantity}}{\% \text{ Change in } P_r} = \frac{\Delta Q}{\Delta P_r} \times \frac{OP_r}{OQ}$$

$$E_y = \frac{\% \text{ Change in Quantity}}{\% \text{ Change in } Y} = \frac{\Delta Q}{\Delta Y} \times \frac{OY}{OQ}$$

Interpretations

E_c	Interpretation
$E_c = 0$	Unrelated
$E_c = +ve$	Substitute Goods
$E_c = \infty$	Perfect Substitute
$E_c = -ve$	Mostly Complimentary Goods

Interpretations

E_y	Interpretation
$E_y = +ve$	Normal Goods
$E_y = -ve$	Inferior Goods
$E_y > 1$	Luxury Goods
$E_y < 1$	Necessity Goods

Interpretation of Elasticity Values

	DEMAND	SUPPLY
1. Elastic OR More Elastic	$E_d > 1$	More Flatter
2. Inelastic OR Less Elastic	$E_d < 1$	More Steeper
3. Unit Elastic	$E_d = 1$	Passed through origin
4. Perfectly Elastic	$E_d = \infty$	Horizontal
5. Perfectly Inelastic	$E_d = 0$	Vertical

Determinants of Price Elasticity

1. Nature of Commodity • Necessity → less elastic • Comfort → Medium Elastic • Luxury → More Elastic	2. Availability of Substitutes NOS ↑ ⇒ More Elastic NOS ↓ ⇒ Less Elastic	3. Different Uses Uses ↑ ⇒ More Elastic Uses ↓ ⇒ Less Elastic
4. Postponement of Use Postponed ✓ ⇒ More Elastic Postpone X ⇒ Less Elastic	5. Income of Consumer Very High OR Very low ⇒ Less Elastic Middle Income ⇒ More Elastic	6. Habit of Consumer Habit ✓ ⇒ Less Elastic Habit X ⇒ More Elastic
7. Position in Consumer's Budget High Proportion ⇒ More Elastic Less Proportion ⇒ Less Elastic	8. Price Level Price level - low → Less Elastic Price level High → More Elastic	9. Time Period Short Period → Less Elastic Long Period → More Elastic

SUPPLY

Basics

1. Stock Could be brought into Market
2. Supply Actually Brought in Market
3. Quantity Supplied SQ, SP
4. Supply VQ, VP
5. Supply is a Flow Concept

Factors Determining Supply

1. Price of Same Commodity (Px)
 $P_x \uparrow \Rightarrow Q_{Sx} \uparrow$, $P_x \downarrow \Rightarrow Q_{Sx} \downarrow$
2. Price of Substitute Good (Pr)
 $P_{sg} \uparrow \Rightarrow Q_{Sx} \uparrow \Rightarrow S_x \downarrow$
3. Goal of Firm (G)
Goal \rightarrow Profit $\Rightarrow P_x \uparrow Q_{Sx} \uparrow$, $P_x \downarrow Q_{Sx} \downarrow$
Goal \rightarrow Other $\Rightarrow P_x \uparrow \downarrow Q_{Sx} \Rightarrow$ No Change
4. Price of Factors of Production (Pfp)
 $P_{fop} \uparrow \Rightarrow COP \uparrow \Rightarrow$ Profit $\downarrow \Rightarrow S_x \downarrow$
 $P_{fop} \downarrow \Rightarrow COP \downarrow \Rightarrow$ Profit $\uparrow \Rightarrow S_x \uparrow$
5. Business Expectations (Be)
 $FEP \uparrow \Rightarrow S_x \downarrow$
 $FEP \downarrow \Rightarrow S_x \uparrow$
6. Government Policy (Gp)
Tax $\uparrow \Rightarrow S_x \downarrow$, Tax $\downarrow \Rightarrow S_x \uparrow$
Subsidy $\uparrow \Rightarrow S_x \uparrow$, Subsidy $\downarrow \Rightarrow S_x \downarrow$
7. Natural Factors
Natural Factor Exist $\Rightarrow S_x \downarrow$
Natural Factor Does Not Exist $\Rightarrow S_x \uparrow$
8. Nature of Competition & Size of Industry
 $NOF \uparrow \Rightarrow S_x \uparrow$
Competition $\uparrow \Rightarrow S_x \uparrow$

Law of Supply

Ceteris Paribus \Rightarrow Other things remaining constant
 $P_x \uparrow \Rightarrow Q_{Sx} \uparrow$

Features of the Supply Curve

1. SC slopes Upward (Positive) from left to the right.
2. SC is called Marginal Cost Curve
3. SC may be a straight-line or a free hand curve.
4. The Market Supply Curve is a Latinal summation (totalling) of Individual Supply Curves.

Exceptions of Law Of Supply

1. Agricultural (products - supply is governed by Natural Factors)
2. Goods having Social Distinction
3. Perishable Goods

Change in Quantity Supplied

Change in Px

Extension of Q.S	Contraction of Q.S
<u>1) $P_x \uparrow$</u> <u>2) Shown on Graph by Movement of Point from Bottom To Top along same SC</u>	<u>1) $P_x \downarrow$</u> <u>2) Shown on Graph by Movement of Point from Top To Bottom along same SC</u>

Change in Supply

PR, NDF, G, PFP, GP, BE, NF

Increase in Supply	Decrease in Supply
<u>1) $P_{sg} \downarrow$</u> <u>2) Goal - Profit</u> <u>3) PFP $\downarrow \Rightarrow$ NOF \uparrow</u> <u>4) FEP \downarrow</u> <u>5) Tax \downarrow</u> <u>6) Shown on Graph By Rightward / Forward Shift of SC</u>	<u>1) $P_{sg} \uparrow$</u> <u>2) Subsidy \downarrow</u> <u>3) Goal - Other</u> <u>4) PFP $\uparrow \Rightarrow$ NOF \downarrow</u> <u>5) FEP \uparrow</u> <u>6) Tax \uparrow</u> <u>7) Shown on Graph By Leftward / Backward Shift of SC</u>

ELASTICITY OF SUPPLY

1. Percentage / Proportionate Method

$$E_p = \frac{\% \text{ Change in Quantity}}{\% \text{ Change in Px}} = \frac{\Delta Q}{\Delta P} \times \frac{OP}{OQ}$$

Case	1	2	3	4
Old Price	10	80	40	90
New Price	12	84	?	72
Old Quantity	2000	3000	6000	5000
New Quantity	2800	?	6600	?
E_p	2	?	3	0.5
a)		3200	42	7000
b)		3450	43	4000
c)		3650	44	3000
d)		3850	48	2000

2. Arc Elasticity - Same

3. Method of Derivatives - Same

Determinants of Elasticity of Supply

1. Cost of Production
 $COP \uparrow \rightarrow$ less Elastic
 COP constant \rightarrow more Elastic
2. Time Period
Short Period \rightarrow less Elastic
long Period \rightarrow more Elastic
3. Number of Producer
 $NOP \uparrow \rightarrow$ more Elastic
 $NOP \downarrow \rightarrow$ less Elastic
4. Capacity Utilization
Spare Capacity \rightarrow more Elastic
100% Capacity \rightarrow less Elastic
5. Availability of RM
RM \rightarrow Easy \rightarrow more Elastic
RM \rightarrow Difficult \rightarrow less Elastic
7. Mobility of FOP
FOP \rightarrow Mobile \rightarrow more Elastic
FOP \rightarrow NOT Mobile \rightarrow less Elastic
6. Factor Substitution
Substitute $\checkmark \rightarrow$ more Elastic
Substitute $\times \rightarrow$ less Elastic
8. Future Expectation
 $P_x \uparrow \Rightarrow FEP \uparrow$
less Elastic

PRICE DETERMINATION

Golden Rules

- 1) $D > S \Rightarrow$ Shortage $\Rightarrow P_x \uparrow$
- 2) $S > D \Rightarrow$ Unsold Stock $\Rightarrow P_x \downarrow$

Case	EP	EQ
1) $D \uparrow$	\uparrow	\uparrow
2) $D \downarrow$	\downarrow	\downarrow
3) $S \uparrow$	\downarrow	\uparrow
4) $S \downarrow$	\uparrow	\downarrow
5) $D > S$	\uparrow	\uparrow
6) $D < S$	\downarrow	\uparrow
7) $D = S$	No Change	\uparrow
8) $D > S$	\downarrow	\downarrow
9) $D < S$	\uparrow	\downarrow
10) $D = S$	No Change	\downarrow

Price Floor / Minimum Support Price

Minimum Price

$MSP > EP$

Price Ceiling

Maximum Price

$PC < EP$

BASICS

Meaning -

- Production = Creation of Utility
- Production = Addition of the Value

Types of Utility

1. Form Utility RM → FG
2. Place Utility Mountain → Tea, Maggi
3. Time Utility Takkal
4. Personal Utility Services eg CA, Doctor

Land

Land refers to all free gifts of the nature. This includes soil and earth's surface, natural resources, fertility of soil, water, air, natural vegetation, etc.

Features

- FREE GIFT gift of nature.
- Land is fixed in QUANTITY.
- The Supply of Land is perfectly inelastic from the viewpoint of the entire economy. Though, it is relatively elastic from the viewpoint of an Individual Firm.
- Land is PERMANENT. It cannot be destroyed or lost.
- The production power of soil is indestructible since its fertility can be restored
- Land lacks MOBILITY in a geographical sense. It cannot be shifted.
- Land is a SPECIFIC factor of production in the sense that it does not yield any result unless human efforts are employed.
- Land varies in FERTILITY and uses.

FACTORS OF PRODUCTION

Labour

'Labour' means PHYSICAL or MENTAL exertion directed to produce goods or services, and with a view to gain an ECONOMIC reward.

Features

- Human Efforts
- Perishable Nature
- Weak Bargaining Power
- Self Source
- Variations
- Productivity
- Relationship between Wage Rate & Labour Supply

- a) Direct Relation → Normal Rule
CA Mohul Desai → Paice, Paice
WR ↑ ⇒ LS ↑
- b) Inverse Relation at Higher Prices
CA Anulhar Jain → Free Time
WR ↑ ⇒ LS ↓
- c) Inverse Relation at Lower Prices
Lower Middle Class Family
WR ↓ ⇒ Mother, Daughter ⇒ LS ↑

Capital

Capital means that part of wealth of an individual or community, which is used for further production of wealth, or which yields an income

Features

- Stock Concept
- Capital ≠ Wealth
- Produced Means

Capital Formation

Capital Goods ↑, Real Capital ↑, Machinery ↑

Need for Capital Formation

- Replacement and Renovation of existing machinery and equipment
- Creating Additional Productive Capacity

Stages in Capital Formation

Stage 1	Stage 2	Stage 3
Creation of Savings	Mobilisation of Savings	Investment of Saving in Real Capital
Individual Business Govt	Banks Financial Insti. Capital Market	Entrepreneur +ve Environment Inducement to Invest

- Ability to Save
Y ↑ SA ↑, Y ↓ SD ↓
Yd - Equal ⇒ SA ↑
- Willingness to Save
Future Concern ⇒ S ↑
Voluntary Vs Forced Savings

Entrepreneur

Function of Entrepreneur

- Initiating business & Resource Co-ordination
- Risk Bearing
- Innovation

Entrepreneur's Objectives

1. Organic - Survival
2. Economics - Profit
3. Social - Social Welfare
4. Human - Human Welfare → Internal Employees
5. National - National Requirement

OBJECTIVES & CONSTRAINTS

Constraints in Achieving Objectives

1. Information
Lack of Information Vs Delay of Information
2. Infrastructure
Roads (X), Electricity (X), Banking (X)
3. Factors of Production
Restriction on use of RM
4. Economic Aspect
Interest, Inflation, FER, BOP

Enterprise Problems

1. Objective
OO Vs EO Vs HO Vs SO Vs NO
2. Location of Plant
RM ← [E] → FG
3. Size of Plant
Small Scale Vs Large Scale
4. Physical Facilities
Factory layout → Gowdown, QC, Mfg.
5. Finance
Total Funds ← Long Term → Debt Vs Equity
Short Term
6. Organizational Structure
Department ← Function → Purchase, Sales, Finance
Divisional → Product Basis
7. Marketing
Annual Budget → Monthly Budget ← PM
SM
8. Legal Compliance
PA, CA, SOGA, ICA, LLP
9. Industrial Relations
LABOUR UNION

BASICS

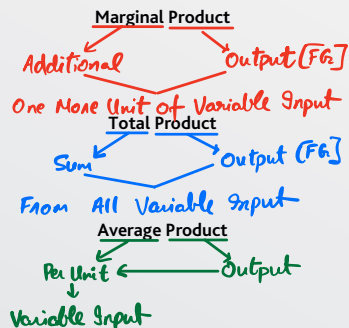
Production Function

Functional Relation Between Physical Input & Physical Output
Same Output → Minimum Input
Same Input → Maximum Output
Cobb-Douglas Production Function (ST)
 $Q = K L C^{(1-a)}$ $Q = K L^a C^b$
 Labour 3/4 (75%), Capital 1/4 (25%)

Short Period Vs Long Period

Basis	Short Period	Long Period
Meaning	At least One Factor cannot be increased	All Factors can be increased.
Fixed Factor	At least One Factor	No Factor is Fixed
Variable Factor	All Except at Least One	All are Variable
Proportion Between Factors	Not Same Proportion	Same Proportion
Factor Ratio	Changes	Same

Important Terms



RETURNS TO FACTOR / SHORT RUN

Law of Variable Proportion / Proportionality / Diminishing Returns - Only One Factor is Variable. All Others Fixed

Causes of Increasing Rt.	Causes of Decreasing Rt.
1. Fuller Utilisation of Fixed Factor	1. Inadequacy / Fixity of Factor
2. Increased Efficiency	2. Imperfect Factor substitutability
3. Better Co-ordination between Factors (Right Combination)	3. Poor Co-ordination between Factor (Wrong Combination)

Causes of Negative Rt. - Disguised Unemployment

Relation Between MP & TP

- MP ↑ TP ↑ (IR) (DR)
- MP ↓ TP ↓
- MP = 0 TP Maximum
- MP -ve TP ↓

Relation Between MP & AP

- MP ↑ AP ↑ MP > AP
- MP = AP AP Maximum
- MP ↓ AP ↓ AP > MP

	Stage 1	Stage 2	Stage 3
MP	MP ↑ MP ↓	MP ↓	MP -ve
AP	AP ↑	AP ↓	AP ↓
TP	TP ↑ IR → DR	TP ↑ DR	TP ↓

Area of Economics Operation

Producers will operate in Stage 2
 Stage 1 & 3 → Economic Non-Sense
 → Economic Absurdity

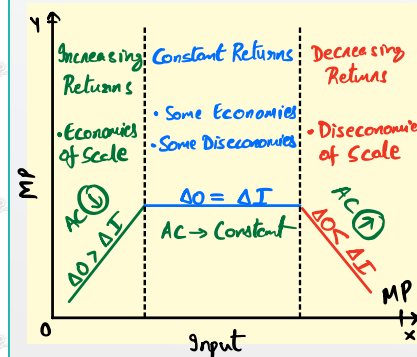
Assumptions of LOVP

- Technology - Constant
- Only One Factor Variable
- Factors - Can be Used in Any Proportion
- Factor Ratio Can Change
- Fixed Factors are Scarce

RETURNS TO SCALE / LONG RUN

Returns to Scale

All the Factors of Production are increased or decreased in the **SAME** proportion. The Law of Returns to Scale analyses the changes in output, due to changes in scale in the long-run, i.e. quantities of resources, keeping proportion constant.



Cobb-Douglas Production Function (LT)

$a + b > 1$	Increasing Returns
$a + b = 1$	Constant Returns
$a + b < 1$	Decreasing Returns

Economies & Diseconomies

	Internal	External
Depends On	Decision ✓	Decision ⊗
Impact On	Own Firm	Industry

Internal Economies & Diseconomies

Aspect	Economics	Diseconomics
Technical <i>Automatic Machine</i>	$COP \downarrow$	<i>Maintain Control Repair</i>
Managerial	<i>Management Cost Per Unit ↓</i>	<i>Mis-Management COP ↑</i>
Commercial	<i>Bulk Buying AC ↓</i>	<i>Shortage AC ↑</i>
Financial	<i>Interest Rate ↓</i>	<i>Total Interest ↑</i>
Risk Bearing	<i>Diversify Risk ↓</i>	<i>Same Line Business Risk ↑</i>

External Economies & Diseconomies

Economies	
Cheaper RM	<i>Substitute of RM</i>
Technological	<i>New Features</i>
Development of Skilled Labour	<i>DY Patel → Auto. Engineer</i>
Ancillary Industry	<i>Supporting Industry</i>
Transport & Marketing	<i>Zomato</i>
Diseconomies	
Factor Price	$FOP \rightarrow \text{Shortage} \rightarrow \text{Price} \uparrow$
Govt Restriction	<i>Ban</i>

COST FUNCTION – THEORY

Basis	Explicit Cost	Implicit Cost
Cash Outflow	Yes	No
Resources	3rd Party	Self-Owned Resource
Other Name	Out-of-Pocket Cost Outlay Cost	Notional Imputed Opportunity Cost
Measurement	Objective Accurate	Subjective Estimated
Recording In A/C	Yes	No
Purpose	Accounting, Reporting, Cost Control & Decision Making	Decision Making

Basis	Direct Cost	Indirect Cost
Identified or Traceable	To a Particular • Product • Service • Operation • Plant	<ul style="list-style-type: none"> No Tracking Common Expenses Not Quantifiable, But May Vary with Output
Relationship	Quantifiable Per Unit	Apportioned or Absorbed
Accounting	Directly Charged to a Product	(Distributed) on Appropriate Basis

Basis	Fixed Cost	Variable Cost
Cost of	Fixed Factors of Production	Variable Factors of Production
Change	Does not Change	Changes With Output
Relationship	Period Related	Product Related
When Incurred	Even at Zero Unit	After Start of Production
Avoidable	Unavoidable	Avoidable
Cost Per Unit	Changes	Same
Total Cost	Same	Changes

Basis	Committed Cost	Discretionary Cost
Decision	Taken in Past	Pending
When Incurred	Future	Future
Possessions	Current	Future
Changes	Not In Short Run	Not Changes in Very Short Run
Long Term Objectives	Reduction affects LTO	Does Not Affect LTO
Control	Cannot be Controlled	Can Be Controlled
Inference	Unavoidable	Avoidable

Incremental Cost	Sunk Cost
Additional Cost Incurred	Already Incurred in Past
Due to Any Reason	Cannot be Recovered, Revised or reversed
Relevant for Decision Making	Act as Barrier to Entry of New Firm

Historical Cost	Replacement Cost
Acquisition/Purchase/ Original Price of Asset	Cash Outflow for Replacing an Old Asset
Already incurred in Past	To be Incurred in Present
Not Relevant for Decision making	Relevant for Current Decision Making

Private Cost	Social Cost
Cost of Production	Cost of Disutility
Incurred by Firm	Incurred By 3rd Party
Private Cost = Explicit Cost & Implicit Cost	Social Cost = Private Cost + External Cost
Private Profit = TR – Private Cost	Social Profit = TR – Social Cost

$$TR = P \times Q$$

$$A/c \text{ Cost} = \text{Explicit Cost}$$

$$Eco. \text{ Cost} = \text{Explicit Cost} + \text{Implicit Cost}$$

$$A/c \text{ Profit} = TR - A/c \text{ Cost}$$

$$Eco \text{ Profit} = TR - Eco. \text{ Cost}$$

Opportunity Cost

- Value of sacrifice made
- Cost of opportunity foregone
- Arises only when alternatives are available.
- Do not involve any cash payment
- Not recorded in books of accounts.
- Considered only for Decision-Making & Analytical purposes

Dependent Variable

- Total Cost
- Cost Per Unit

→ Variable

SHORT PERIOD ANALYSIS

Cost of Production

Expenditure incurred by a firm on the factor inputs (Land, Labour, Capital & Entrepreneurship) as well as non-factor inputs (Raw material) for the production of a commodity.

$$C = f(Q)$$

Types of Cost

Type	Meaning	Graph
Marginal Cost	Additional Cost due to Production of One More Unit	U Shaped
Average Variable Cost	Variable Cost Per Unit	U Shaped
Average Cost	Total Cost Per Unit	U Shaped
Average Fixed Cost	Fixed Cost Per Unit	Rectangular Hyperbola
Total Variable Cost	<ul style="list-style-type: none"> Increases at Decreasing Rate Increases at Increasing Rate 	
Total Fixed Cost	<ul style="list-style-type: none"> Constant Horizontal Parallel to X-Axis 	
Total Cost	TC = TFC + TVC	

Formula

At zero Unil $TC = TFC$

MC _n	<ul style="list-style-type: none"> $TVC_n - TVC_{(n-1)}$ $TC_n - TC_{(n-1)}$ $\frac{\Delta TC}{\Delta n}$ OR $\frac{\Delta TVC}{\Delta n}$
TVC _n	• ΣMC_n
TC	<ul style="list-style-type: none"> TFC + TVC AC × Q
AVC	• $\frac{TVC}{n}$
AFC	• $\frac{TFC}{n}$
AC	• $\frac{TC}{n}$

Units	MC	TVC	TFC	TC	AVC	AFC	AC
0	-	-	20	20	-	-	-
1	110	110	20	130	110	20	130
2	100	210	20	230	105	10	115
3	80	290	20	310	96.66	6.67	103.33
4	50	340	20	360	85	5	90
5	10	350	20	370	70	4	74
6	70	420	20	440	70	3.33	73.33
7	100	520	20	540	74.28	2.85	77.14
8	150	670	20	690	83.75	2.5	86.25
9	180	850	20	870	94.44	2.22	96.66
10	200	1050	20	1070	105	2	107

Relationship

- MC & TC / TVC
 - MC ↓, TC/TVC ↑ (DR)
 - MC ↑, TC/TVC ↑ (IR)
- MC & AC & AVC
 - MC ↓, AC/AVC ↓ But AC/AVC > MC
 - MC = AC/AVC, AC/AVC is Minimum
 - MC ↑, AC/AVC ↑, But MC > AC/AVC

LONG PERIOD ANALYSIS

- Planning Curve - LAC
- Plant Curve - SAC
- For A given Quantity, If more than one SAC is available, the producer will produce at lower SAC (Not lowest Point on SAC)
- LAC is formed by tangency of several SAC
 - When LAC is falling, it is tangent to falling portion of SAC
 - When LAC is rising, it is tangent to rising portion of SAC

REVENUE

Revenue – Amount Received from sale of Goods & Service

$$\text{Cost} + \text{Profit} = \text{Revenue}$$

Total Revenue	Sum Total of Revenue from Sale of All Units $TR_n = \sum MR_n$ OR $P \times Q$
Marginal Revenue	Additional Revenue from sale of One More Unit $MR_n = TR_n - TR_{(n-1)}$ OR $\Delta TR / \Delta N$
Average Revenue	Revenue per unit of good sold $AR_n = TR/n$

Perfect Competition	Monopoly/Monopolistic
Any Quantity can be sold at Same Price	Price needs to be Decreased to Sell More Quantity
As Qnt Increases $P = AR = MR = \text{Constant}$	As Qnt Increases $MR \downarrow, AR \downarrow$ But $AR > MR$
As Qnt Increases TR increases at constant Rate	Relation Between MR & TR $MR +ve, TR \uparrow$ (DR) $MR = 0, TR$ is Maximum $MR = 0, TR \downarrow$
LEARN → $MR = AR \times \frac{E - 1}{E}$	
$E < 1$	MR will be Negative
$E = 1$	MR = 0
$E > 1$	MR will be Positive

- $P = AR$, Always
- Demand Curve = Price Line = AR Curve

FORMS OF MARKET

Perfect Competition

Large No. Of Buyers & Sellers	One Buyer or Seller cannot influence market demand or supply
Homogenous Product	Similar or Identical Products
Free Entry & Exit	No Barrier
Perfect Knowledge	Buyer Know Price, Quality, Quantity
Transportation	No Extra Cost, Adequate Facility
Uniform Market Price	Price Taker, All Sellers sale at same Price
Indifference / Lack of Preference	Buyers - Indifferent Seller – Indifferent
Mobility of Factors	Perfect Mobility

Pure/Free Competition – SHE

Monopoly

Single Seller	Alone to Sell, One Seller Only
Firm = Industry	One Seller Constitute Entire Industry
No Close Substitute	Cross Elasticity is Zero or Very Small
Price Maker	Determine Output & Price
Restricted Entry	Legal/Financial/Natural Barrier
Pure Monopoly is never found in practice, with the exception of public utilities like Railways, Water and Electricity, etc.	

Price Discrimination (CQL)

- Charging Different Price from Different Customers
- Objectives
 - To earn Maximum Profit
 - To Dispose of Surplus stock
 - To enjoy Economies of Scale
 - To capture the foreign market
 - To secure equity thorough pricing.
- Pre-Conditions for Price Discrimination
 - Seller's Control
 - Market Segmentation
 - Differing Elasticity $e > 1, e < 1$
 - No Scope for Resale

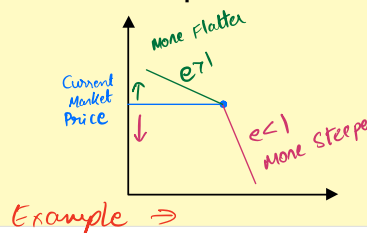
Monopolistic Competition

Many Seller	Many Seller with Small Share
Product Differentiation	Product of Every seller has different Features
Control Over Price	Due to Different Features, Can Charge Different Prices
Non-Price Competition	Feature War, Not Price War
Free Entry & Exit	No Barrier
Brand Loyalty	Each Seller tries to develop the Brand Loyalty for his product
Advertising Cost	Very Important due to product differentiation

Oligopoly

Few Seller	3-15 Seller
Interdependence	Change in Price, Output, Product by One Firm will impact rival firm who will retaliate by changing theirs. Firm must take consideration of reactions of competitors when taking decisions
Non-Price-Competition	Feature War, Not Price War
Advertising Cost	Very Important due to product differentiation
Group Behavior	High Probability to form Cartel

Kinked Shaped Demand Curve



Example →

Types of Oligopoly

1. Pure/Perfect - Homogenous Product
2. Impure/Imperfect - Product Differentiation
3. Open - Free Entry & Exit
4. Close - Entry Restricted
5. Collusive - Group - Cartel
6. Non-Collusive - Independent Decision Making
7. Partial - Market Leader → Annul
8. Full - No Market Leader
9. Syndicated - Central Selling Platform
10. Organised - Central Association → Price Output

Miscellaneous Topics

Reasons for Monopoly

1. Strategic Control over scarce resources, inputs or technology by a Single Firm
2. Developing or acquiring control over a unique product that is difficult or costly for other Companies to copy.
3. Patents and Copyrights given by Government to protect Intellectual Property Rights and to encourage innovation,
4. Governments granting the exclusive rights
5. Substantial Goodwill enjoyed by a Firm
6. Natural Monopoly due to very large economies of scale
7. Stringent Legal and Regulatory Requirements
8. Very high initial start-up costs
9. Use of Anti-Competitive Practices or Predatory Tactics, (Like Limit Pricing or Predatory Pricing)

Negatives of Monopoly

Higher Prices	Loss of Consumer Surplus
Consumer Sovereignty Falls	Lack of Innovation,
Lower Payment for FOP	Lack in Efficiency
Influence political process	Misuse of Resources
Scope for X-Inefficiency	Higher Costs of Output

PRODUCER EQUILIBRIUM & CONSUMER EQUILIBRIUM

$PROFIT = REVENUE - COST$

PRODUCER EQUILIBRIUM

Producer Equilibrium / Profit Maximisation Conditions

- MR = MC
- MC should be Rising \circ MC should have +ve Slope \circ MC should Cut MR from Below

Normal Profit - Minimum Rate of Profit without which businessman will not invest money in business Hence it is opportunity cost

AR > AC	Super Profit
AR = AC	Normal Profit
AR < AC	Subnormal Profit [Loss]

AC includes Normal Profit as Opportunity cost

Short Period	Long Period
No Entry & No Exit	Entry & Exit Possible
Possible Profit - SP - NP	Possible Profit only Normal Profit

Long Period Exception - Monopoly \rightarrow Super Profit

Supply Curve of Perfect Competition Firm - Rising Position of MC, Above AVC

Long Run = Equilibrium = Perfect Competition

$SMC = SAC = LAC = LMC = LMR = LAR = PRICE$

Shut Down Point

Condition for Production - $TR > TVC$ or $AR > AVC$
When to Shut Down Production - $TR < TVC$ or $AR < AVC$
If Firm Shut down production, Its Loss will be equal to Fixed Cost Only

CONSUMER EQUILIBRIUM

Utility - Want Satisfying Power

Types of Utility

Cardinal Utility	Ordinal Utility
Number [utils]	Rank/Preference
Alfred Marshall	Hicks & Allen

CARDINAL UTILITY ANALYSIS

Marginal Utility - Additional Utility derived by consuming one additional unit
 $MU_n = TU_n - TU_{(n-1)}$ | $MU_n = \frac{\Delta TU}{\Delta n}$

Total Utility - Sum total of utility derived from consumption of All Units
 $TU_n = \sum MU_n$

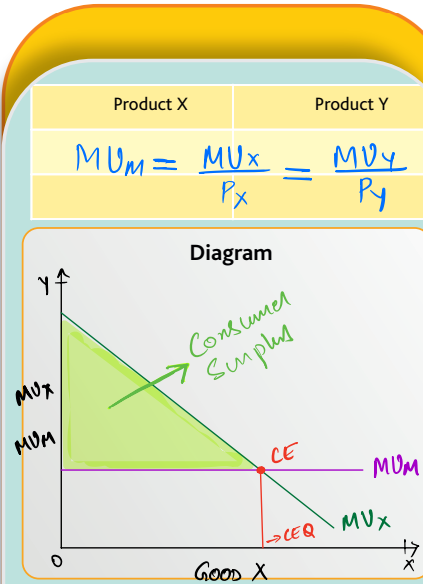
Law of Diminishing Marginal Utility - As more & more units of a commodity are consumed, satisfaction from each successive unit goes on diminishing

Relation Between MU & TU

- $MU +ve \Rightarrow TU \uparrow$ (DP)
- $MU = 0$, TU is Maximum
- $MU -ve$, TU \downarrow

How Does A Consumer Decide How Much Quantity He Want To Purchase

Px	$P_x \uparrow \Rightarrow Q_x \downarrow$	$P_x \downarrow \Rightarrow Q_x \uparrow$
MUx	Law of DMU	
MUm	Worth of Rupee, Assumed to be Constant	

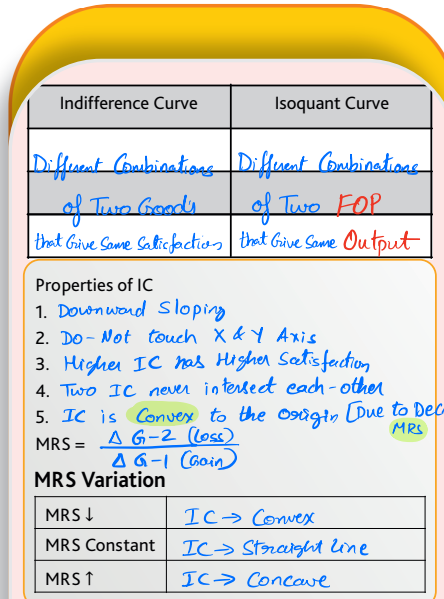


Consumer Surplus - What consumer is ready pay \rightarrow without he actually pay Necessity \rightarrow surplus

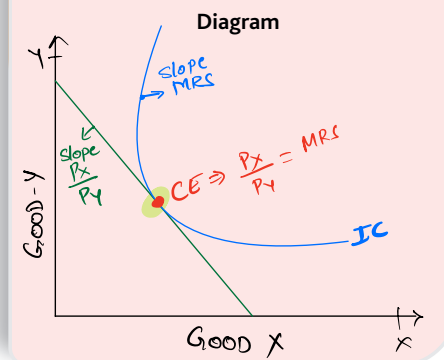
CARDINAL	THREE MUSKETEERS	ORDINAL
$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$	Consumer Equilibrium	$MRS = \frac{P_x}{P_y}$
$\frac{MU_x}{P_x} > \frac{MU_y}{P_y}$	$Q_x \uparrow$ $Q_y \downarrow$	$MRS > \frac{P_x}{P_y}$
$\frac{MU_x}{P_x} < \frac{MU_y}{P_y}$	$Q_y \uparrow$ $Q_x \downarrow$	$MRS < \frac{P_x}{P_y}$

ORDINAL APPROACH ANALYSIS

Consumer Equilibrium - Consumer is in equilibrium when given his Income and price of two goods, He plans his expenditure in such a way that his satisfaction is maximum.



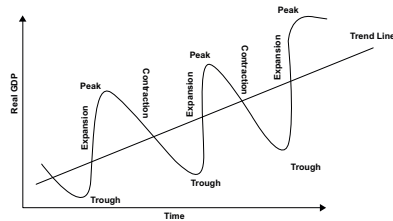
Budget Line	Iso-Cost Curve
Different Combinations of Two Goods such that Total Income is spent	Different Combinations of Two FOP such that Total Income is spent



Price = LAR = LMR = LMC = LAC = SAC = SMC

Business Cycle – Meaning

Fluctuations in Expansion & Contraction	Aggregate Economic Activity Of Business Activity
Trade Cycle	Good Trade & Bad Trade



Features of Business Cycle

1. Phases do not display smoothness & regularity.
2. BC occur periodically, But do not exhibit same regularity.
3. The duration of Business Cycles vary.
4. The intensity of fluctuations also varies.
5. Difficult to predict the Turning Points of BC.
6. BC in general originate in free market economies.
7. Although all sectors are adversely affected by Business Cycles

<ul style="list-style-type: none"> • Capital Goods Industries • Durable Consumer Goods • Industrial Goods 	<ul style="list-style-type: none"> • More Affected • Disproportionately
Agricultural Sector	Less Affected

8. Business Cycles are exceedingly complex phenomena
9. Repercussions of Business Cycles get simultaneously felt on nearly all economic variables, viz. O/Y/I/E
10. BC are contagious & are international in character.
11. Business Cycles may occur due to External Causes (known as Exogenous Factors), or Internal Causes (called Endogenous Factors), or a combination of both.
12. BC have serious consequences on the well-being of the society.

Phases of Business Cycle

1. Expansion

- a) Increase in National Output, Employment, Aggregate Demand, Capital and Consumer Expenditure, Sales, Profits, rising Stock Prices and Bank Credit.
- b) Continues till there is full employment of resources
- c) Involuntary Unemployment is almost zero. Only Frictional Unemployment (i.e. due to change of jobs, or suspended work due to strikes or due to imperfect mobility of labour) or Structural Unemployment (means unemployment caused due to structural changes in the economy), exists.
- d) Prices and Costs tend to rise faster. Net Investment also occurs at a faster pace.
- e) There is increasing prosperity and standard of living
- f) Growth Rate eventually slows down & reaches at its peak.

2. Peak

- a) Highest point of the Business Cycle.
- b) Now, Inputs are difficult to obtain, so Input Prices increase.
- c) Output Prices rise rapidly, leading to increased cost of living. This causes greater strain on Fixed Income earners.
- d) Consumers begin to review their Consumption Expenditure on housing, durable goods, etc.
- e) Actual demand thus stagnates. This marks the end of Expansion Stage.

3. Contraction

- a) Once Peak is reached, increase in demand is halted and starts decreasing in certain sectors.
- b) Hence, there is a mismatch between Demand and Supply,
- c) Producers, holds back investment, cancellation of orders for equipment and all types of inputs including Labour.
- d) Chain of reactions in the Input Markets & the Producers of Capital Goods & Raw Materials in turn respond by cancelling their orders. This is the turning point.
- e) Decrease in Input Demand pulls Input Prices down, Incomes of Wage and Interest Earners decline resulting in decreased demand.
- f) Producers lower their prices to dispose off their inventories
- g) Business Firms become Pessimistic
- h) Decrease in Bank Credit, Investor Confidence, Stock Prices, Employment, Wage Rates, Investments, Production, Demand

4. Trough. Depression

- a) Lowest turning point i.e. 'Trough'.
- b) When the process of recession is complete, the severe contraction in the economic activities pushes the economy into the phase of Depression.
- c) Depression is the severe form of recession & is characterized by the extremely sluggish economic activities.
- d) Growth Rate becomes negative and the level of National Income and Expenditure declines rapidly.
- e) Demand decreases, Prices are at their lowest, Forcing Firms to shut down. There is more bankruptcy.
- f) Capital & Consumer Durable Goods Industry, suffer from excess capacity.
- g) Unemployment increases, Very little Disposable Income.
- h) There is fall in the Interest Rate, and people's demand for holding liquid money (i.e. in Cash) increases.
- i) Despite lower interest rates, the demand for credit declines due to Pessimism of Business,
- j) At the depth of depression, all the economic activities touch the bottom and the phase of Trough is reached.

Indicators

1. Leading Indicators

- a) It is a measurable economic factor that changes before the economy starts to follow a particular pattern or trend.
- b) It represents Variables that change before the Real Output changes, i.e. prior to large economic adjustments.
- c) Examples:
 - Changes in Stock Prices, Profit Margins and Profits, Indices like Housing, Interest Rates and Prices, etc. are generally seen as precursors of upturns or downturns.
 - Value of New Orders for Consumer Goods, Capital Goods, Building Permits for Private Houses, fraction of Companies reporting slower deliveries, Index of Consumer Confidence and Money Growth Rate are also used for tracking and forecasting the changes in Business Cycles.

2. Lagging Indicators

- a) It reflects the economy's historical performance and changes in these indicators are observable only after an economic trend or pattern has already occurred.
- b) It represents variables that change after the Real Output changes, means measures that change after an economy has entered a period of fluctuation.
- c) If Leading Indicators signal the onset of Business Cycles, Lagging Indicators confirm these trends.
- d) Examples: Unemployment, Corporate Profits, Labour Cost per unit of Output, Interest Rates, Consumer Price Index, Commercial Lending Activity, etc.

3. Coincident Indicators

- a) It coincides or occurs simultaneously with the business-cycle movements.
- b) It gives information about the rate of change of the expansion or contraction of an economy more or less at the same point of time when it happens.
- c) It coincides closely with changes in the cycle of economic activity, & describes the current state of the BC.
- d) Examples: Gross Domestic Product, Industrial Production, Inflation, Personal Income, Retail Sales and Financial Market Trends like Stock Market Prices, etc

External Causes of Business Cycle

Headings

Population	Natural Factors
Technology	Wars
Post War Construction	International Trade

Internal Causes of Business Cycle

Headings

Price Fluctuations	Innovations
Fluctuations in Effective Demand	Fluctuations in Investment
Fluctuations in Govt Spend	Macro-Economic Policy
Money Supply	Psychological Factors

Role of Business Cycle in Business Decision Making

Headings

Demand Impact	Policies
Expansion Decision	Production Aspects
Cyclical Business	Market Entry/Product Launch