

Ch-4

Master Chart Based on Competition

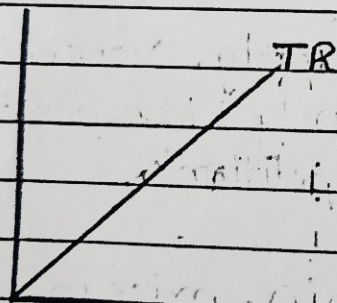
Perfectly Competitive Market		Imperfectly Competitive Market	
Goods	No. of goods produced = No. of buyers	No. of goods produced $\neq$ No. of buyers	
Buyers	Neither shortage nor surplus	Goods > Buyer, Surplus good Buyer > Goods, Shortage	
Situation	Myth	Reality	
Eg:	Perfect competition	Monopoly, Monopolistic, Oligopoly, Monopolistic Competition	
Price determination	It is done by market i.e. firm is price taker	Firm is price maker, searcher	
Price	Constant / Uniform / Same	Declining i.e. firm will reduce price to sell more	

Kavya

Perfectly Competitive Market

	Q	P	TR	AR	MR	Discount
	(1)	(2)	$P \times Q$ (3)	TR/Q (4)	change in 3 due to change in 1	
<u>Revenue Schedule</u>	1	10	10	10	10 ✓	0
	2	10	20	10	10 ✓	0
	3	10	30	10	10 ✓	0
	4	10	40	10	10 ✓	0
	5	10	50	10	10 ✓	0
	6	10	60	10	10 ✓	0
	7	10	70	10	10 ✓	0

Curves



Booz of perfect
substitute
 $E_d = \infty$

AR = MR

→ MRC coincides ARC $\because AR = MR$ ✓

ARC and MRC is horizontal

Revenue $AR = MR \because$ firm doesn't give discount
 $AR = P$ always

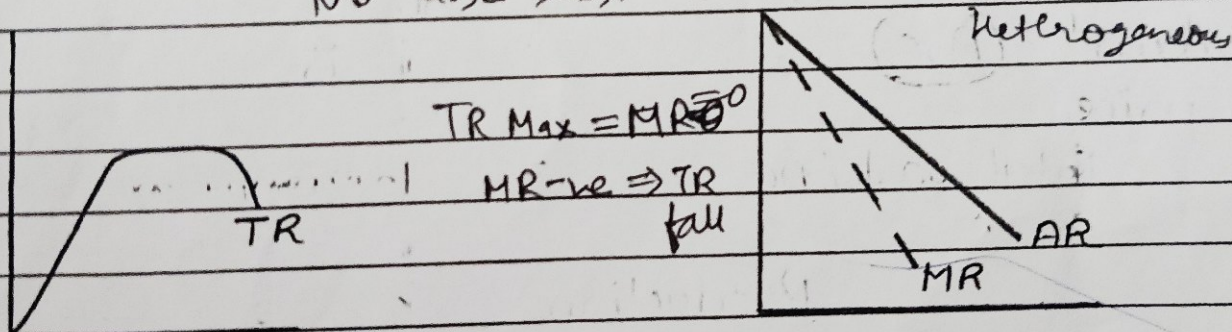
* Relationship between TR and MR ✓

$$TR_n = \sum MR_n$$

Imperfectly Competitive Market

Q (1)	P (2)	TR (3 = 1 x 2)	AR (4 = 3/1)	MR	Discount
1	10	10	10	10	0
2	9	18	9	8	1
3	8	24	8	6	2
4	7	28	7	4	3
5	6	30	6	2	4
6	5	30	5	0	5
7	4	28	4	-2	6

No close substitutes $E_d < 1$ $E_d > 1$



$\rightarrow$ MRC is below ARC $\because MR < AR$
 ARC and MRC will be negatively downward slope from left to right
 $AR > MR \therefore$ Firm gives discount
 $AR = P$ always

* Relationship between TR and MR

$$TR_n = \sum MR_n$$

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

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

★ Behavioural Principles

c1) A firm should not produce at all if its total variable costs are not met

→ sunk cost i.e. already incurred it is ignored
Fixed cost in decision making

1
 £ Land - rent = 30
 Entre - profit = 20
~~AFC~~ AFC = 50

Variable cost

Labour - wages = 100
 Capital - int = 50

Shut down ← AVC 150
 price

Total cost / AC = 200

Production

↓ Done ↓ Cease / stop

AFC 50
 AVC 150
200

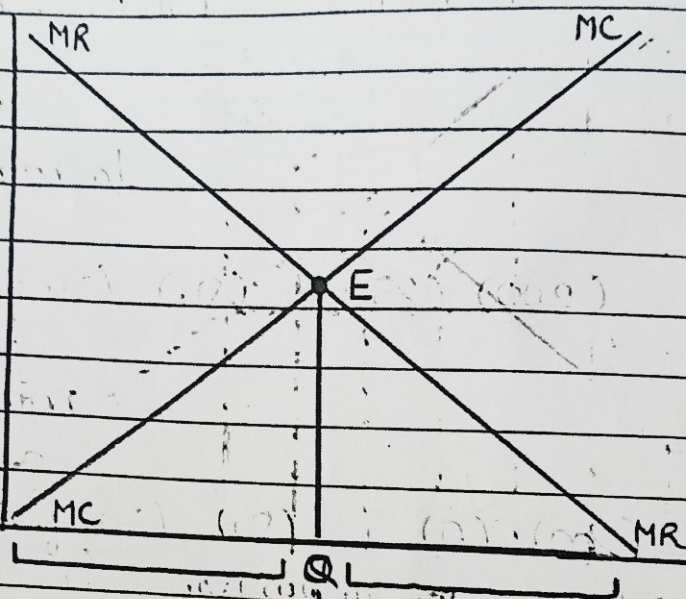
50
0

50
 ↓

ATC = AFC

Price/ AR	Case	Done ATC	Profit/ loss	Cease ATC	Profit/ loss	Decision
100	$P < AVC$ $P < ATC$	(200)	(100)	(50)	(50)	firm shall cease business in short run & to minimise huge loss
175	$P > AVC$ $P < ATC$	(200)	(25)	(50)	(50)	firm shall continue business and minimise its loss
200	$P = ATC$	(200)	(0)	(50)	(50)	firm shall continue business and earn normal profit or zero economic profit
250	$P > ATC$	(200)	50	(50)	(50)	firm shall continue business and earn super normal profit or positive economic profit

(2) The firm will be making maximum profits by expanding output to the level where marginal revenue is equal to marginal cost

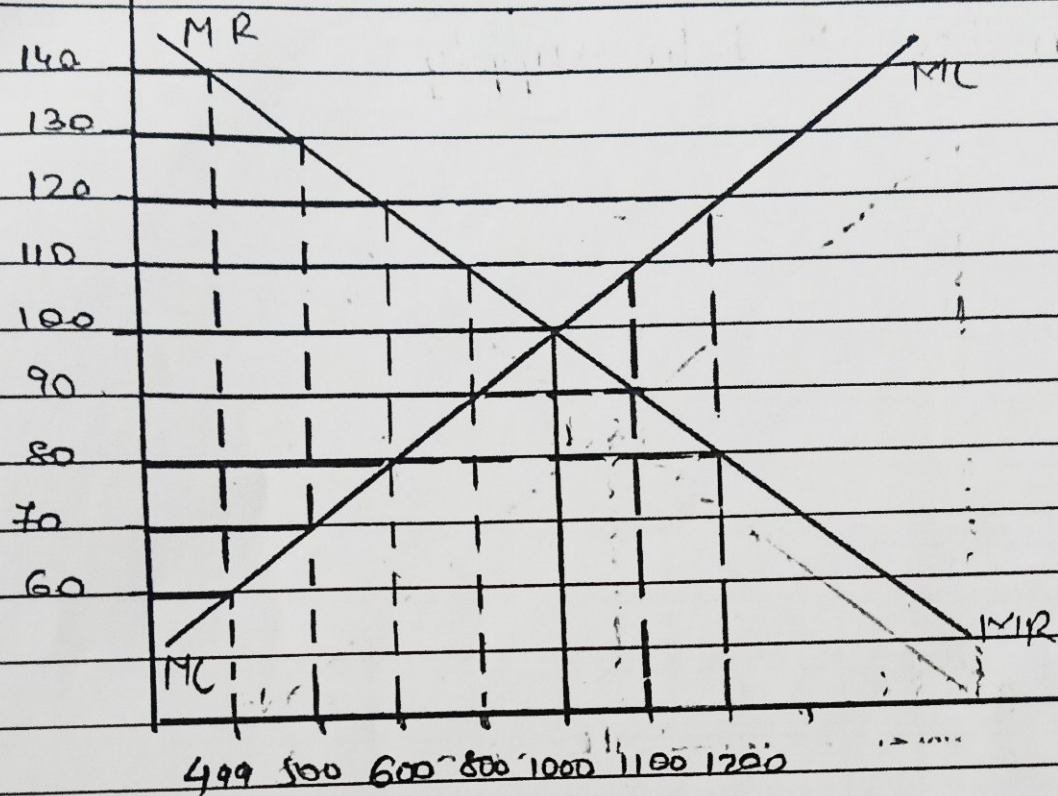


$MR > MC$ profit $MC > MR$
 + positive maximising output - negative

→ Assume that firm earns a total profit of 10,000 by producing 499 units.

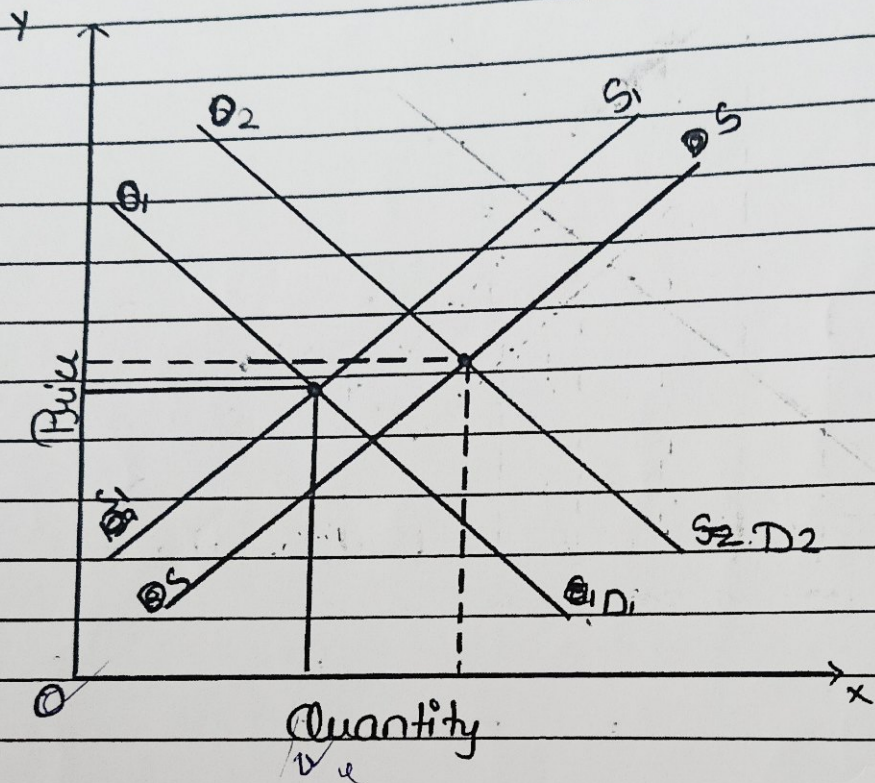
Output	MC	MR	Surplus	Profit	
500	(60)	140	80	10,000 + 80 = 10,080	↑
600	(70)	130	60	10,140	mini.
800	(80)	120	40	10,180	"
900	(90)	110	20	10,200	"
1000	(100)	100	0	10,200	"
1100	(110)	90	(20)	10,180	↓
1200	(120)	80	(40)	10,140	

Highest
 ↓ output
 1000 units
 and avoid

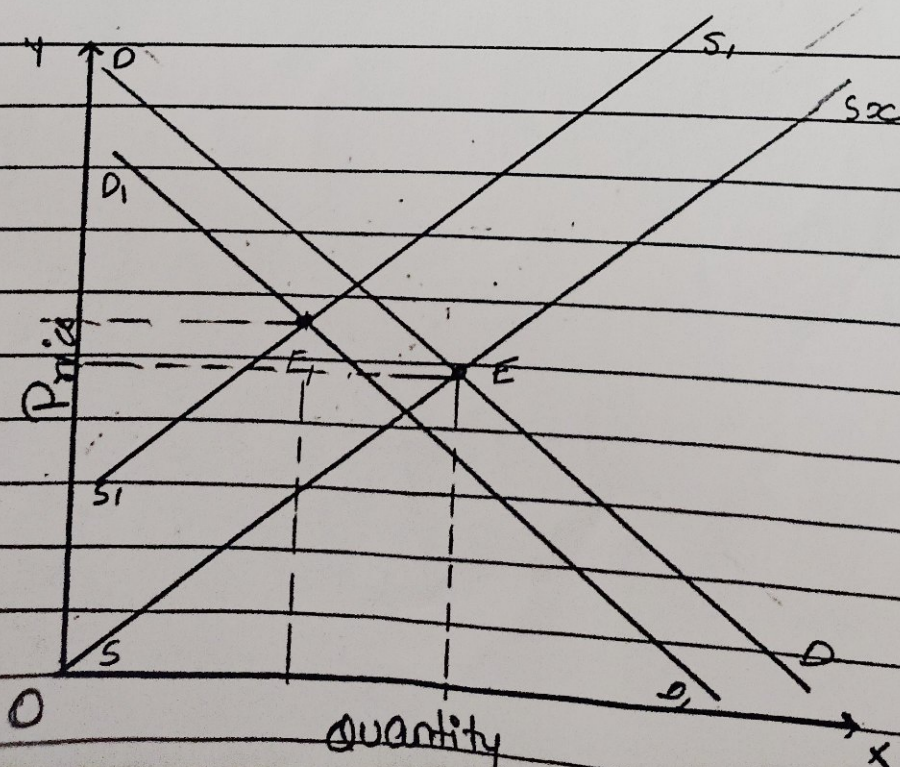


Diagram

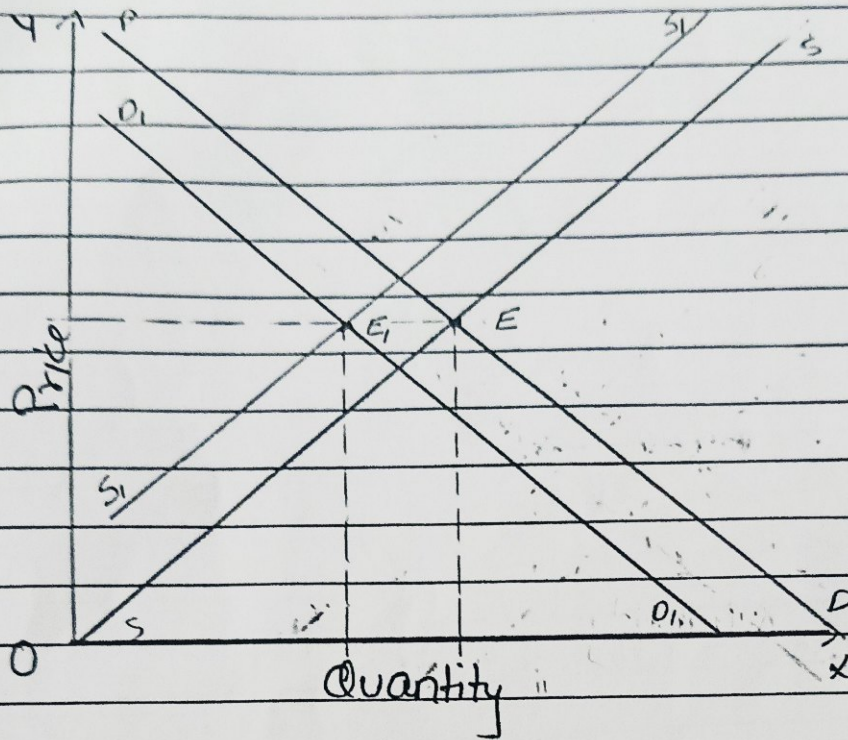
$\downarrow$ in $D_{oc} > \downarrow$ in supply



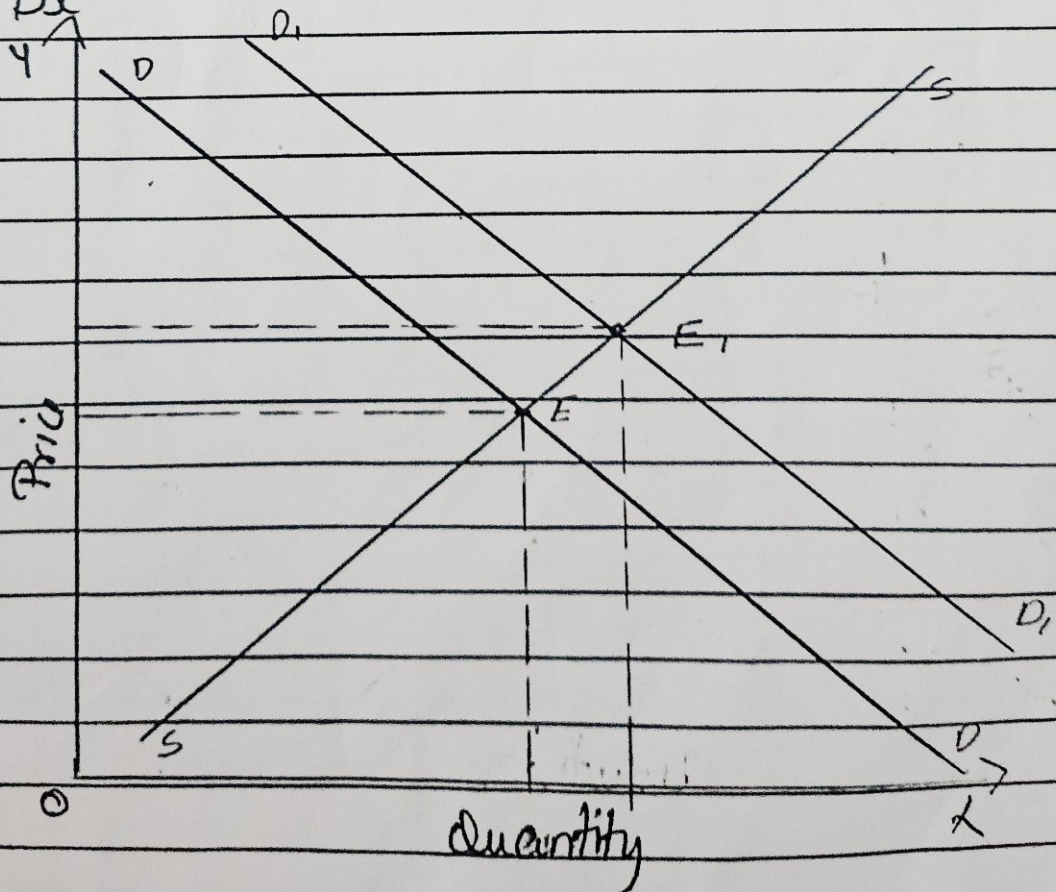
$\downarrow$ in $D_{oc} < \downarrow$ in S_{oc}



3b $\downarrow D_x = \downarrow S_x$

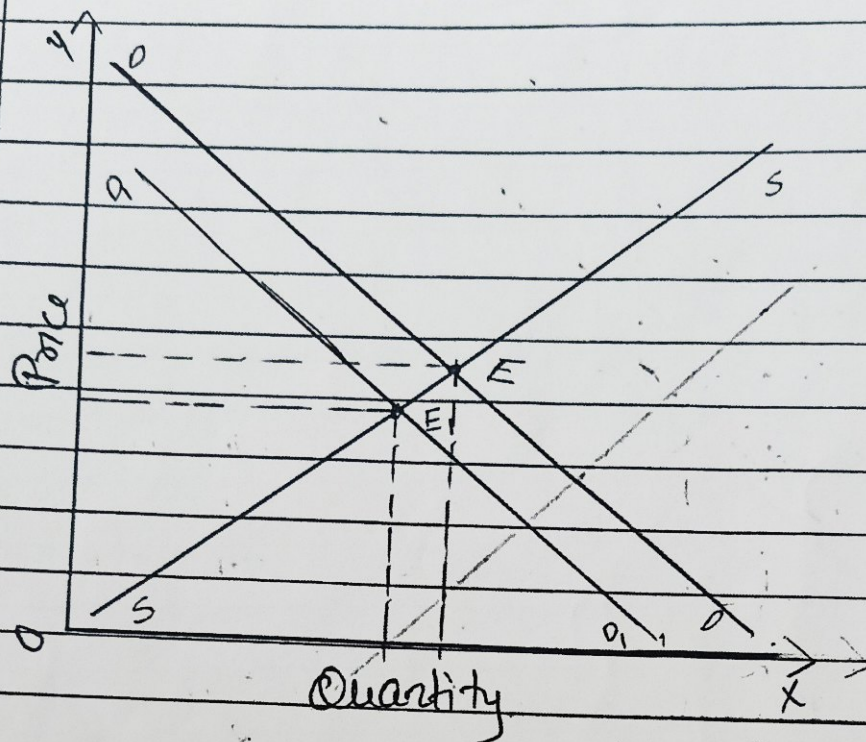


4b $\uparrow D_x$ $S_x = c$
(a) $\uparrow$ in D_x



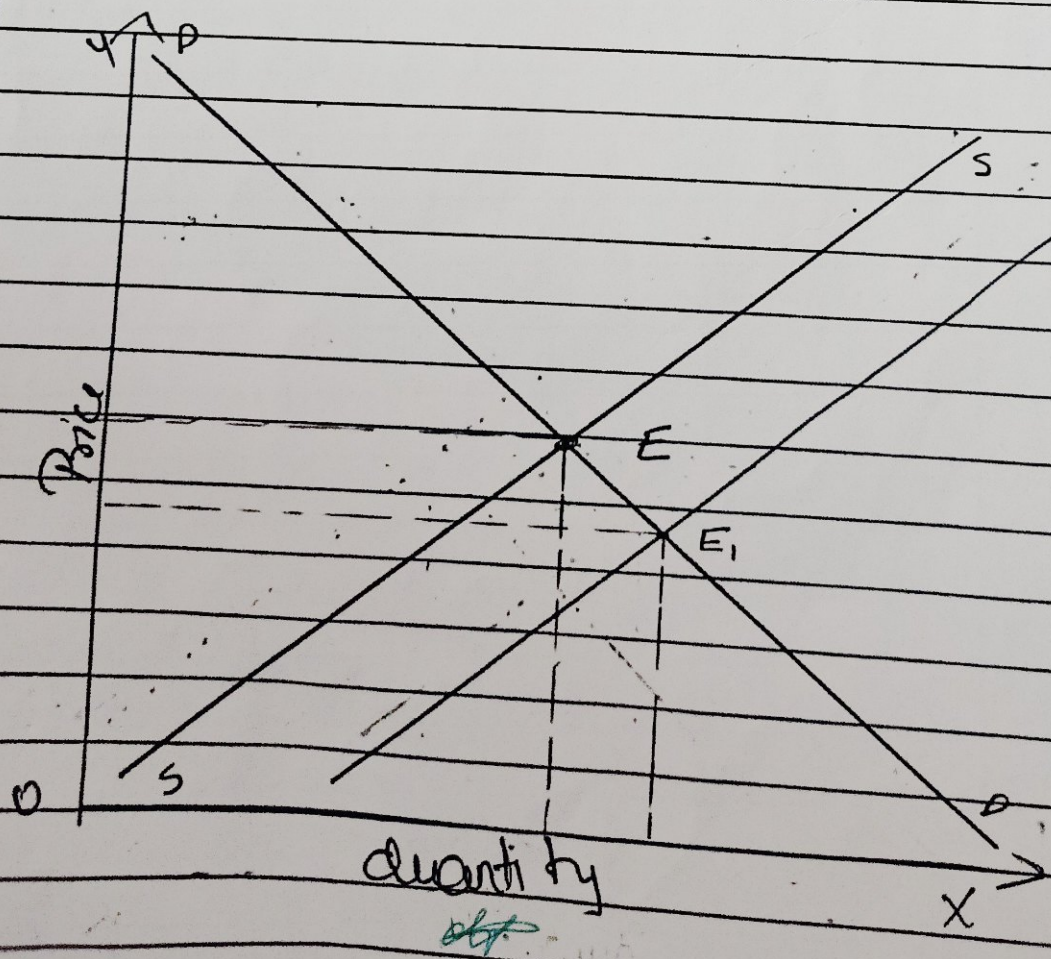
(b)

$\downarrow D_x$

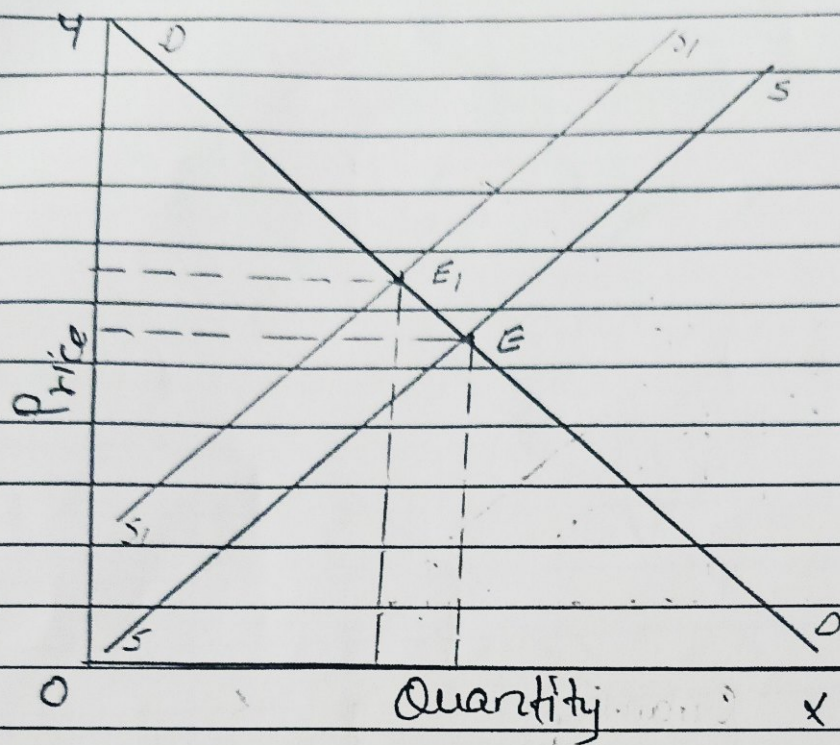


5b (a)

$\uparrow S_x$

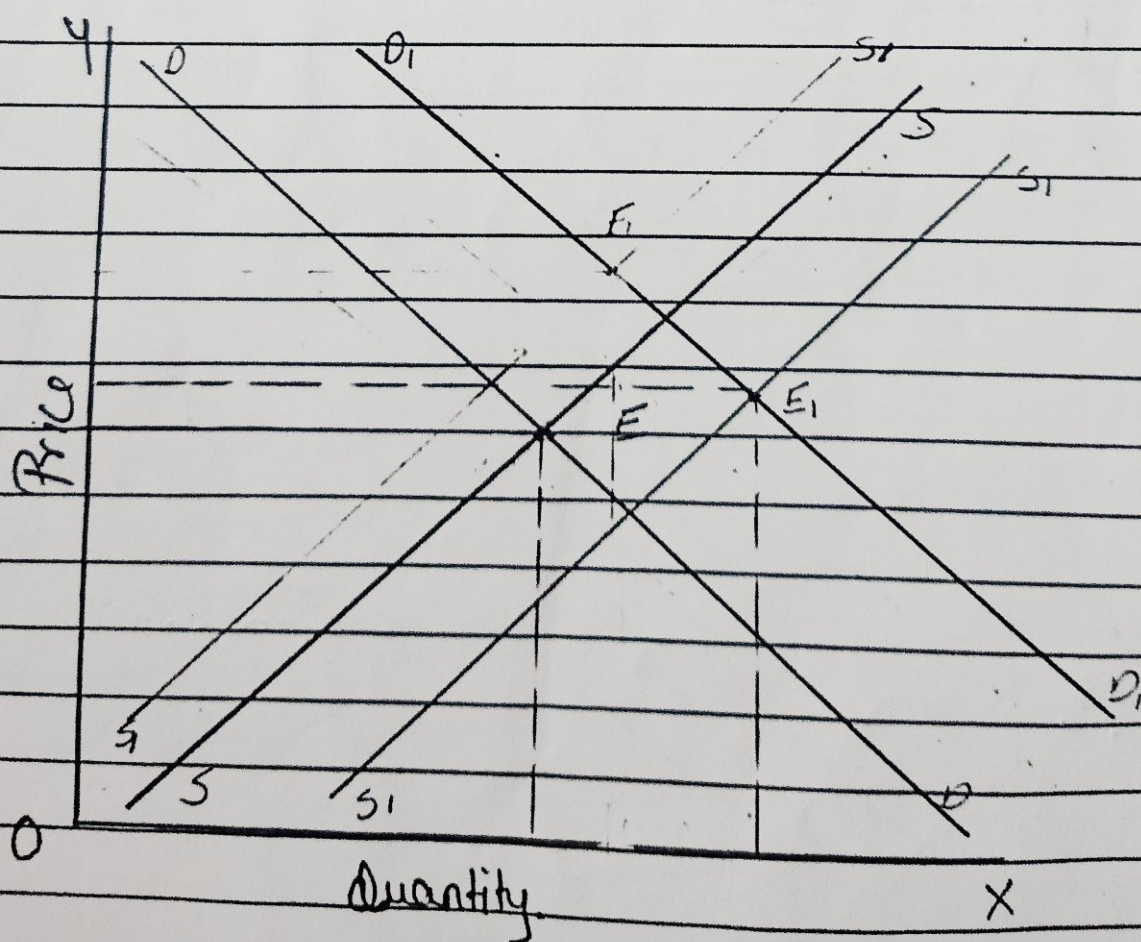


(b)

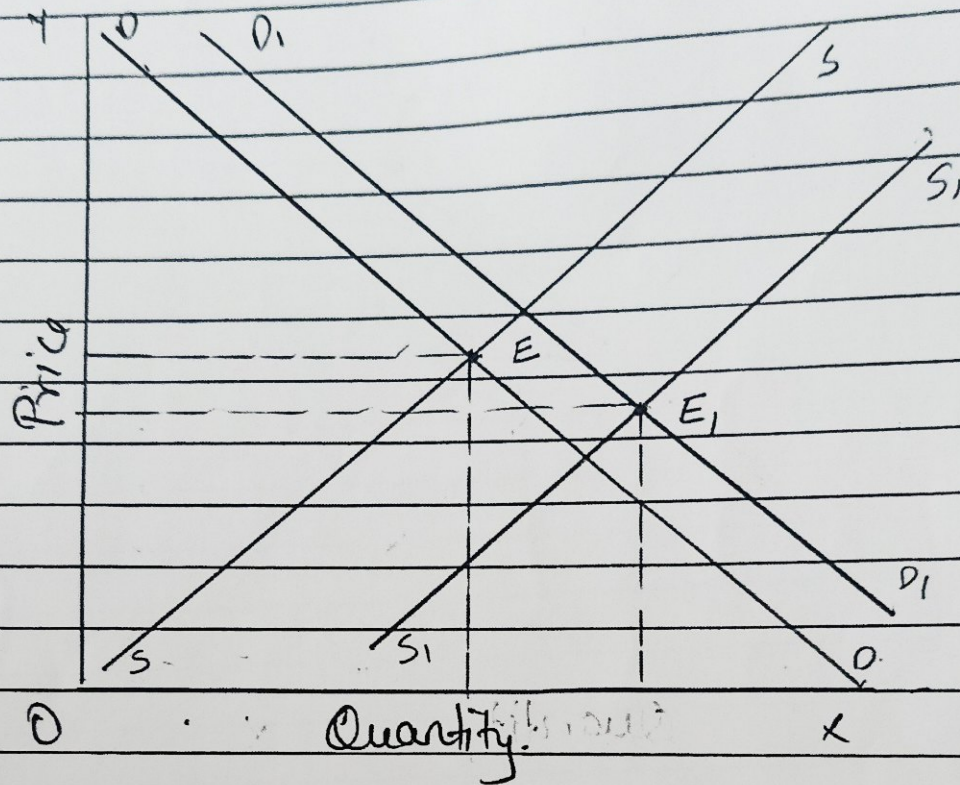


Ex

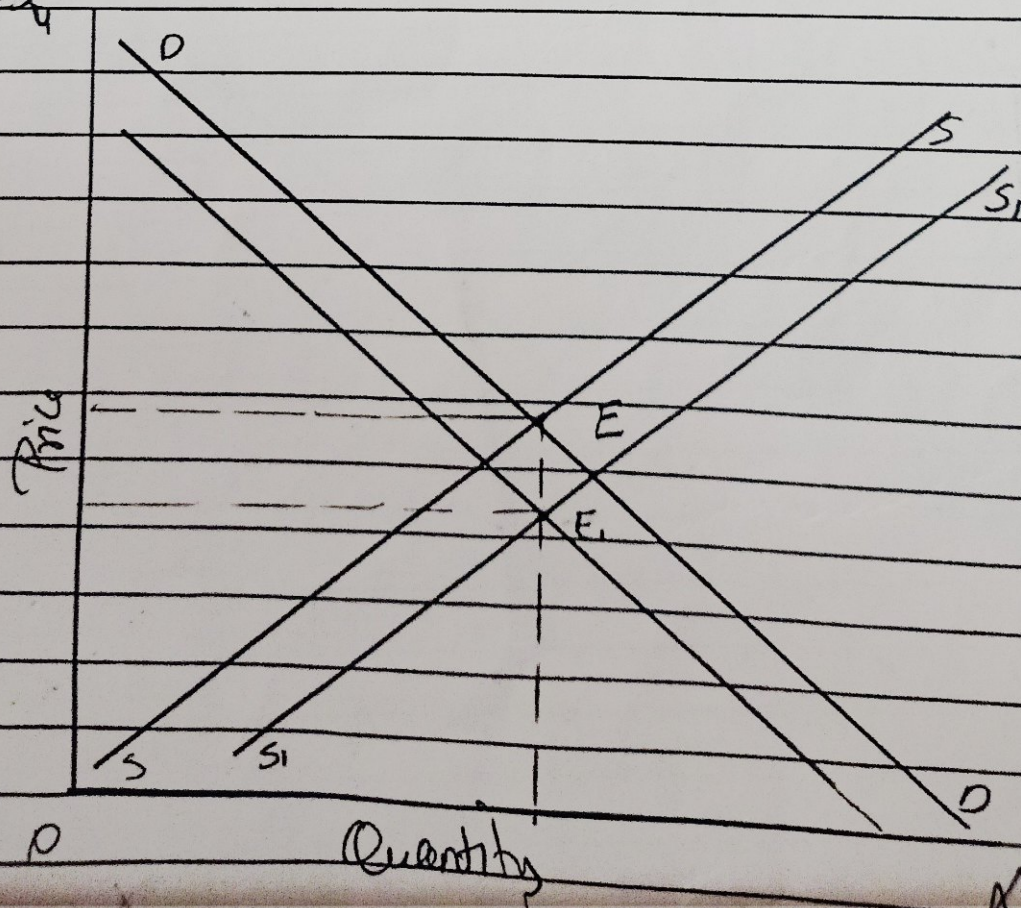
↑ D > ↑ S



Ex $\uparrow D_x < \uparrow S_x$



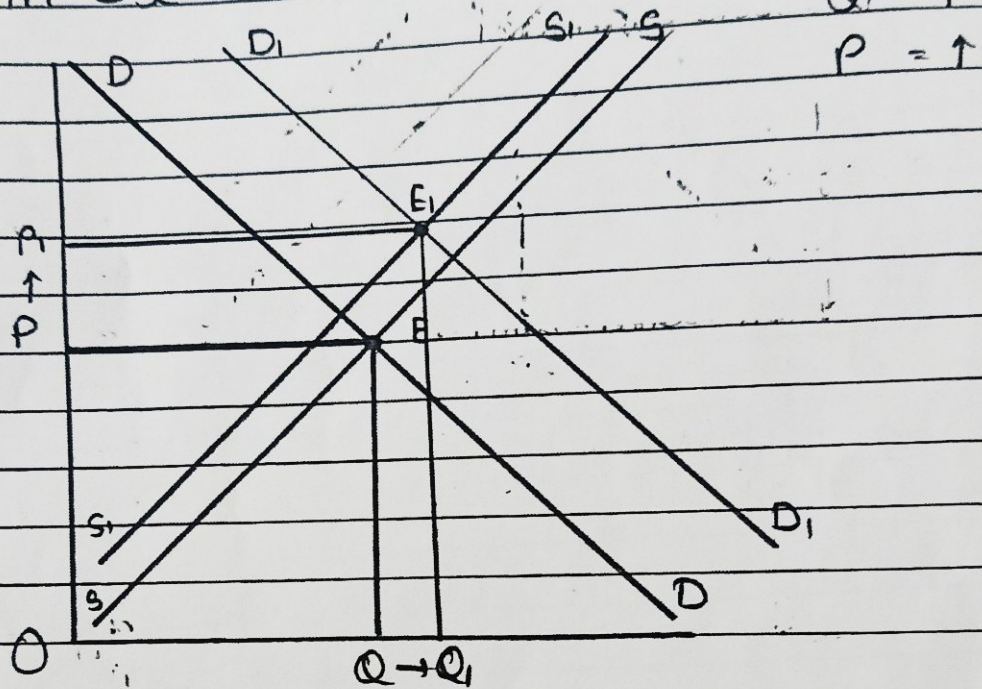
Ex $\uparrow D_x = \uparrow S_x$



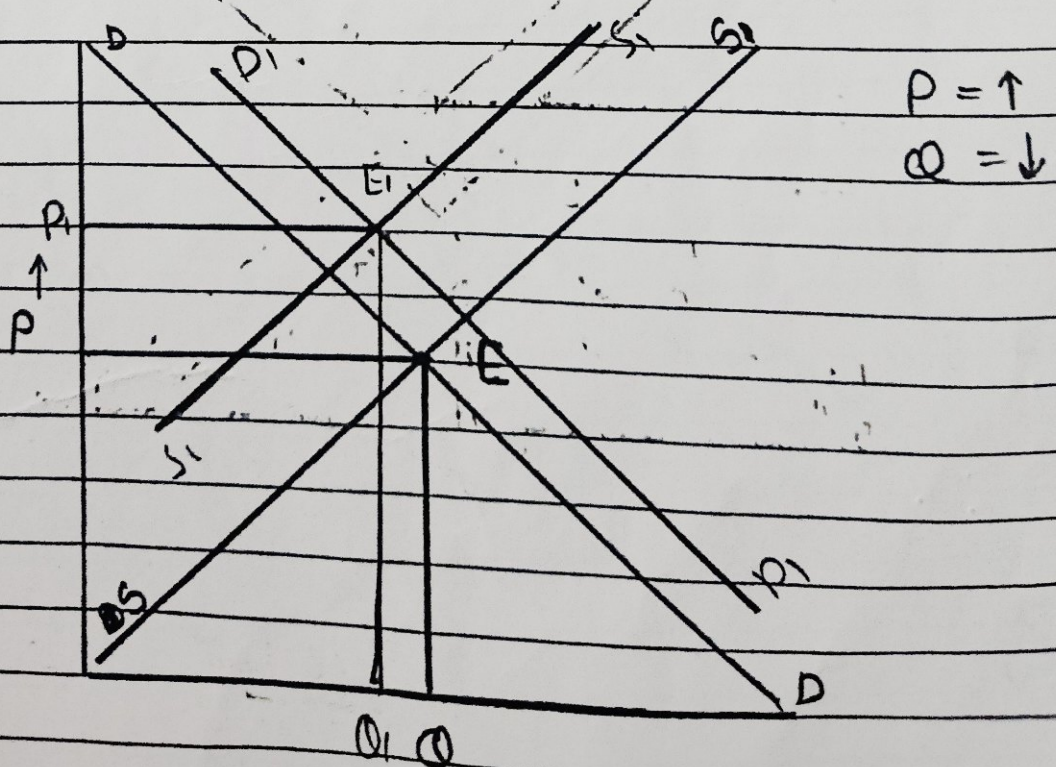
c] Simultaneous Change in Different direction

a) $\uparrow$ in D_{xc} and $\downarrow$ in S_{xc}

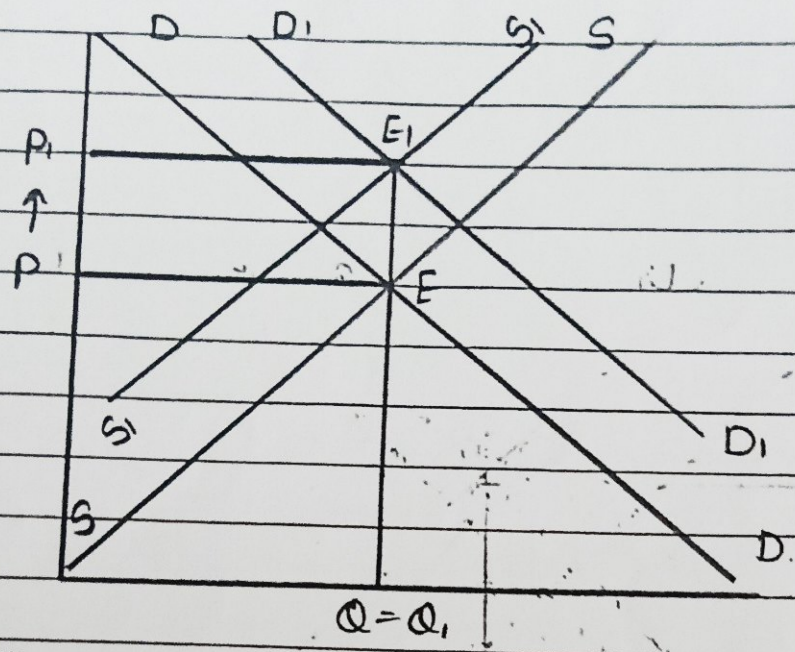
① $\uparrow$ in $D_{xc} > \downarrow$ in S_{xc}



② $\uparrow$ in $D_{xc} < \downarrow$ in S_{xc}



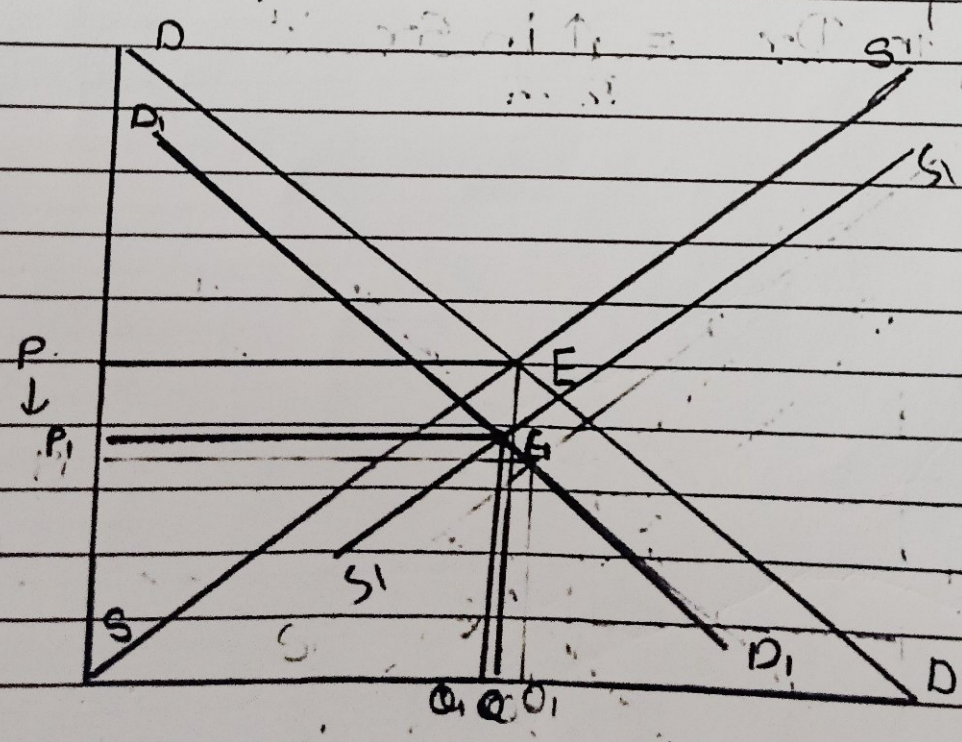
③ $\uparrow$ in $D_{xx} = \downarrow$ in S_{xx}



$Q = C$
 $P = \uparrow$

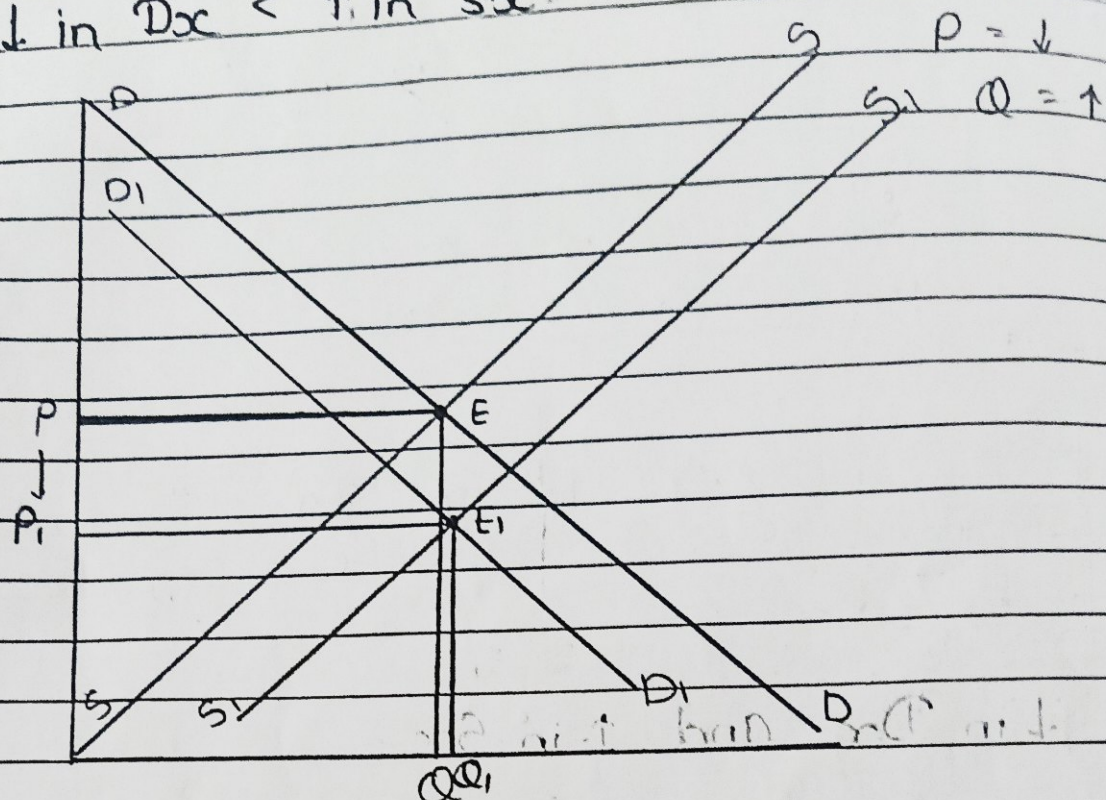
$\downarrow$ in D_{xx} and $\uparrow$ in S_{xx}

④ $\downarrow$ in $D_{xx} > \uparrow$ in S_{xx}

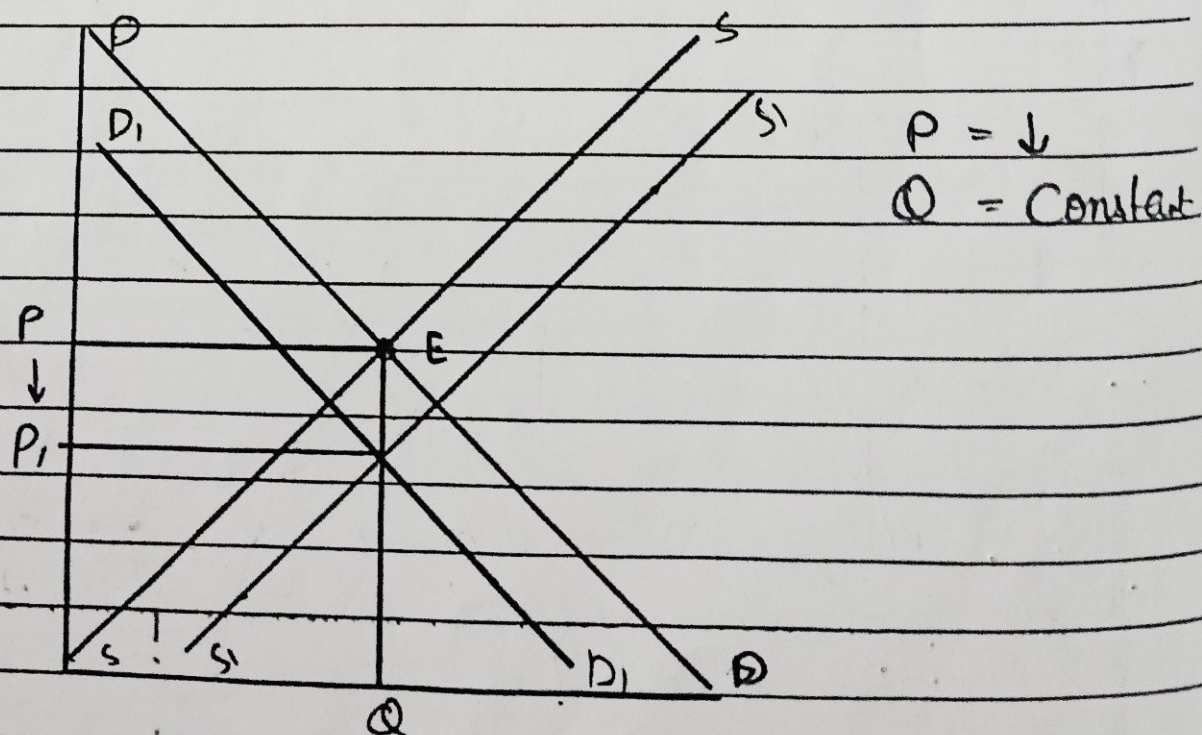


$P = \downarrow$
 $Q = \downarrow$

② $\downarrow$ in $D_x < \uparrow$ in S_x



③ $\downarrow$ in $D_x = \uparrow$ in S_x



* Price Discrimination

A) Meaning :

- Price discrimination is a method of pricing adopted by a monopolistic to earn abnormal profits.
- It refers to the practices of charging different prices for different units of the same commodity.
- So generally, here the quality of product ^{or} services is same still price charged is different based on different sub-markets. (sub-market means the main market is divided into small-small markets).

B) Conditions for price determination :-

- Price discrimination is possible and profitable only under the following conditions.

(1) The seller should have some control over the supply of his product i.e. the firm should have price setting power. Monopoly power in some form is necessary (not sufficient) to discriminate price.

Eg:

Type of Market	Control	Price control.
PC	No	No
M	Yes & High	Yes & High
MC	Yes & Low	Yes & Low

(2) The seller should be able to divide his market into two or more sub-markets.

Eg:

Consumer like professional & student,
Use of a product like commercial & home competition

(3) The price-elasticity of the product should be different in different sub-markets. The monopolist fixes a high price for his product for those buyers whose price elasticity of demand for the product is less than one. This implies that, when the monopolist charges a higher price from them, they do not significantly reduce their purchases in response to high price.

Elasticity	Price charged
High	Less
Less	High

(4) It should not be possible for the buyer of low-priced market to resell the product to the buyers of high-priced market i.e. there must be no market arbitrage.

c) Degree (Level or Types)

- Developed by Pigou
- Consumer = Those persons who are actually using the product of monopolist and firm is earning super profit.
- Consumer Surplus [CS] = Those persons who are not using the product of monopolist and if they become consumer then firm will earn abnormal profit
- By exercising the concept of degree of price determination firm tries to extract (to make non-consumer a consumer) consumer surplus.

Degree	Price determination is done on basis of	Intention
I	- Willingness and ability to pay - each consumer is a market for firm ∴ firm separates each consumer into market	To extract entire consumer surplus.
II	- Quantum i.e. based on quantity ① price determination is based on quantity purchased ② price determination on consecutive (next) purchase	Firm will be able to extract part of consumer surplus.

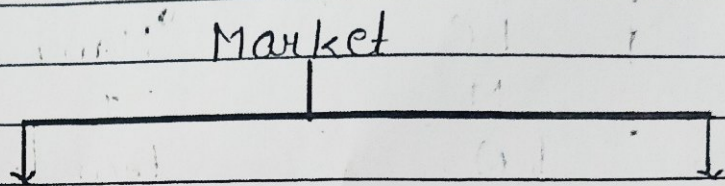
Degree	Price determination is done on basis of	Intention
III	Price determination based on any attributes (features) such as (consumer), (segment), location, etc.)	Attributes may keep on varying (changing) and intention is to stay and grow in market
		- Market charges different price in sub-market

D]. Objectives (LBH - Learn by Heart)

- To earn maximum profit
- To dispose off surplus stock
- To enjoy economies of sale
- To capture foreign markets
- To secure equity through pricing

* Basic Logical Understanding of Elasticity of Demand (Ch-2)

Price (P_x) = 100 ₹
Quantity demand (Q_d) = 1000 units



	Ahmedabad	Kashmir
Revised $P_x \uparrow$	130 ₹	130 ₹

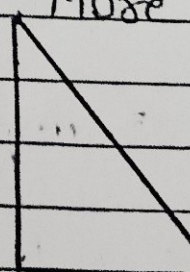
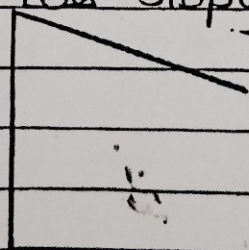
Decreased $Q_d \downarrow$	500 units	200 units
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% change in Q_d	50% $\downarrow$	20% $\downarrow$
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Impact of change in P_x on Q_d	High	Less
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Elasticity	High	Less
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D_x curve / AR curve	Less Slopy	More slopy
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Generally found in	Monopolistic Competition	Monopoly
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* Oligopoly

A] Basic Understanding :

①	Type of market	No. of firm
(Perfect competition)	PC	Many
(Monopoly)	M	1
(Oligopoly)	O	Few
(Monopolistic competition)	MC	Many

- generally between 2-10

- collusive behaviour i.e. they act as a group

- firms are interdependent on each other

② Oligopoly is often described as 'competition among the few'

③ Prof. Stigler defines oligopoly as that "situation in which a firm bases its market policy in part, on the expected behaviour of a few close rivals."

B] Examples :

- Cold drink industry
- automobile industry
- airlines industry
- petroleum refining
- power generation and supply
- mobile telephony and internet services

c) Competition :

Type of market	Competition	Type of Competition
PC (perfect competition)	Yes & perfect i.e. no competition	X
M (Monopoly)	No	X
MC (Monopolistic Competition)	Yes - high	Non-price competition price competition
O (Oligopoly)	Yes - less	Non-price competition

d) Do common understanding amongst firm exists?

fixing price ; output / ; both
Quota

Yes



Collusive oligopoly



Firm act with an understanding
or agreement as a closed
group i.e. act in collusion

No



Competitive Oligopoly

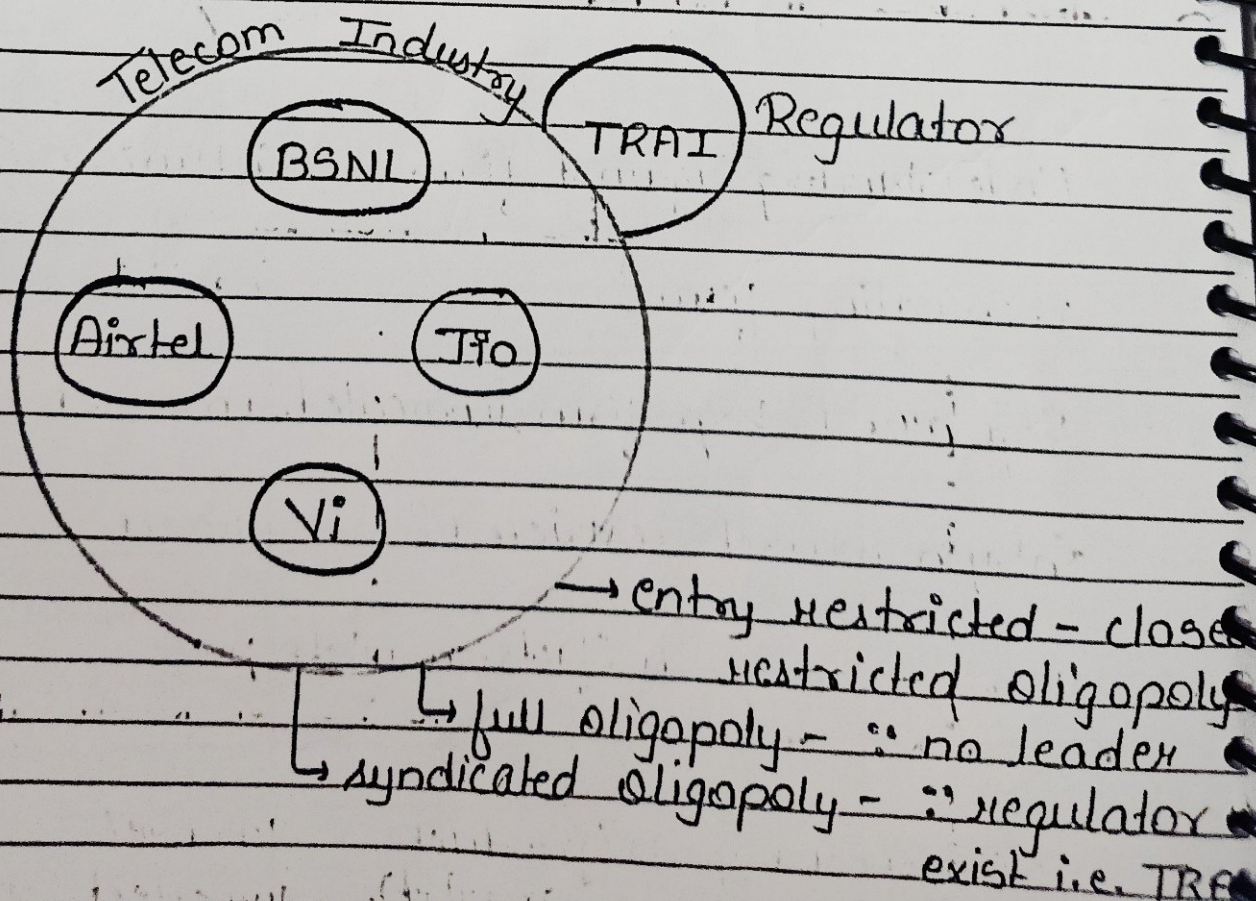
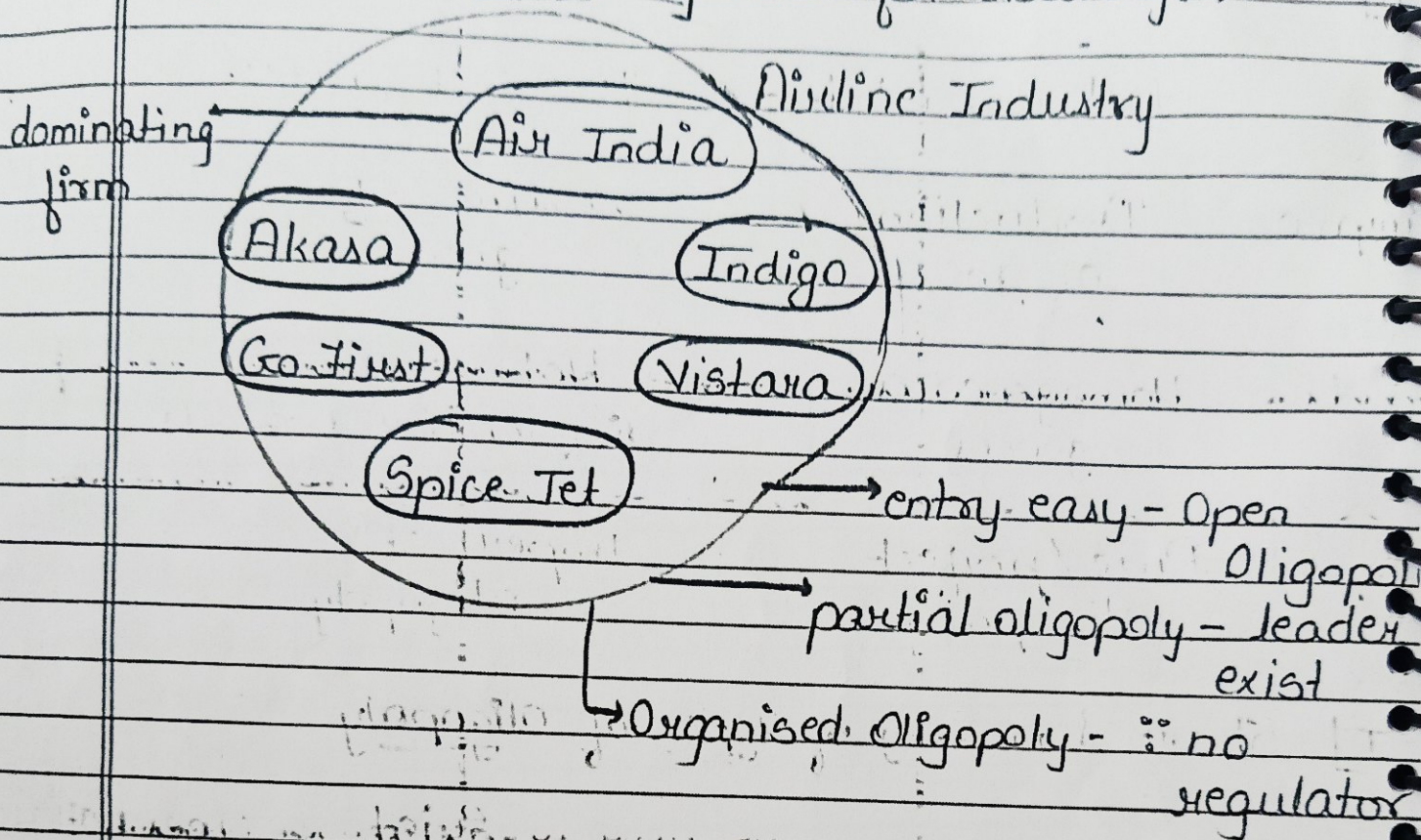
E] Does an dominating firm exist in oligopoly?

Type:	Yes	No
	Partial Oligopoly	Full Oligopoly
Does firm look upon dominating firm as a price leader	✓	X
Do firm follow	✓	X
Knowledge of industry dominating firm	Focus on dominating firm and get certainty of trends	No dominating firm there is un-certainty i.e. market is conspicuous

F] Does industry has a regulator / controller who keeps all firm syndicated (joint)?

	Yes	No
Type	Syndicated Oligopoly	Organised Oligopoly
	Based on rules by regulator	They need to form an association (group) to make rules
Does firm sell goods by central syndicate?	✓	X

Q] Logical Understanding (Just for knowledge)



(factor of production) (firm) (consumer)
 H) FOP F C

Factor market

Product market

Purpose Production of goods

Selling of goods

Goods Homogeneous goods

Heterogeneous / differentiated goods

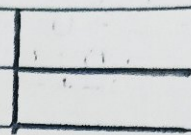
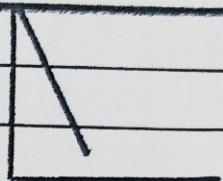
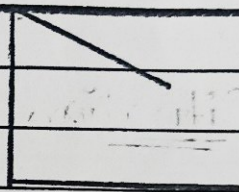
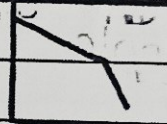
Type Pure / perfect oligopoly

Imperfect oligopoly

I] Short Summary of Types of Oligopoly

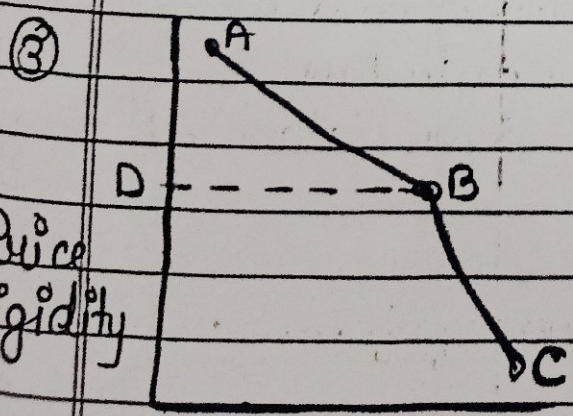
	Exist ✓	Does not X
Understanding against firm	Collusive	Competitive
Dominating firm	Partial	Full
Regulator to keep firm syndicated	syndicated	organised
Entry in market restricted?	Closed	Open
Homogeneous goods (factor market)	pure	impure / imperfect
Heterogeneous goods (product market)	impure / imperfect	pure

II ①

Type of Market	Price of elasticity of demand	Demand curve / AR curve
Perfect competition	Infinite	
Monopoly	Small / Less	
Monopolistic	More / High	
Oligopoly	Short run : High Long run : Less	

kinked Demand

② Kinked demand curve hypothesis (detailed concept) is developed by Paul A. Sweezy



continue after 2 page

SR. No.	Points.	Perfect Competition
1	<u>Types of Competition</u>	Perfectly competitive market i.e. in this market whatever goods all the firms produces there will be such number of buyers to buy all those goods produce by firm and therefore there will be neither shortage nor surplus
2	<u>Situation</u>	It is myth that it doesn't exist in reality
3	<u>Example</u> (<u>Learn by Heart</u>)	We need to remember example given in ICAT module otherwise we very well know that in practical life perfect competition doesn't exist. (i) The agriculture products (ii) Financial instrument (i.e. stock, bonds) (iii) Precious metals (i.e. gold, silver, platinum) (iv) Milk
4	No. of firm sellers / manufacturers in market	Large no. of firm

Monopoly

perfectly competitive

In ~~monopoly~~ i.e. market i.e. in this market the no. of buyers may not same as no. of goods produce by all firms i.e. in the market i.e. the no. of buyers maybe more or less compare to goods produced which gives rise to shortage and surplus

It is reality that is exist in real life

In public utilities :
eg: transport, water, electricity,
Indian railway has monopoly in rail transportation,
government monopoly over production of nuclear power

Monopolistic

Competition

Same as Monopoly

Same as Monopoly

Clothing, manufacturing and retail trade in large cities. There are many hundreds of grocery shops, restaurants, repair shops, laundries, manufacturers women dresses and beauty parlour in a medium sized or large city

large no. of firm.

Single
i.e. firm itself is an industry market

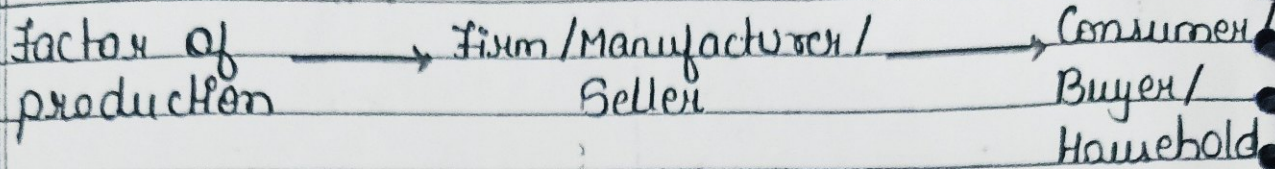
③ continue

	Position of KDC	
	AB	BC
Trusting & understanding amongst firm	less	high
Elasticity of demand	more	less
Dcc: curve slope	less	more

④

Action by price changing firm	Retailing response by other fringe (small) firms	Reaction to price changing firm		Benefit of price change to price changing firm
		Customer	Other fringe firms	
$P_{xc} \downarrow$	$P_{xc} \downarrow$	less	high	very less
$P_{xc} \uparrow$	No change	high	less	no, indeed loss

* Other important factor market forms



Factor Market

Product Market

Seller = factor of production Buyer = Firm

Many

Duopoly

2

Monopsony

Many

1

Oligopsony

Few / Many

Few in no but large in size

Bilateral Monopony

1 1

1

Product Market

Seller = Firm

Buyer = Consumer

Perfect Competition

Many

Many

Monopoly

1

Many

Oligopoly

Few

Many

Monopolistic competition

Many

Many

Duopoly

Type of market	Seller	Buyer	Example	Important point
<u>Product market</u>	Firm: few	Consumer: Many	Airlines, banking, insurance, etc	Price rigidity, interdependence of firms
<u>Factor market</u>	Factor of production = 2	Firm: Many	Electricity suppliers in Ahmedabad is 2 namely, tarant and gujarat electricity board and now are many more	It is a subset of oligopoly type

Oligopoly

Monopoly

Monopoly

Type of market

Monopoly

Product market

Seller

Firm = 1.

Buyer

Consumer = Many

Example

Public utility services

Important points

Firm itself an industry
market, price
discrimination

Factor market

Factor of production market

Firm: 1

There are large no. of IT employees (top) who are expert in each IT field. Let's say Google is the only firm who is in all IT fields. Google is the only business in each IT field.

Opposite of monopoly.

Oligopoly

Oligopoly

Type of market

Product market

Seller

Firm: few

Buyer

Consumer: Many

Example

Airlines, banking, insurance, etc

Important point

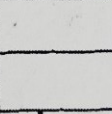
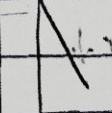
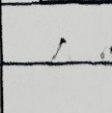
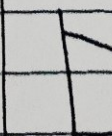
Price rigidity, interdependence of firms

Oligopoly

Oligopoly

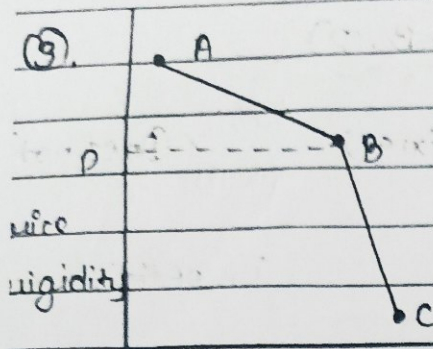
I. Short Summary of Types of Oligopoly (L.B.♡)

	✓ (Exist)	✗ (Does not)
Understanding against firm.	Collusive	Competitive
Dominating firm.	Partial	full organise
Regulator to keep f. Syndicated	Syndicated	organised
Entry in market restricted?	+ closed	Open
Homogeneous goods (Factor Market)	Pure	Impure / Imp effect
Heterogeneous goods (Product Market)	Impure / Imperfect	pure.

J. ① Type of Market	Price of Elasticity of Demand	Demand curve / AR curve
Perfect competition	Infinite	
Monopoly	Small / Low	
Monopolistic	More / High	
Oligopoly	Short Run:- High Long run:- less	 Kinked Dr C.

KDC hypothesis (detailed concept)

is developed by Paul A. Sweezy.



	Position of KDC	
	between A & B	between B & C
Trusting & Understanding amongst firms	less	High
Elasticity of demand	More	less
D.C. Curve slope	less	More

Action by Price changing firm	Retaliating ^{res} Price by other fringe (small) firms	Reaction to Price changing		Benefit of Price change to Price changing firm
		Customers	other fringe firms	
$P_r \downarrow$	$P_r \downarrow$	less	high	very less
$P_r \uparrow$	No Δ	high	less	No, indeed loss.