

Utility: what gives satisfaction

comes from "good"

study of social science ^{where} which we make choices based on scarcity

Economics

Micro
(Individual)

Macro
(Overall)

Scarcity: Lack of any specific thing (?) taken in a myriad of options

leads to
choice: Decisions

leads to
Tradeoff: (self explanatory)

leads to
Opportunity Cost: The ^{highest value} choice cost of the choice not taken that we forgave

Scarcity: A condition where our want is greater than our resource

- During start of business there is a lot of scarcity. Like:

- { i) Land → natural resources that we cannot make
ii) Capital → investment that will keep giving revenue
- Factors of production
- iii) Labour → Money Economics Equipment
iv) Entrepreneurship → Physical Mental

- Land earns Rent

Capital " Interest

Labour " wage

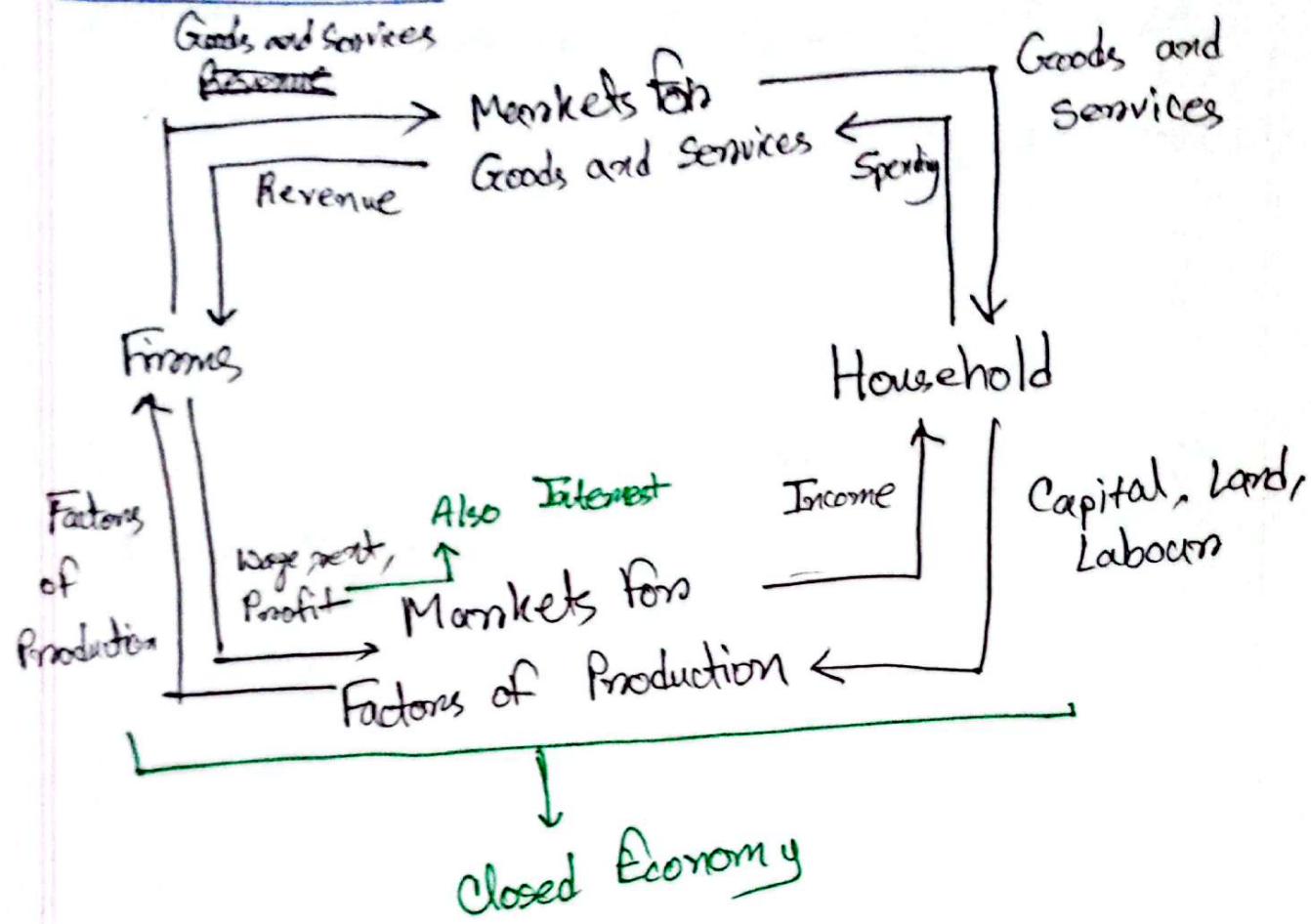
Entrepreneurship " Profit

* We do something when marginal cost < marginal benefit

\downarrow \downarrow
cost of consuming benefit obtained
1 unit extra from consuming
 1 unit extra

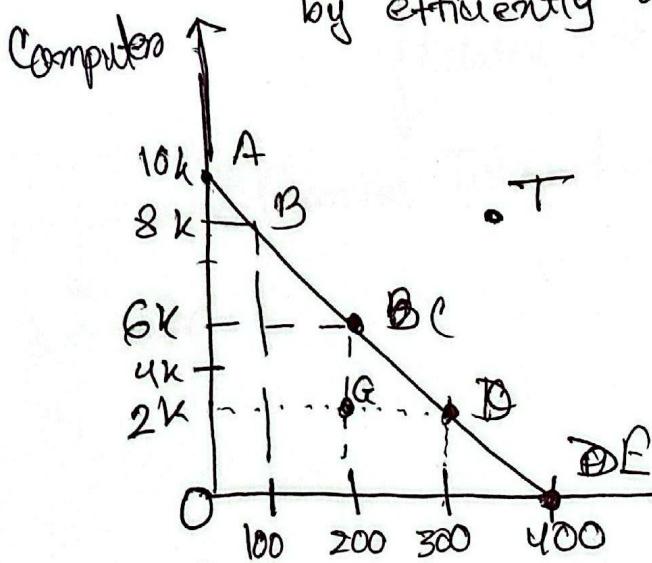
* Efficiency is when marginal cost = marginal benefit
↳ every unit is used

Income Flow: (Circular flow)



Production Possibility Frontiers

* A curve that shows combination (of any two) production methods outputs which can be produced by efficiently using the resources



+ when we pick a point we are trading off that equivalent point say, we are producing 100 cars
 \therefore we are trading off 2k computers
 \therefore Opportunity cost
 Cost = 2k Computers

fig: Production Possibility Frontier

Etiquette's of drawing curves:

- i) Fig Name
- ii) Label the axes
- iii) We draw on first quadrant

We cannot reach that point
 Scarce of T

Efficiency: A, B, C, D, E

Inefficiency: G

Unattainable: T

Attainable: A, B, C, D, E, G

* PPF Graph Shifts for resource (both points) or technology
may be single point). (may be both or one depending on what changes)

- shifts right for ~~increase~~ improvement
- shifts left " decrease deviation (or whatever is the opposite of improvement)

shift change is to
correspond to the changing PPF, because it's planned
shift to the left side of the graph so profit is
decreasing and both Δ & Δ are going
downward (so shift left)

(as shown)
(as shown) for example using MS-
Word feed back between shifting off
the original point to the new point
[new point] drop
of editor function
shift

Demand

= want + ability (to purchase)

→ willingness and ability of consumers that they
to purchase at a given
time

Quantity Demanded: The amount ~~an~~ a consumer
is willing ~~to purchase in his ability~~ at a given
price and time → affected by Price

Law of Demand: If price goes down, quantity demanded
increases)

→ If price of a product (goes up) increases,
the quantity demanded goes ~~down~~ decreases,
and [vice versa], Ceteris paribus
Price $\propto \frac{1}{\text{Quantity Demanded}}$

everything remains the
same

Symbolically, if P = Price, Q_d = Quantity Demanded

$P \uparrow, Q_d \downarrow$

$P \downarrow, Q_d \uparrow$, ceteris paribus

Demand Schedule: Explaining Law of Demand

in mathematical terms.

Demand Curve: Curve that shows law of demand graphically is

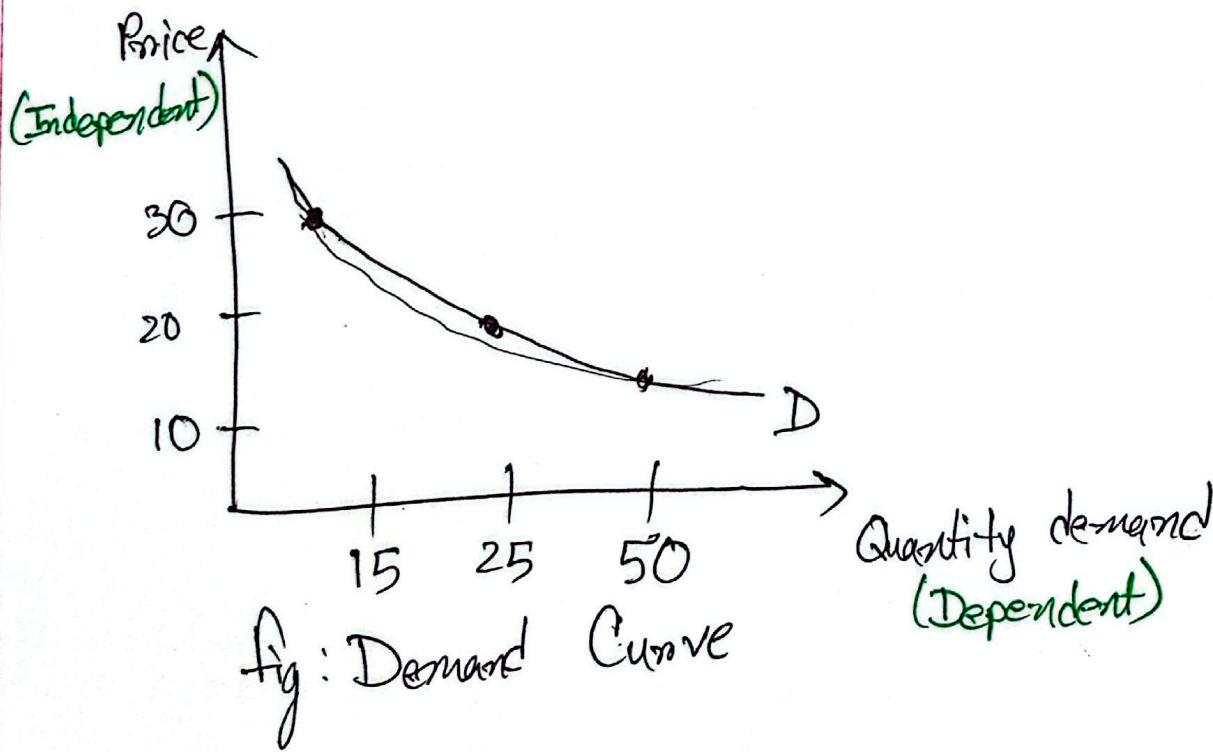


fig: Demand Curve

Determinants of Demand: [Factors that can

affect demand]

i) Price of Related Goods

ii) Tastes (what is wanted)

iii) Expectations (of the future price & future income)

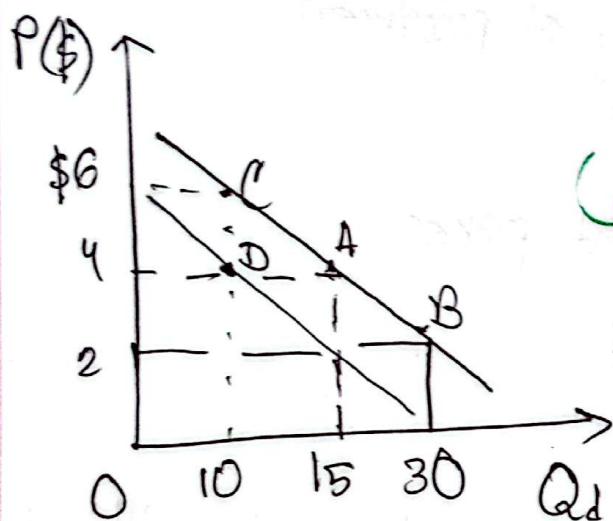
iv) Number of buyers (influence)

v) Income



If changes in demand vs changes in quantity demanded:

→ Shift in demand curve vs movement along demand curve



* If the price ~~increases~~ decreases

from 4 to 2, the Q_d moves from 15 to 30

(A to B) → as less price = more quantity consumed
Opposite for A to C
Likewise for A to C
This is movement along curve

* If any of the determinants

changes, the curve shifts
(A to D) → when we sub for alternative, the demand decreases

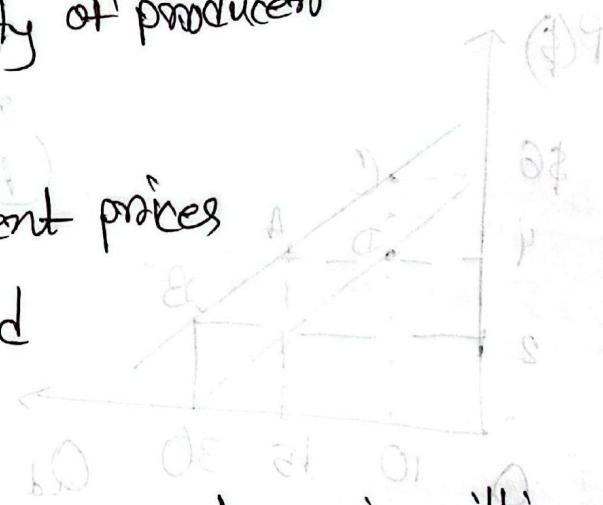
for the same cost

→ Left shift for decrease in demand
Right " " increase "

Supply

→ willingness + ability (to sell)

- same as demand but for producers and ~~price~~ offers
- The willingness and ability of producers to produce and offer products at different prices in specific time period



Quantity Supplied:

The amount of product that a producer is willing and able to in specific time period

Law of Supply:

When price increases, Q_s increases
When price decrease, Q_s decreases

constant Ceteris paribus $P \propto Q_s$

Symbolically, $P_1, Q_s \uparrow$

$P_2, Q_s \downarrow$

Ceteris Paribus

Supply Curve:

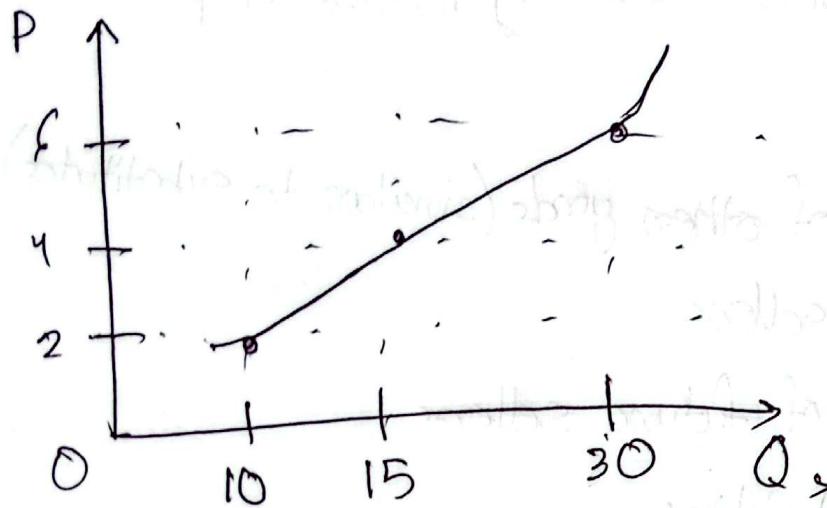


fig: Supply Curve

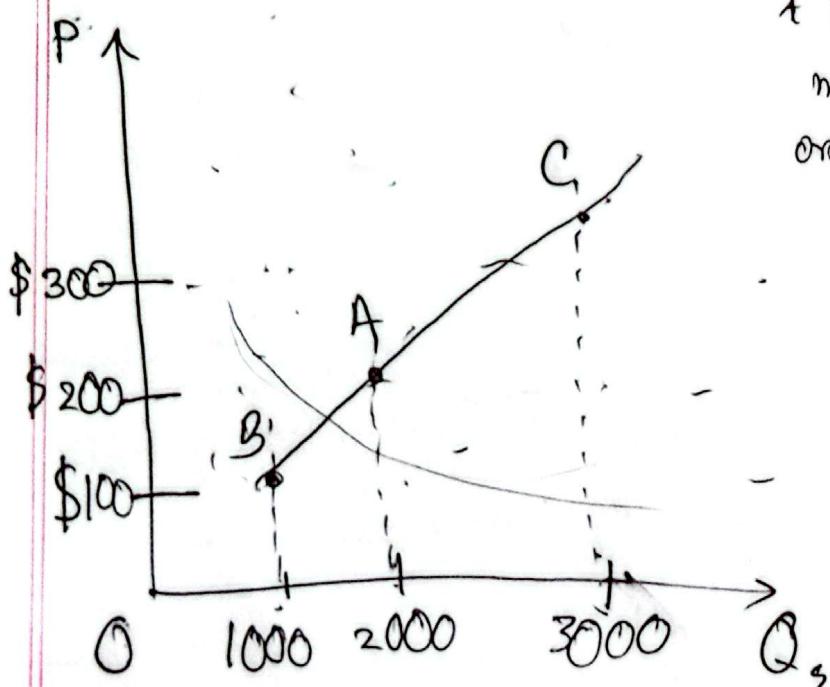
C-6, w-3

08/02/25

* Determinants of Supply:

- i) Prices of (relevant resources) factors of production
- ii) Technology
- iii) The prices of other goods (similar to substitutes)
- iv) Number of sellers
- v) Expectations of future sellers
- vi) Taxes and subsidies

* Movement along supply curve vs shift in supply curve:



+ if price changes, it moves from A to C or A to B

fig: Movement along supply curve

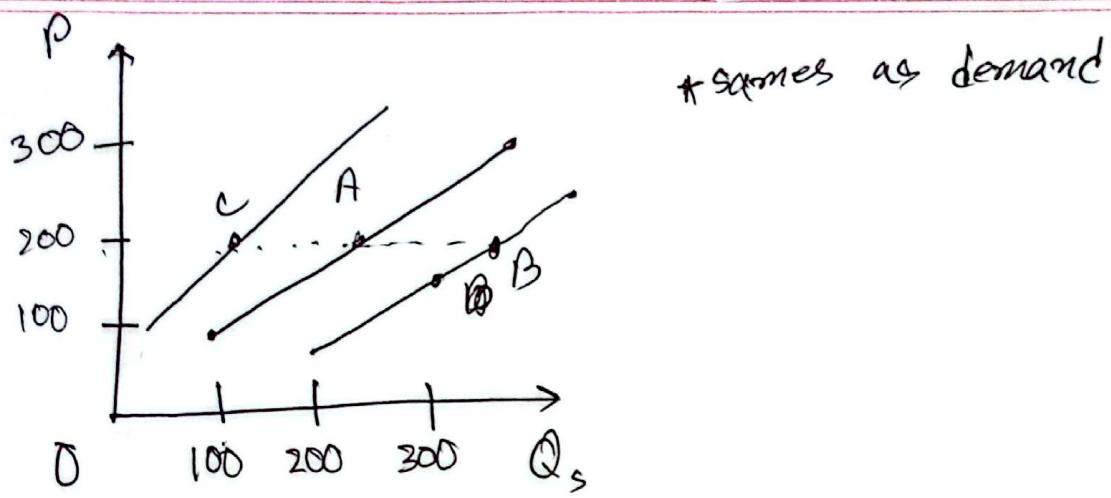


fig: Shift in Supply Curve

Changes in Price



Changes in Quantity Supplied



Movement along supply curve

Changes in determinant
of supply

Changes in supply



Shift along supply curve

C-7, W-4

14/07/25

Market Equilibrium (Supply and Demand together)

→ Place where
producers and
consumers come
to trade.

* Market Surplus: Quantity Supplied > Quantity Demanded

* Shortage: $Q_s < Q_d$

* Equilibrium: $Q_s = Q_d$

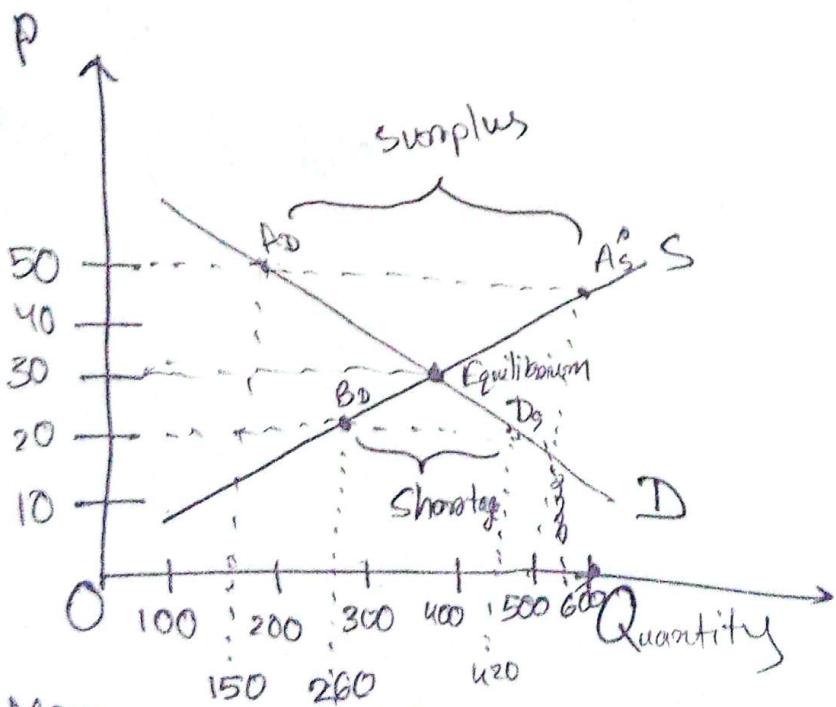


fig: Market Equilibrium

C8, W-6

28/07/25

Elasticity

* There is math yay

* Reactions about price change

* Elasticity is the measure of responsiveness of the changes in determinants of quantity demand on quantity supplied

* Price elasticity of demand:

The measure of responsiveness of how much quantity demanded changes ~~depe~~ on the change of price

$$\text{Price elasticity of Demand} = \frac{\frac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in price}}}{= \frac{20\%}{10\%} = 2}$$

* The more substitutes
the more elasticity

$$* P.E = \frac{\frac{Q_2 - Q_1}{\frac{Q_2 + Q_1}{2}}}{\frac{P_2 - P_1}{\frac{P_2 + P_1}{2}}}$$

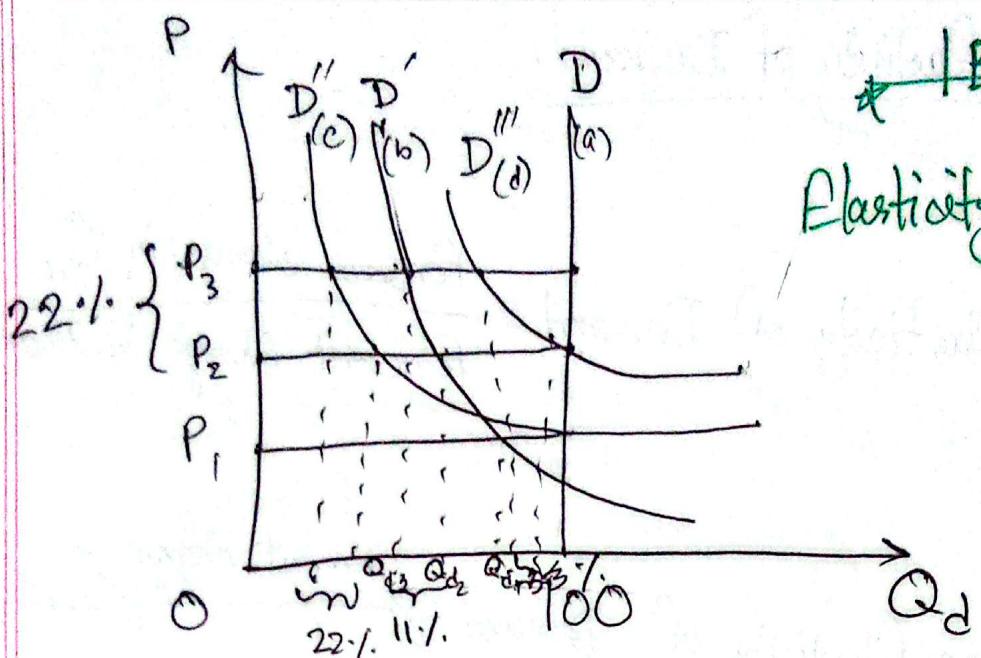
For Bangladesh Birjan

Year	Price	Quantity Demanded
2021	5000	100
2022	7000	80 $\rightarrow Q_1$
2023	9000	70 $\rightarrow Q_2$

$$\therefore \text{Price elasticity of demand} = \frac{\frac{2(Q_2 - Q_1)}{Q_2 + Q_1}}{\frac{2(P_2 - P_1)}{P_2 + P_1}}$$

$$= \frac{\frac{2(70 - 80)}{70 + 80}}{\frac{2(9000 - 7000)}{9000 + 7000}}$$

$$= -0.53$$



Elasticity

Elasticity = |Price Elasticity of Demand|

- a) Perfectly Inelastic Demand : Elasticity = 0
 (D) ↳ Price changes don't affect demand
- b) Inelastic Demand : Elasticity < 1 →
 (D') ↳ % change in Price > % change in Q_d
- c) Unit Elastic Demand : Elasticity = 1
 (D'') ↳ % change in Price = % change in Q_d
- d) Elastic Demand : Elasticity > 1
 (D''')
- e) Perfectly Elastic Demand : Elasticity = ∞

C-9, w-6

29/07/25

Income Elasticity of Demand:

$$\text{Income Elasticity of Demand} = \frac{\text{Percent Change in } Q_d}{\text{Percent Change in Income}}$$

$$\text{Cross Price Elasticity of Demand} = \frac{\text{Percent change in } Q_d \text{ of } x}{\text{Percent change price of } y} \quad \text{for products } x, y$$

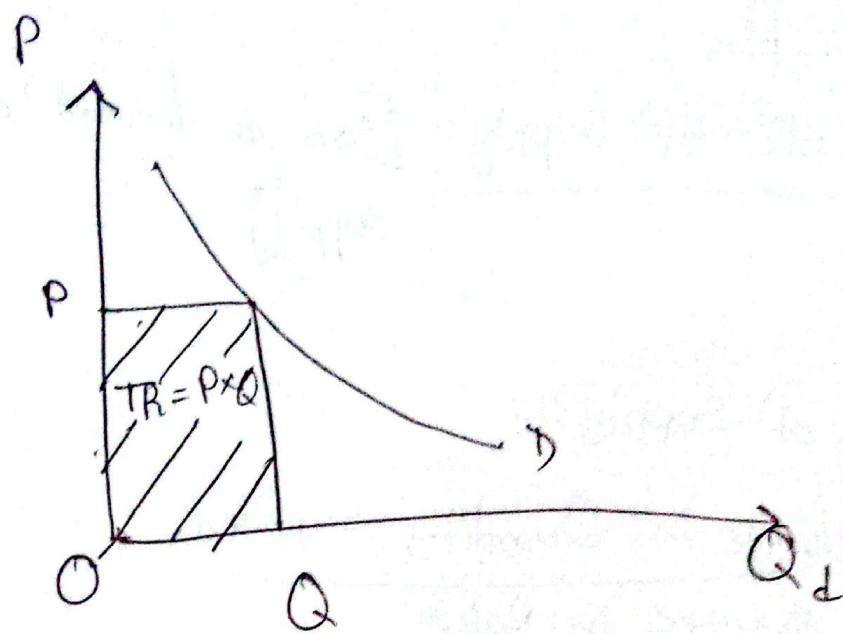


fig : Total Revenue

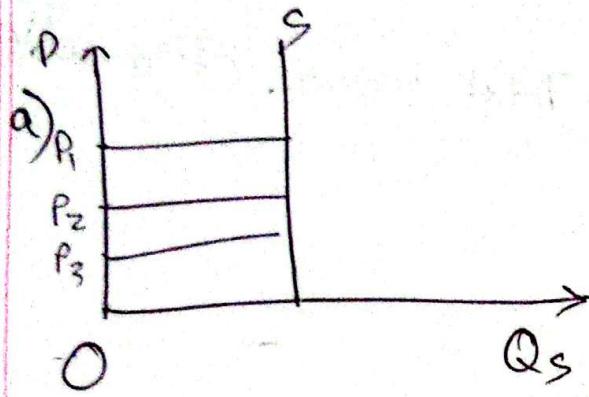
↳ Total income of a seller

Price Elasticity

■ Price Elasticity of Supply: [Same as demand but for supply]

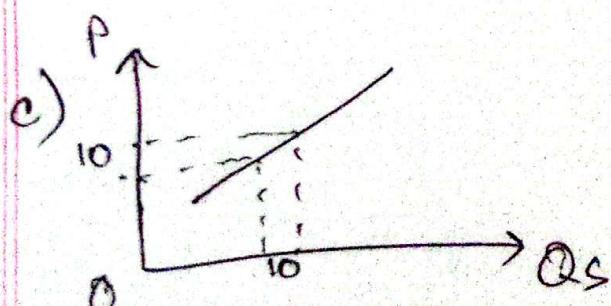
Price Elasticity of Supply:

= Percentage change in Quantity supplied
Percent change in Price



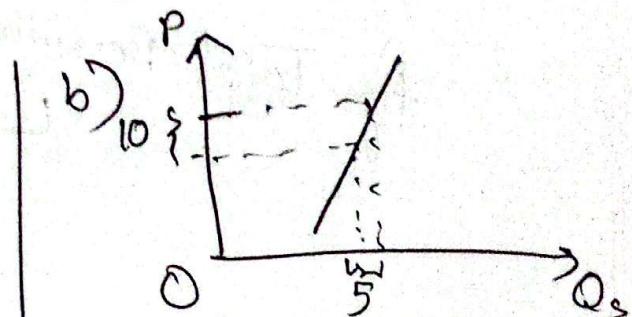
Perfectly Inelastic Supply

$$\textcircled{S} \quad \epsilon = 0$$



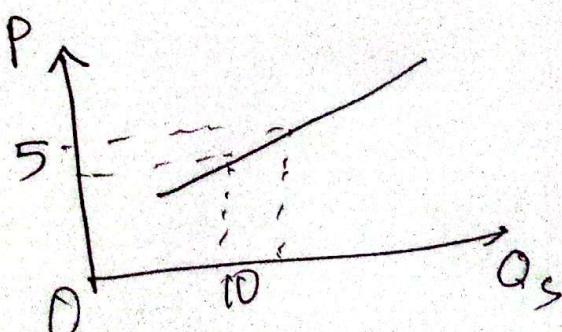
Unit Elastic Supply

$$\epsilon = 1$$



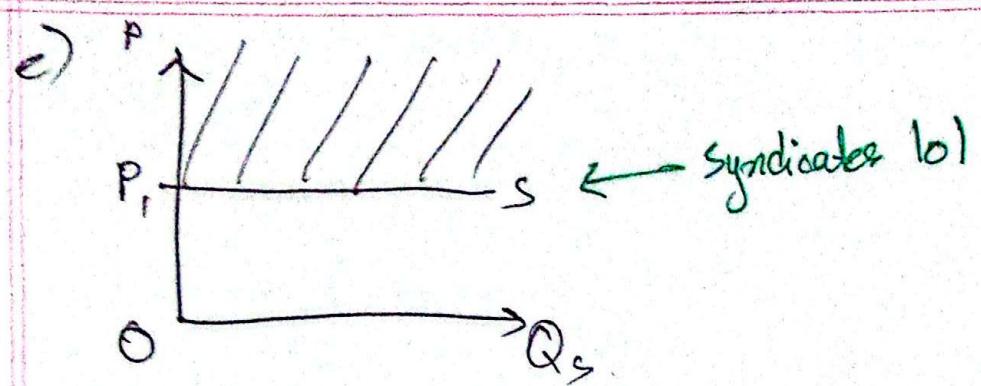
Inelastic Supply

$$\epsilon < 1$$



Elastic Supply

$$\epsilon > 1$$



Perfectly Elastic Supply

$$\varepsilon = \infty$$

C-10, W-7

04/07/25

Utility

- benefits obtained from goods

* marginal = # 1 unit extra

Marginal Utility:

Satis

* Cardinal Approach: Numerical (Quantitative)

* Ordinal " : Preference (Qualitative)

Law of Diminishing Marginal Utility: states that with every successive unit of consumption, utility decreases

Cardinal: Use util for Q

Ordinal doesn't work here

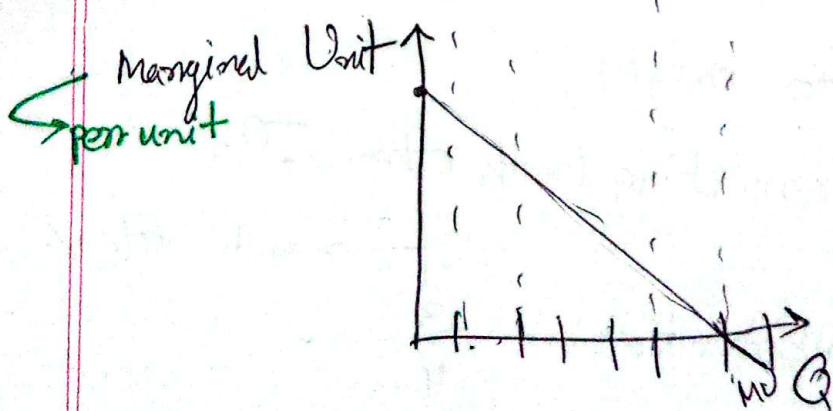
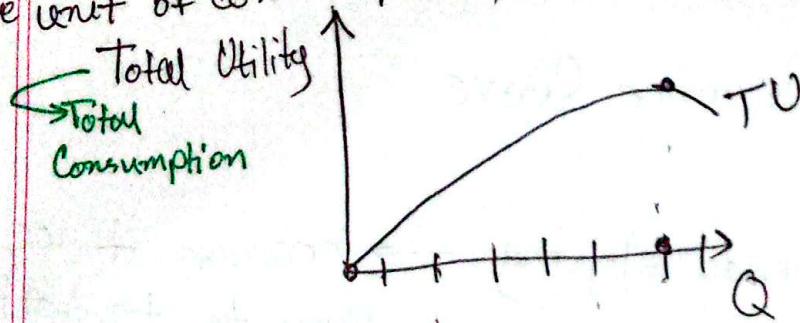


fig: Law of Diminishing Marginal Utility

graphical representation of consumer's preference of between

Indifference Curve: Combination of two goods which shows the gives the same level of utility

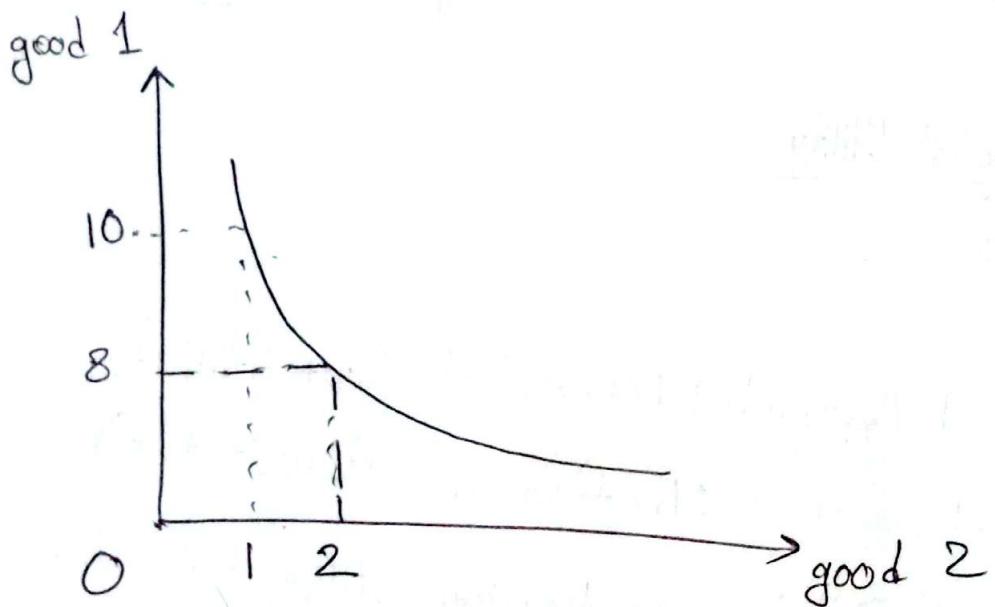


fig: Indifference Curve

* Properties: i) downwards sloping \rightarrow because it we have to trade off

ii) convex to origin

iii) Non intersecting (with other ICs)

\rightarrow rate note %

* Marginal Rate of Substitution: $\frac{x}{y}$