📚 BUSINESS 📚

📚ECONOMICS📚

📚NOTES 📚

~HETVI ❤️

Ch.3 Theory of Production and Cost

↳ Production function

Technical / Mathematical relationship between input and output

↳ output is a function of a commodities

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

or

$$Q = f(L, La, C, E)$$

Assumptions :-

(1) Specific period of time

(2) the state of art Technology
slight change in it may affect the output

(3) for given input the output level is maximum.

↳ Short Run Production

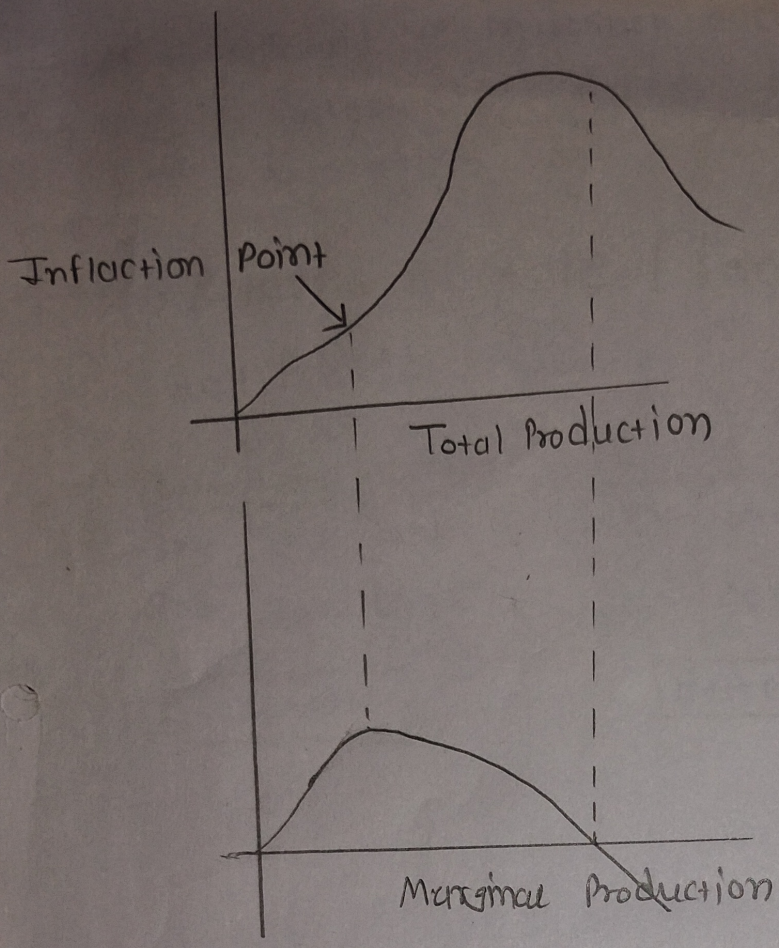
→ If at least one Input factor is constant

Long Run Production

→ all factors are variable.

↳ Law of variable Proportions / law of Diminishing Returns / Short Run Production function

Land	Labour	Total Production (TP)	Marginal Production (MP)	
10	1	10	0	
10	2	20	Stage 1 10	Increases
10	3	35	Phase 1 15	
10	4	40	Stage 2 5	Increases in decreasing manner
10	5	42	Phase 2 2	
10	6	42	0	
10	7	38	Stage 3 / Phase 3 -4	decreases



Average Production = $\frac{TP}{\text{No. of variable factors}}$

Stage 1: The stage one of increasing returns.
↳ MP increases that shows specialization of factors.

Stage 2: The stage of diminishing returns
↳ TP increases but MP falls so, here TP is positive (it is also known as TP increases at decreasing rate).

Stage 3: Negative returns
↳ TP decreases with MP. but when MP is zero TP is maximum.

↳ When AP and MP intersect each other, stage 2 begins
↳ Negative Return stage starts when MP is zero and TP is maximum.

⟶ Returns to Scale / Long run Production

↳ all factors variable.

Labour	Capital	Output
100	100	1000
200	200	2000

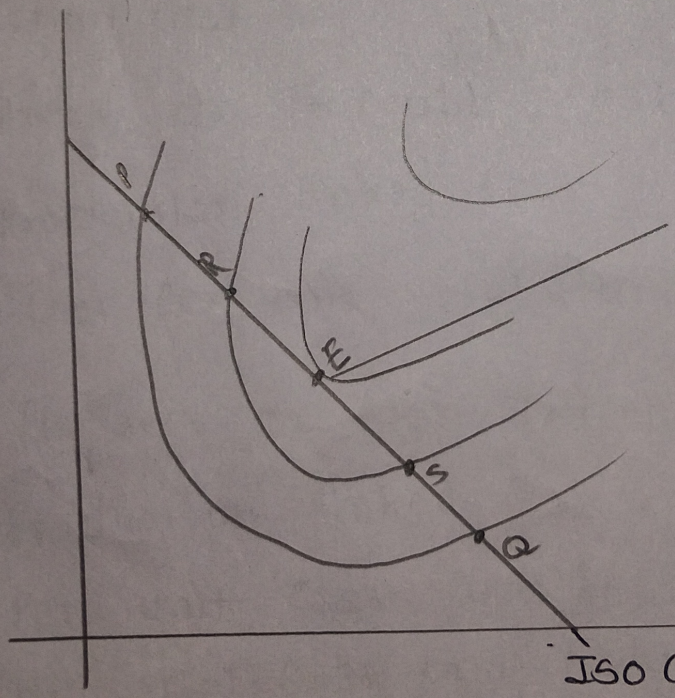
Constant

L	C	O
100	100	1000
200	200	1500

decreases

L	C	O
100	100	1000
200	200	3000

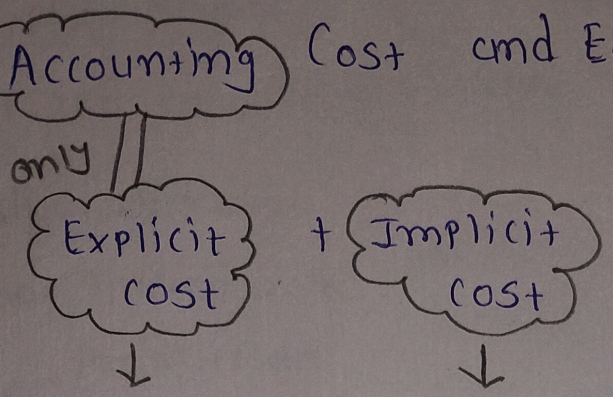
Increases



Producer's equilibrium

Unit - 2 Theory of Cost

(1) Accounting Cost and Economic Cost



(2) Outlay Cost and opportunity Cost

↓

Actual Cost

(3) Direct or Traceable Cost

↳ Production linked Cost

↳ Cost Per unit (calculate)

Indirect or Non-Traceable Cost

↳ Production linked Cost not possible

↳ Per unit Cost can't be calculate

(4) Historical (History) Cost and Replacement Cost

↓

Past Cost

↓

When new technology / skilled labour / Plant replaces old Plant at that (moment) cost applingis known as replacement Cost

(5) Private Cost and Social Cost

Plant Machine — Polution

(6) fixed cost and variable cost — short + long has variable cost

Production ↑↓, variable cost ↑↓

↳ short run cost

↳ not linked with production

ex: India → Pharmacy of World

china → API → Raw Matierel

Active Pharmaceutical Ingredient

(7) incremental cost and Sunk cost

↓ ↓

Marginal cost — Advertisement

$[T_n - (T_{n-1})]$

cost function

↳ Technical / Mathematical relation between Cost and output

$Q = f(cost)$

↓

output

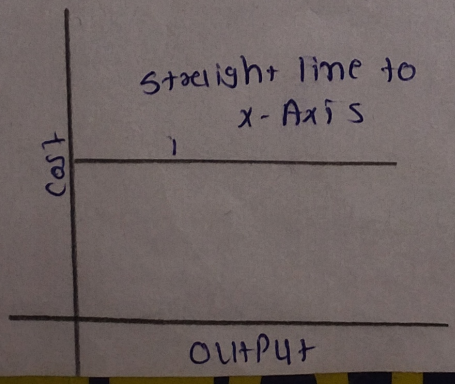
2.2.

↳ Completely fixed cost

↓

Independent of Output

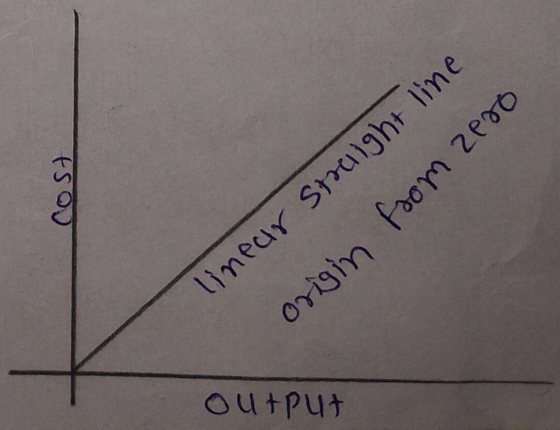
Ex. Salary, Rent, insurance.



Completely Variable cost

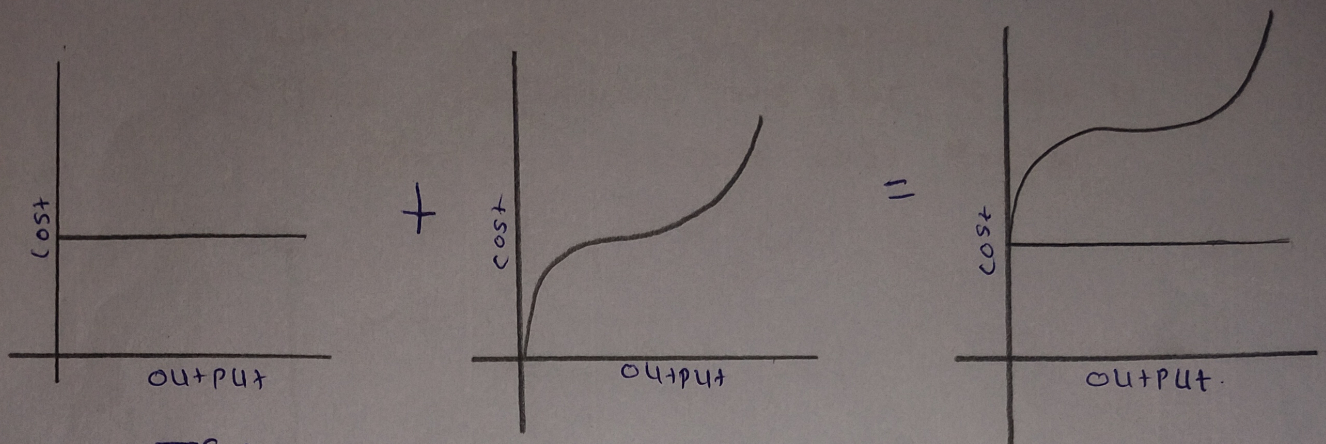
↓

output fully dependable on cost



↳ Total cost

$$Tc = TVC + TFC$$



TFC + TVC = TC

$$Tc = TFC + TVC$$
$$TFC = Tc - TVC$$

$$AC = ATC = \frac{Tc}{Q}$$

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

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

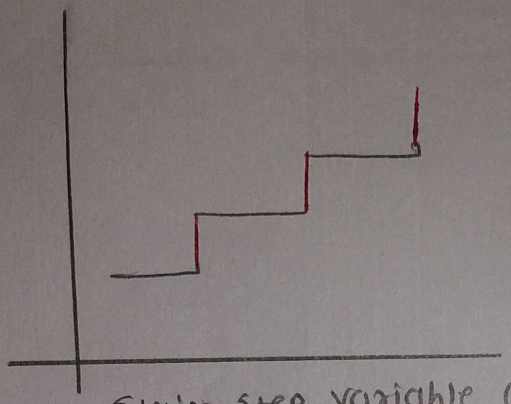
$$ATC = AVC + AFC$$

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

$$MVC = \frac{\Delta TVC}{\Delta Q}$$

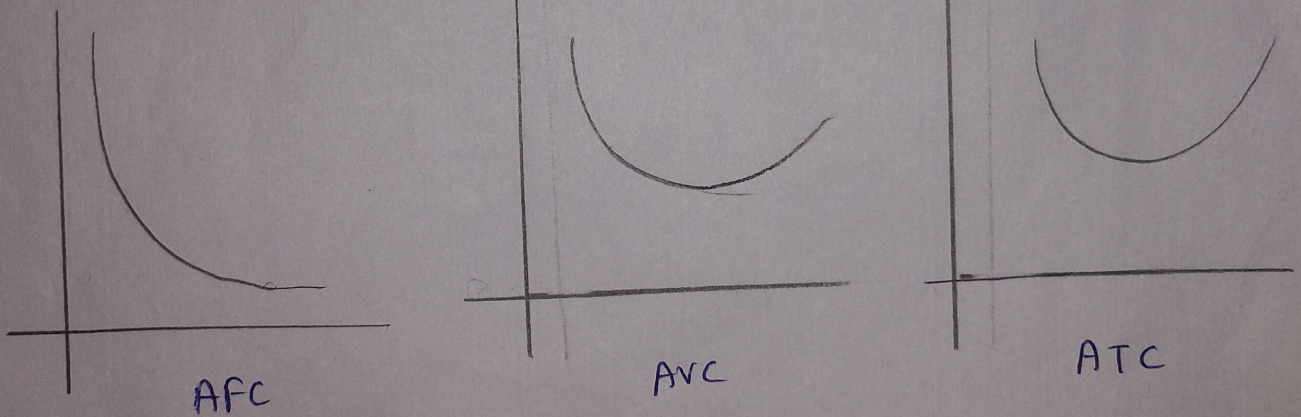
NOTE : There are few factors which are neither perfectly variable nor absoultly fixed. They are known as Semi-Variable Cost.

NOTE: for a particular output a particular cost is required, and this increases or decreases with the similar phinomina.
This conditions give rise to the a stair step variable cost graph.



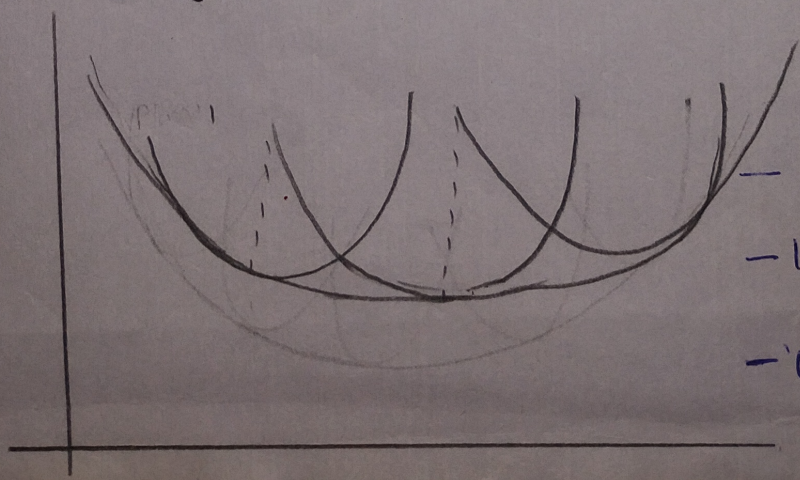
Stair step variable cost

- Short run Average Costs



AFC AVC ATC

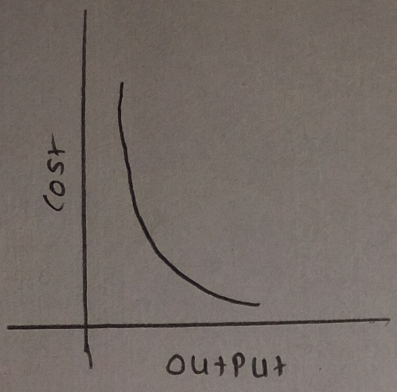
- Long run Average Cost Curve

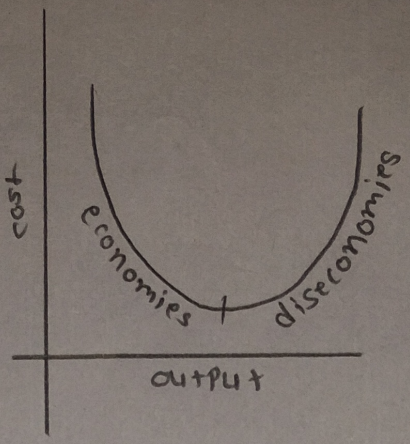


- Anvelope curve.
- long run Avg. Cost Curve
- 'U' shaped curve

→ Economies and Diseconomies.

Cheap





Costly.

