Friday, 22 December 2023 10:20 AM

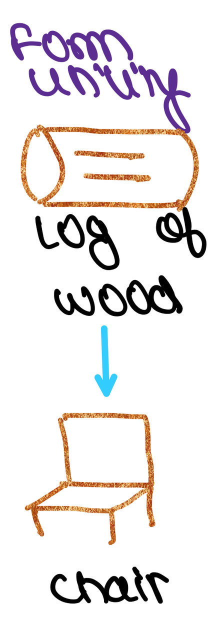
Chapter 3: Unit 1 — Theory of Production : "Process of converting Input into output"

Inputs → Activity → Output

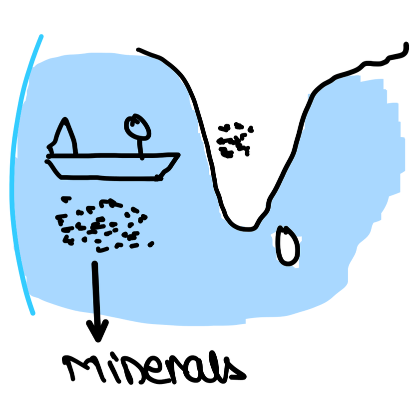
Output → want satisfying power → utility

Inputs → "Creation or Addition of" → utility

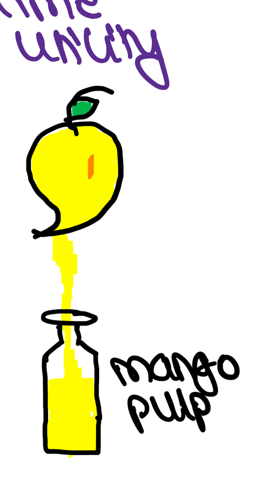
Form utility



Place utility



Time utility

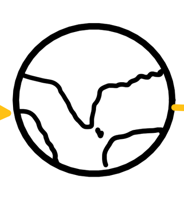


Service utility

Inputs → **Factors of Production** : Land, Labour, Capital & Entrepreneur

i. Land

a) Free Gift of Nature
b) Anything on, above & Below the surface of earth
c) supply

Macro (Totality) →  → completely fixed (Perfectly inelastic)

Micro (firm / individual) → Relatively fixed (Relatively elastic)

d) Land has indestructible Powers ie, its powers can be Restored.
e) Land is a passive factor ie, it does Not work on its own
f) Place Mobility ✗ - ie, it cannot be shifted from one place to another place
g) Occupational mobility ✓ ie, it can be used for various purpose
h) Heterogenous Factor
   i. fertile / infertile
   ii. Red, Black, Brown soil
   iii. surface / water
i.) Reward: Rent

ii Labour. Any mental or physical exertion done with an intention to secure income

a) Labour & Labourer are Different
b) Labour & labourer are inseparable
c) Labour cannot be stored } A day's labour lost is lost forever
d) Labour is Highly perishable }
e) weak Bargaing power
f) Place mobility ✓
g) Occupational mobility ✓
h) Heterogenous Factor: Skilled, unskilled, semi skilled
i) Exception to Law of supply
j) Active Factor
k) All labour is not Productive
l) Reward: wages

iii Capital:

Definition: i Part of wealth used for further production of wealth

wealth → Land, Building, Money, Gold / Silver, Shares / securities

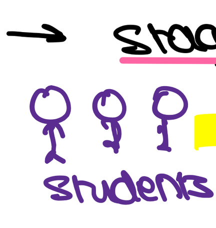
ii Man-made instrument of Production
iii Produced Factor of production

This Definition separates Land from capital

Types of capital

i. Fixed capital : camera, ipad, Benches
ii Circulating capital : Raw material
iii Tangible capital : camera, Raw material
iv. Intangible capital : Goodwill, Patent, TM, ©
v. Real capital : Camera, RM, Laptop, Furniture
vi. Human capital: Skills / Resources of individuals
vii Social capital
viii Private Capital.

→ Stages of capital Formation



₹₹₹ → HJ Income

Income → Ability to save → Higher the income Higher ability to save & vice-versa.

Income → Willingness to save → ₹₹ → Mobilisation of savings

₹₹ → Pkd.

Investment

" Capital "

* Heterogenous factor
* Place mobility ✓
* Occupational mobility ✓
* Reward: Interest

Capital v/s Income

Capital → Stock
Income → Flow

☞ Production Function

$Q_o = f(Q_I)$

Q_o → Dependent

Q_I → Land, Labour, Capital, Entrepreneur → Independent

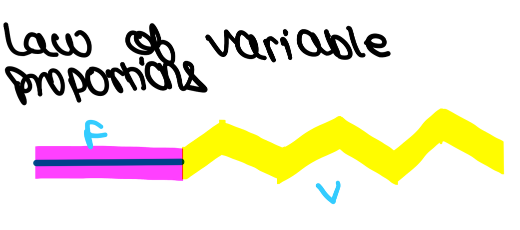
Assumptions
i. specified time period
ii Given Technology
iii maximum output.

Given input : Maximum output } maximise profits
Given output : Minimum input }

Runs / Time Period

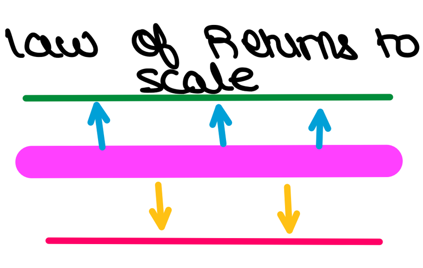
Short Run
• Too short
• One factor : fixed
  others : variable

Law of variable proportions



Long Run
• Planning Horizon
• All factors : variable

Law of Returns to scale



☞ Law of variable proportions / Law of Diminishing Returns

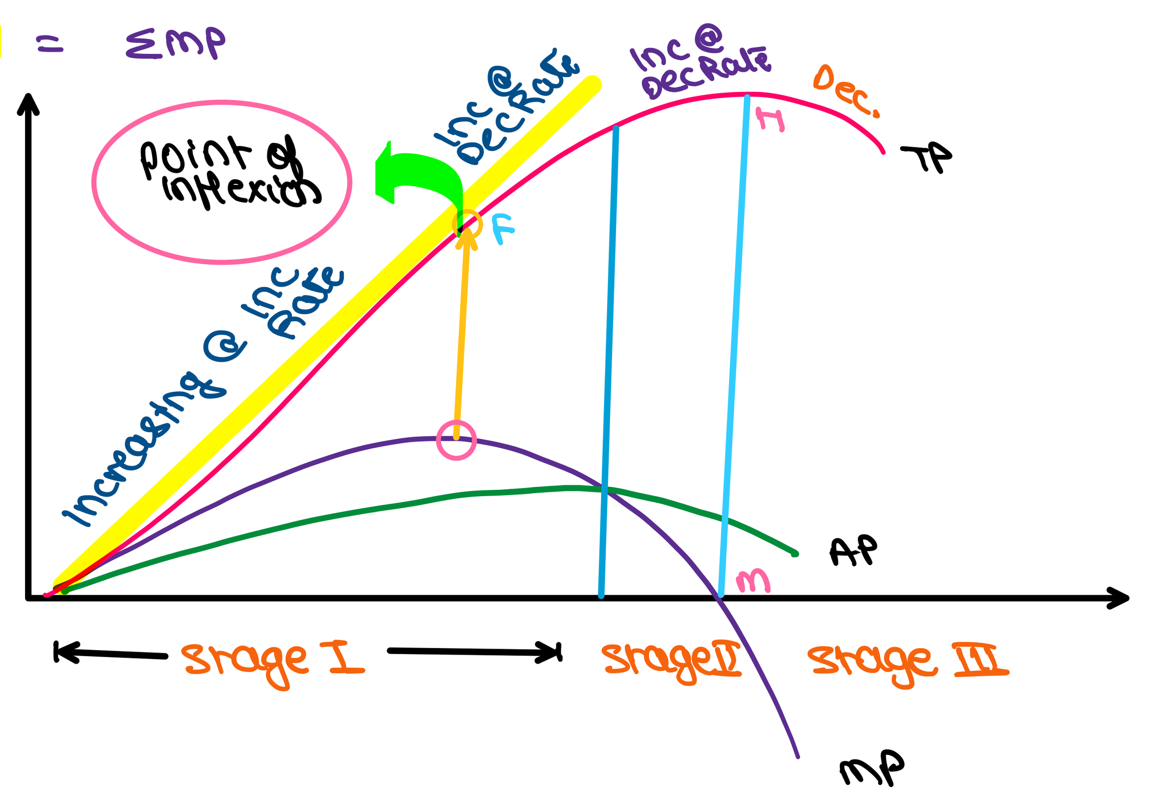
Table 1: Product Schedule

Quantity of labour	Total Product (TP)	Average Product (AP)	Marginal Product (MP)
(1)	(2)	(3)	(4)
1	100	100.0	100
2	210	105.0	110
3	330	110.0	120
4	440	110.0	110
5	520	104.0	80
6	600	100.0	80
7	670	95.7	70
8	720	90.0	50
9	750	83.3	30
10	750	75.0	0
11	740	67.3	-10

MP = $TP_n - TP_{n-1}$: Addition made to TP by one extra unit of input

AP = TP/N

TP = ΣMP



Stage I : Increasing Returns
  AP = MP

Stage II : Diminishing Returns
  MP = 0 & TP = max

Stage III : Negative Returns
  MP = -ve   TP is Falling

Relationship between AP & MP

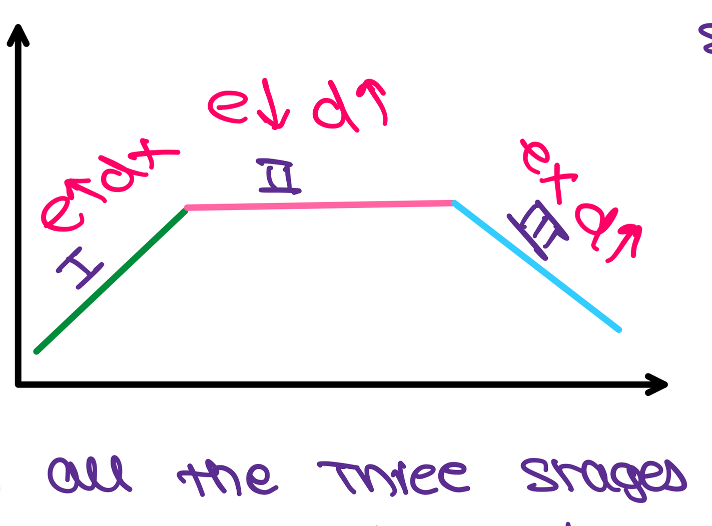
AP ↑	MP > AP
AP = max	MP = AP
AP ↓	MP < AP

Stage of operation: Stage II

Stage I & Stage III are called as stages of economic Absurdity or economic Non-sense

☞ Law of Returns to scale

a) This operates in long Run
b) All factors are variable



Stage		Input	Output
I	Increasing Returns	10%	20%
II	constant Returns	10%	10%
III	Decreasing Returns	10%	5%

In all the Three stages output increases but proportion of it varies

I : output increases in more than proportion to input
II : output increases in same proportion to input
III : output increases in less than proportion to input

Reasons

	Economies to scale	Diseconomies to scale
a) management	Division of work	Problem of co-ordination
b) Finance	ROI: fixed Growth	ROI: fixed Downfall.
c) commercial	Cheap Rate when purchased in Bulk	Damage Obsolete

Thursday, 6 June 2024 2:34 PM

Chapter 3
Unit 2: Theory of cost

1.1 Cost Concepts

i. Accounting cost : Actual cost Recorded in Books of A/c's
(Explicit cost)
eg: Salaries to employees
Telephone
Electricity

ii Economic cost : Accounting cost + Normal Return on owned factors of production
(implicit cost)

eg: Salaries to employees
Telephone
Electricity.
+ CA HJ : ₹100,000/-
Land : ₹50,000/-
Capital : ₹50,000/-

Accounting cost = 100,000 + ₹200,000

Sales	500,000	500,000	500,000
(-) Acn cost	100,000	300,000	400,000
Accounting profit	400,000	200,000	100,000
(-) Normal Return	200,000	200,000	200,000
Economic profit	200,000	—	(100,000)
	Super Normal profit	Normal profit	Loss
Decision Making.	Business✓	Either/or	Business✗

iii Outlay cost : Actual Expenditure

iv. Opportunity cost : cost of opportunity Foregone

SPC ₹100/hr
ABC ₹150/hr
opportunity (Next Best)

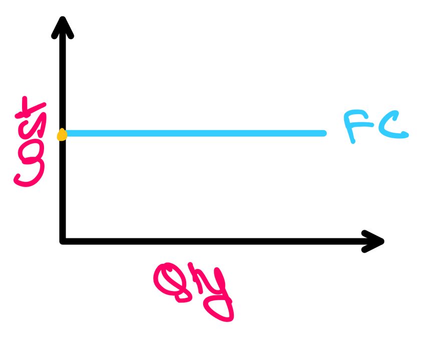
Kuch paney k liye, kuch khona padta hai
Jo khoya usey opportunity cost kehte Hai
— CA Harshad Jaju

v. Direct cost : · Traceable cost to a particular cost object
· Easily identified

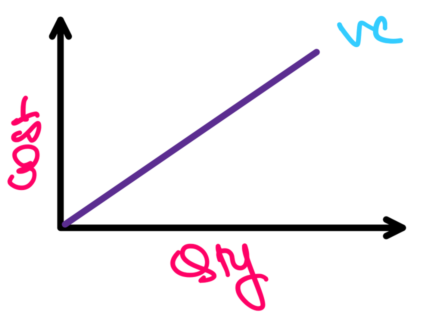
Table
wood = ₹₹

vi. Indirect cost : Non-Traceable cost to a particular cost object
(Overhead cost)
· cannot be easily identified

vii Fixed cost : · It does not change with level of output within the given capacity.
· It is the function of time
eg: Salaries per month
Rent per month.

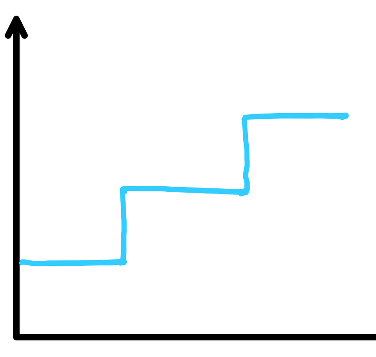


viii Variable cost : changes with the level of output
eg: Books cost



ix. Step ladder cost / step variable cost

eg: School Bus
50 students
51 – 100 students
101 – 150 students



x. Semi-variable cost = Fixed + variable

It is fixed upto certain level of output & then it is variable

eg: Mobile Bill Plan

₹300/-
1000 min
500 sms
2GB/day.
₹1/min
₹0.5/sms
10p/kb

₹350/- Semi-variable

1.3 Cost Function:

Production Function : $Q_O = f(Q_I)$

Input : output

Land → Rent
Labour → wages
Cap. → Intr.
Ent → Normal Retn

Cost of Production

Cost function : $C_O = f(C_I)$

output : cost

It is derived from production function

Short Run
One cost : Fixed
Others : variable
Law of variable proportions

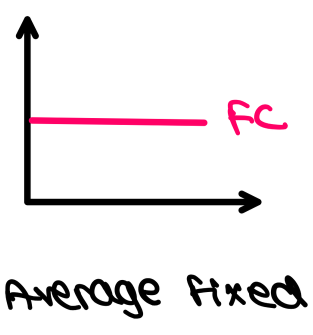
Long Run
All costs are variable
Law of Returns to scale

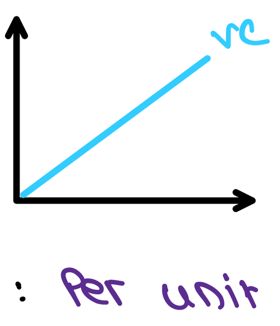
→ Law of variable proportions

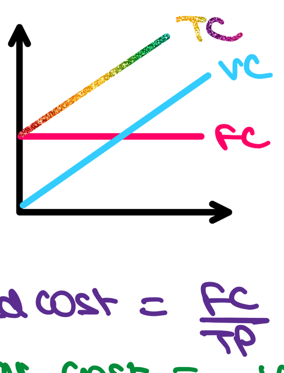
Extra cost incurred for one extra unit of output

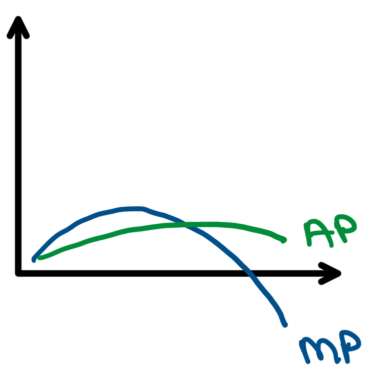
$TC_n - TC_{n-1}$ OR $\Delta TC / \Delta TP$

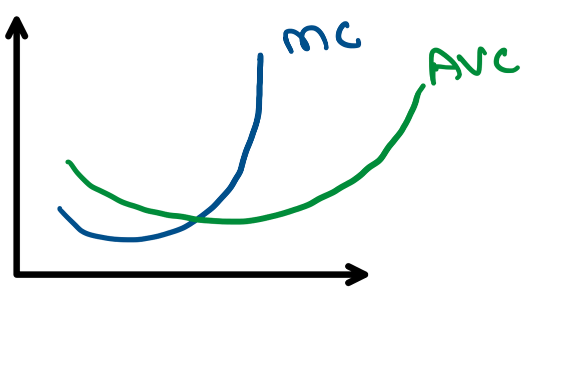
Qty of Labour	TP	AP	MP	FC	VC	TC	AFC FC/TP	AVC VC/TP	ATC	Extra cost for Extra TP	MC
0	0	0	0	1000	0	1000	–	0	0		
1	100	100	100	1000	1000	2000	10	10	20	1000	10
2	210	105	110	1000	2000	3000	4.76	9.52	14.28	1000	9.09
3	330	110	120	1000	3000	4000	3.03	9.09	12.12	1000	8.33
4	440	110	110	1000	4000	5000	2.27	9.09	11.36	1000	9.09
5	520	104	80	1000	5000	6000	1.92	9.61	11.53	1000	12.5
6	600	100	80	1000	6000	7000	1.67	10	11.67	1000	12.5
7	670	96	70	1000	7000	8000	1.49	10.44	11.93	1000	14.28
8	720	90	50	1000	8000	9000	1.38	11.11	12.49	1000	20
9	750	83	30	1000	9000	10000	1.33	12	13.33	1000	33.33
10	750	75	0	1000	10000	11000	1.33	13.33	14.66	1000	

a) Fixed cost


b) Variable cost


c) Total cost






Average fixed cost : Per unit fixed cost = $\frac{FC}{TP}$
Average variable cost : Per unit var. cost = $\frac{VC}{TP}$

AP↑	AVC↓	MP↑	MC↓
AP max	AVC min	MP max	MC min
AP↓	AVC↑	MP↓	MC↑

AP↑	MP > AP	AVC↓	MC < AVC
AP max	MP = AP	AVC min	MC = AVC
AP↓	MP < AP	AVC↑	MC > AVC