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Personal Lecture Notes

Prepared for

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Economics .....Course

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THE RAPID RESULTS COLLEGE

Code Letter: LB9

THE RAPID RESULTS COLLEGE

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ECONOMICS.

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This set of lectures contains:

LECTURE 1 : Preliminary Survey.

LECTURE 2 : Demand.

LECTURE 3 : Supply.

LECTURE 4 : The Determination of Price.

LECTURE 5 : Markets.

LECTURE 6 : Monopoly and Imperfect Competition.

LECTURE 7 : Miscellaneous.

TEST LB9.

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NOTE: The test on this set is bound in at the end of the book.

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PRELIMINARY SURVEY.

A. INTRODUCTION:

This, the second main division of your Course in Economics, is without doubt the most important.

Our main concern in this section is the theory of value. "Value" (ie., value-in-exchange) is essentially a relative term; ie., a ratio. For convenience, this ratio is generally quoted in terms of money, and the value of a thing in terms of money is known as its price. As a fundamental basis of our investigations, then, we must have an understanding of the price system. We shall be concerned with the way in which people decide what to consume, and to some extent the way in which their decisions affect production.

B. THE PRICE SYSTEM:

It is no exaggeration to say that except in communities which are governed by a dictator practically all economic activity is regulated by the price system. A person disposes of his assets and opportunities in the manner which he considers most profitable to him with prices at their current level.

Changes in prices will influence the behaviour of both consumer and producer; producers will warn consumers of a change in the conditions of supply of the factors of production by changing the price of the product; consumers will warn producers of a change in their tastes by changing the maximum price they are prepared to pay.

All prices are related to each other. Very few consumption goods are absolute substitutes for each other, but all are substitutes insofar as they compete for a share in the individual consumer's plan of expenditure. Mr.X may buy mutton if he cannot get beef because he likes mutton almost as much as beef; he considers them as virtual substitutes. If he cannot buy any meat at all he may increase his purchases of cheese, but cheese and beef are substitutes only to the extent that they are both foodstuffs with a similar protein content.

The prices of producers' goods are related to the prices of consumers' goods because the factors of production must be rewarded from the money received from consumers. If the prices

charged by the owners of factors are increased so that entrepreneurs can cover their "costs" only by charging a higher price than consumers are prepared to pay, this particular use of the factors will be discontinued. The factors will be used in some other direction, where the price consumers are prepared to pay for the product is higher.

Hence the consumers determine the allocation of factors of production through their demand for a good consumer sovereignty.

Consumer sovereignty decreases where monopolistic conditions are present. The monopolist may not find it economically profitable to respond to price and quantity indicated by consumer demand.

C. THE DETERMINATION OF PRICE:

Although price influences demand and supply, demand and supply themselves affect price. Demand, supply and price are all interdependent, and when a change in any one of these three occurs, we shall have to be very cautious in ascribing the cause to any one of the other two. Equilibrium concepts must also be considered. Equilibrium can be defined as a "state of rest". It does not imply the absence of disturbing factors, but it implies that any disturbing factors that exist are pulling in opposite directions so that there is a position of balance. Equilibrium analysis in Economics recognises the fact that in actual life, various forces are constantly neutralising each other.

D. MARKETS:

Demand, supply and price, we shall find, are all concerned with the production of goods and services and their exchange.

The concept of exchange involves three essentials:-

(1) A class of merchants to act as middleman between producers and consumers.

(2) A suitable means of transport.

(3) A means of exchange eg., money (originally, goods which were not wanted immediately were exchanged for goods which were wanted at once - this was known as barter - but the difficulties associated with this system led to the gradual adoption of a third commodity - money - in terms of which all values were expressed).

Markets facilitate exchange. In their simplest form, they may be thought of as meeting-places for the buyers and sellers of a specific commodity (or group of commodities).

The term " market" is more widely used to describe the differing relationships between buyers, between sellers, and between buyers and sellers - to describe the degree of bargaining power existing eg., perfectly competition markets, monopolistic markets etc.

E. CENTRAL PLANNING:

To close off this preliminary survey let us glance for a few minutes at the way in which the economic problem of "economising scarce means in the attaining of unlimited ends" (solved automatically by an uncontrolled price mechanism in a capitalist state) is solved under a dictatorship or socialist state.

(1) The Distinguishing Features of Capitalism.

(a) Private Property Rights.

Subject to limitations imposed by law, the owner of property in a capitalist community may use that property in any way he wishes.

In a socialist state, however, all the factors of production belong to the State. There are no individual property rights.

(b) Freedom of Enterprise.

In a capitalist community, the members are free to engage in any business or economic activity they choose. They may direct their efforts as they please.

In a socialist state, the central authority controls all enterprise. Services and goods are produced only at the direction of this central authority.

(c) Freedom of Choice in Consumption.

Under a capitalist system, people may utilise their incomes as they please.

In a socialist state, since the central authority decides what shall be produced, it must also supervise in some way the manner in which the product is distributed to consumers. This is usually done by some form of rationing, so that consumers are deprived (at least to some extent) of their freedom of choice.

(2) The Functioning of a Socialist State.

In assuming responsibility for deciding what shall be produced, the central authority in a socialist state clearly undertakes a difficult job.

(a) Needs and wants are not always the same. The dictator in a socialist community must first of all decide, then, whether the members of his community are to get what they want (ie., the maximum utility) or what food and culture experts consider is best for them (ie., the maximum welfare). If the first alternative is chosen, how is he to decide what the people want most?

(b) If he succeeds in solving this first problem, however, the dictator will have to decide how the planned assortment of products is to be obtained from the existing motley of resources.

(c) A problem which will always be present will be that of determining what proportion of available resources should be devoted to the production of goods for immediate consumption and what proportion to the production of equipment (eg., machines, buildings, railways or power stations) which will

make the production of consumption goods more efficient in the future. He must make a decision for the State in much the same way as an individual chooses between spending now and saving in order to spend later on.

(d) Finally, the dictator must keep abreast of changes in tastes. If he continues to devote resources to the production of a good after the desire for that good has passed, he will be failing to achieve the maximum satisfaction for the community from its available resources. Remember that there will be no price system to reflect changing tastes.

(3) Mixed Economies.

"Mixed economies" have developed in most Western countries. Private enterprise co-exists with central planning and control. The degree of the "mix" varies from country to country eg., state-owned v. private railways, mining operations, radio stations etc. State-owned enterprises are either started from scratch or are nationalised private industry ie., private industry taken over by the state.

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SUMMARY

Value is a ratio and is usually quoted in terms of money. To study the theory of value, then we must investigate the price system. The Price System influences all sections of economic activity and reveals tendencies to producers and consumers. The consumer is the ultimate sovereign under a laissez-faire system, though his sovereignty may be limited or weakened.

As preliminaries to our investigation of the determination of price we shall study the influences behind demand and supply. Then, after having seen how market price is determined, we shall make a brief study of markets, finishing off our study of the theory of value with an investigation into the differences between monopoly and competition.

In the course of these studies we shall make the acquaintance of equilibrium analysis, and we shall note that market exchange is always mutually beneficial to the parties.

The theory of value we are to study in these Lectures does not apply to a community where there are no private property rights, no freedom of enterprise, and no freedom of choice in consumption. It does not apply, in other words, to a socialist state or planned economy. In a planned economy, free exchange and competitive prices are replaced by the utilisation and consumption of resources in accordance with the demands of a central dictator.

Both private enterprise and central planning have their drawbacks, but it is not for the economist to say which is the better.

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LIKELY EXAMINATION QUESTIONS:

1. In what ways does exchange add to people's welfare?

2. "The unifying force in the system of private enterprise is the action taken by the entrepreneur to earn profits".

   "Price is the regulator in the system of private enterprise".

   Show how these two statements may be reconciled.

3. What useful purposes are served by the system of prices? Are there any drawbacks?

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ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

When you answer this question, after having explained the meaning of exchange you must deal with the following points, which were the subject of earlier lectures:

(a) The Principle of Substitution:
The exchange of the comparatively superfluous (ie., low marginal utility) for the comparatively necessary (ie., high marginal utility) enables a group of people to increase the total utility of their stock of goods.

(b) Division of Labour:
Without facilities for exchange, division of labour could not be carried on, and the resources of a community would not be employed to the best advantage.

QUESTION 2:

The key to the reconciliation required by this question is the fact that in attempting to earn profits, the entrepreneur is guided by prices. Prices are a cause as well as an effect. An entrepreneur charges a price to cover his marginal costs, but he will not produce unless the price set by the market gives him some excess over cost. Prices, again, are a reflection of the demands of consumers; but these demands themselves will be affected to some extent by the existing price levels.

In your answer, then, you should explain consumer's sovereignty, showing how in the last resort it is the consumers who determine how the available factors of production shall be used. Complementary to this sovereignty, however, there must be a force of entrepreneurs who are willing to run the risk of anticipating the desires of the sovereign. The profit motive lies behind this willingness.

QUESTION 3:

Question 1 (above) deals with the advantages of exchange; this question deals with the fact that price facilitates exchange, for without it all the inconveniences of barter have to be undergone.

"Not only do prices serve as a measure of individual valuation but they provide an indication for the producer. High prices, as a rule, indicate a shortage of goods and production is stimulated. Low prices generally have the reverse effect". This statement must be qualified, however, to the extent that other factors are assumed to be unchanged.

The system of prices is disadvantageous in that it leads to production regardless of the social desirability of a product or service. If, for example, luxury goods fetch bigger prices and secure greater profits for the entrepreneur than do comparative necessaries, the former may be produced at the expense of the latter. The labour and time which have been utilised producing an undesirable product cannot be replaced and the stock of materials is not unlimited.

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DEMAND

A. THE MEANING OF DEMAND:

Demand is the amount of a commodity that a household wishes to purchase.

(1) It refers to the amount wished for, not necessarily the amount actually purchased.
(2) Demand, to be defined as such, must be effective monetary demand ie., backed by purchasing power.

B. THE LAW OF DEMAND:

(1) Demand and Marginal Utility:

The more we have of anything, the smaller is the satisfaction we derive from additional amounts of it. This fact, which is stated by the law of diminishing marginal utility (sometimes called the law of satiable wants), plays an important part in the determination of value.

(2) Substitution at the Margin:

A consumer will buy a unit of any particular product only if the utility he derives from that unit is at least equal to the utility he could derive by spending the amount of money involved in some other direction. In the case of some products (eg., newspapers) many consumers would be prepared to pay a good deal more than they are actually required to pay, rather than go without the product or cut down their consumption. In most other cases, the price is such that the consumer is just induced to buy the amount he does (ie., he is a marginal purchaser) so that any rise in price, however, small, will cause him to reduce his consumption.

On the other hand, a reduction in the price of a particular commodity will tend to cause consumers to increase the amount they buy of that commodity, because if the distribution of expenditure remains unchanged, the last unit of currency spent on the commodity in question will yield a larger utility than the last unit spent in all other directions. Hence from the side of demand, the price of an

article tends to equal its marginal utility as measured in terms of money.

(3) Derived Principle:

It is on the above reasoning that the law of demand is based:-

"A rise in price is followed by a contraction in demand, and a fall in price is followed by an expansion in demand."

This statement is not always true. A rise in price may, under certain circumstances, be accompanied by an extended demand, and a fall in price by a contraction in demand. This is because over a period of time demand may fluctuate considerably owing to changes of custom, tastes or habit, and a fall in price might fail to arrest the fall in the demand for an unseasonable or unfashionable article.

If the statement is to be strictly correct, therefore, we should eliminate the time element. We might say, then, that at any moment the demand for anything is greater than it would have been at a higher price and less than it would have been at a lower price.

In theory we may suppose that there is a perfect continuity in prices and quantities. Above a certain price there is no demand, the price is prohibitive; as the price falls, more and more will be demanded, but at last no more will be taken even at a nominal or zero price; and after this point is reached, the demand will become "negative" ie., the seller must pay something to get rid of the thing.

The last sentence leads to the remark that the law of demand may be stated in a converse form, namely, that in any market, under given conditions, to get rid of a larger supply prices must be lowered. So long as the conditions prevailing in the market are given, it makes no difference whether we begin with the prices or the quantities, since the law of demand simply expresses the relations between the two.

C. DEMAND SCHEDULES AND CURVES:

A statement set out in tabular form, showing the various quantities of a certain product which would be demanded in a certain market at a certain time at each of a series of prices is known as a demand schedule. Here is a specimen demand schedule:-

MOTOR CARS.

Price in R	Quantity Demanded in One week.
600	1 000
800	650
1 000	450
1 200	300
1 400	250
1 600	225
1 800	200

A schedule such as this relates demand (which is the same as the amount sold) only to price; or, as mathematicians say, it shows the amount sold as a "function" of the price. All influences other than price, which affect the amount sold(eg., changes in the size of the population or the quantities of other similar products available) are excluded by assumption.

Economists would say that, ceteris paribus (all things being equal), demand is a function of price.

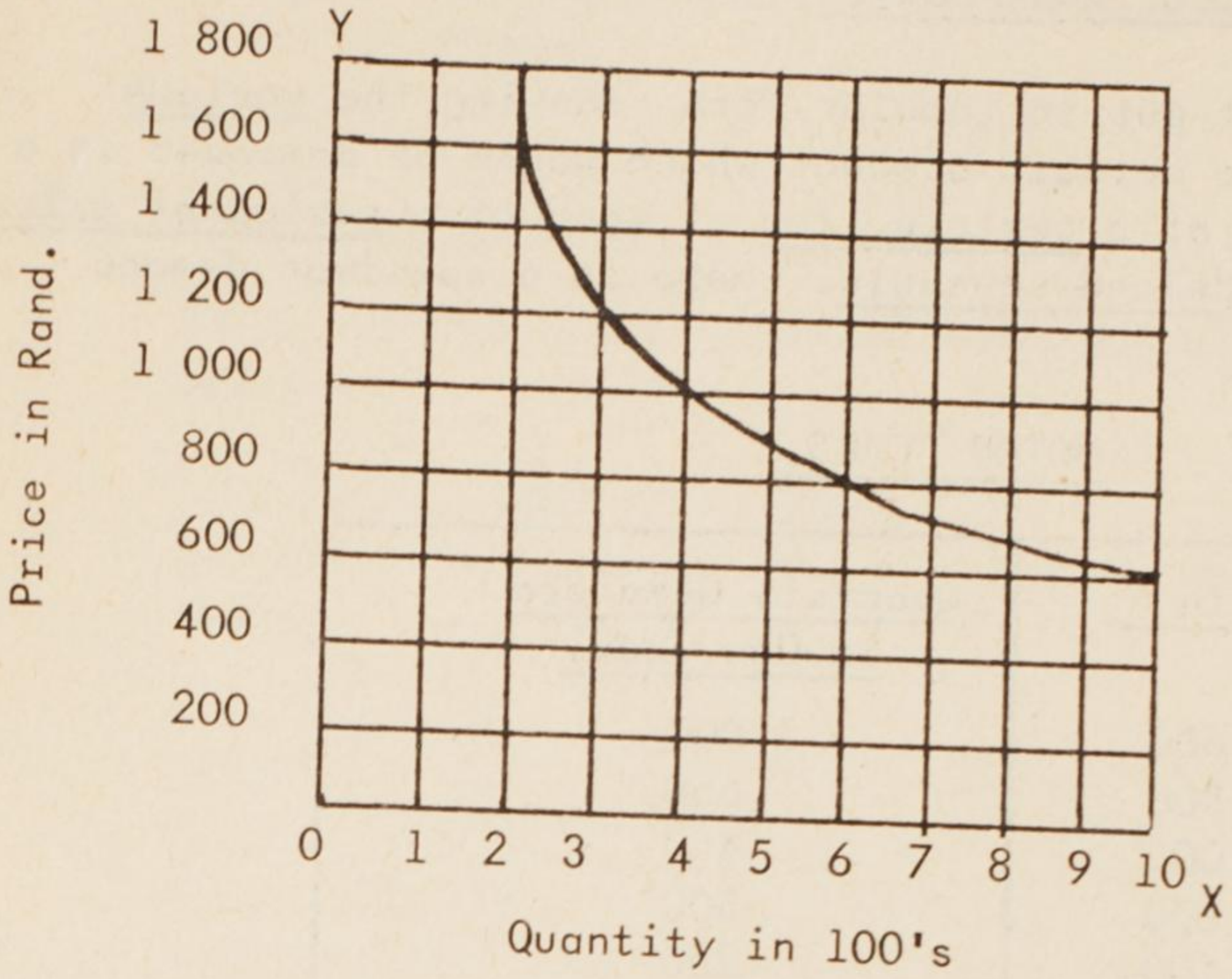


Fig.1.

Always measure price along the vertical axis (OY).

It follows from the law of demand, quoted earlier in this Lecture, that if price is measured along the vertical axis, demand curves must slope down to the right - as price falls, quantity demanded increases.

In most cases, this applies throughout the length of the curve (though the rate of slope may change at different parts of the curve), but some curves slope upwards over part of their length, indicating that people tend to buy more of some commodities when the price has risen. Such a state of affairs may come about when:-

(1) One rise in prices has led people to anticipate a further rise. This is based on a speculative motive, and applies particularly to stocks and shares, and to raw materials which are in irregular supply.

(2) People buy the article (eg., diamonds) mainly on account of the distinction possession of it brings. If the price of the article rises, there may be an impression that its ownership acquires increased exclusiveness.

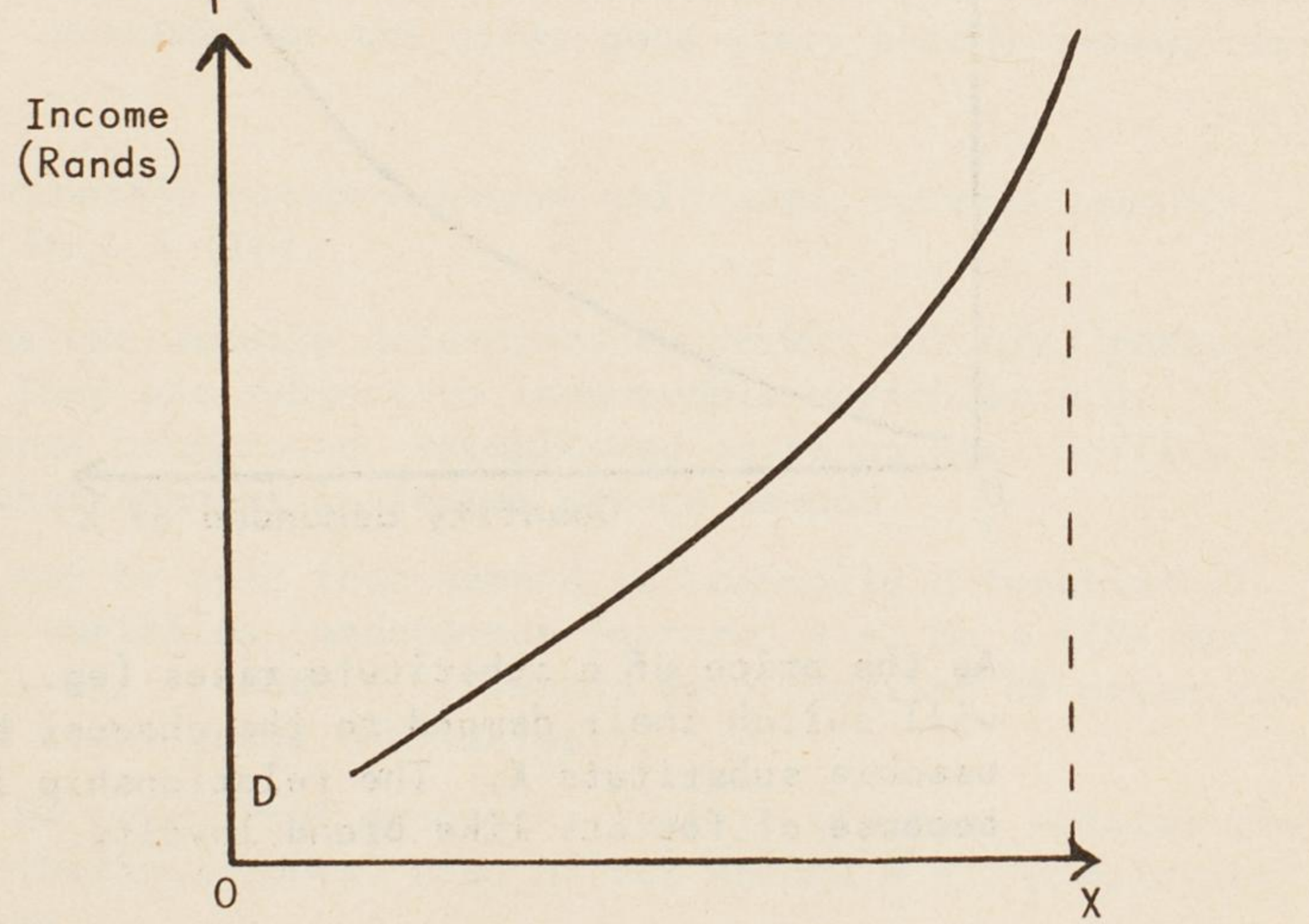
(3) Purchasers have no sound knowledge as to the quality of the commodity they are purchasing. It has been known, for

example, for only few copies of a book to be sold when the price is fixed at R1, but for sales to <u>increase</u> considerably when the price was raised to R6,60. Having no knowledge as to the real worth of the book purchasers presumably reason that at such a price "it must be good".

(4) A rise in the price of a necessity such as bread causes consumers to reduce their expenditure on luxuries. The nourishment previously obtained partly from cakes and asparagus, for example, must now be obtained entirely from bread, so that although <u>total</u> expenditure remains unchanged, the <u>expenditure</u> on bread, as well as the <u>amount of bread consumed</u>, increases. Such a good is called a Giffen Good.

The relationship between demand and the price of the commodity when holding all other factors constant (ceteris paribus) is shown in Fig.1 ie., Dn=f(Pn) (demand is a function of price). Consider the following:-

(1) Relationship between demand and income (y), ceteris paribus ie., Dn= f(y)



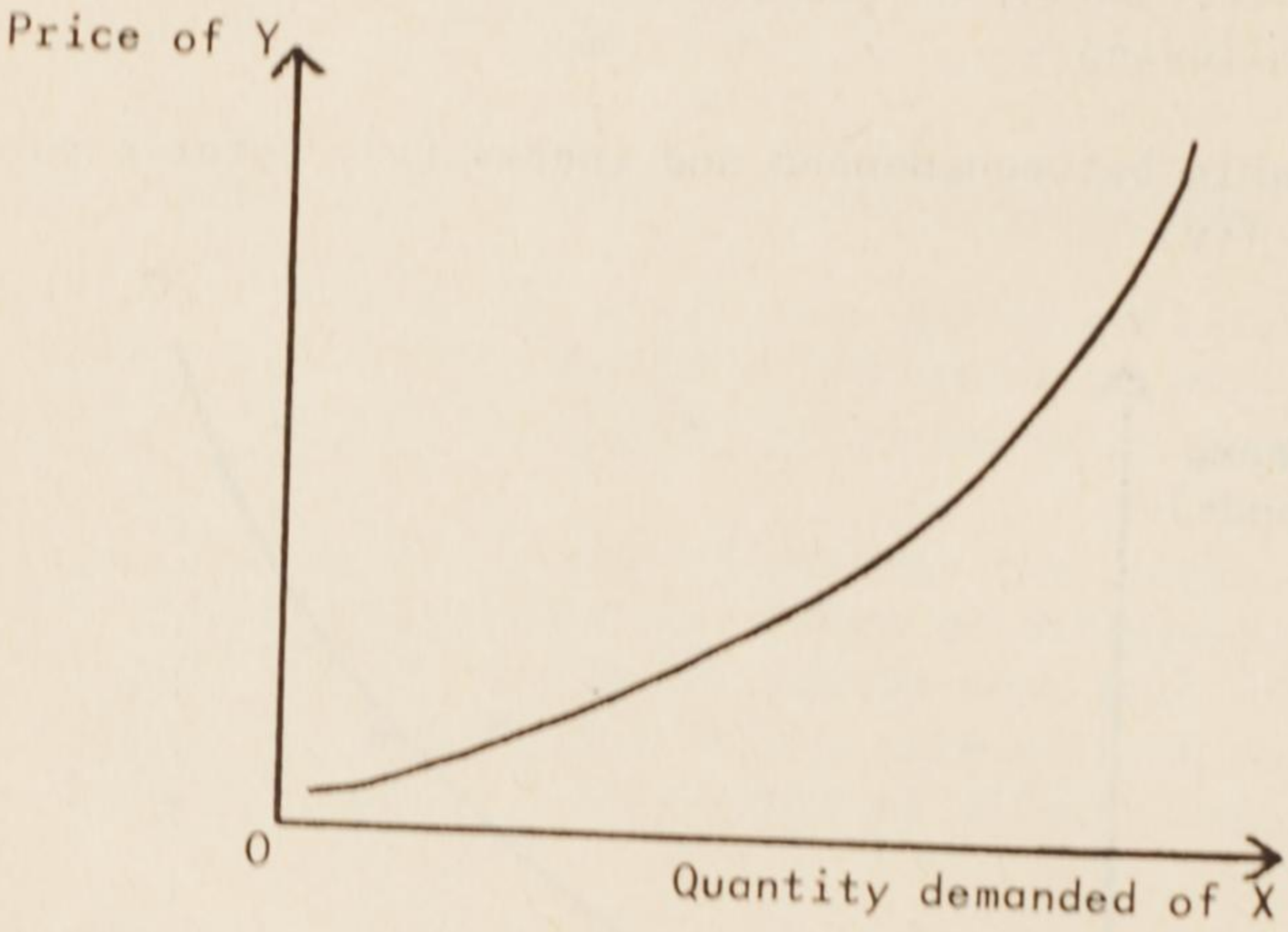
A rise in income usually leads to an increase in the quantity of the goods demanded. The desire for the good may be completely satisfied after a certain level of consumption is reached eg., x litres of wine.

(2) Relationship between demand and the prices of other goods, holding all other factors constant $Dn = f(P_1 \ldots\ldots P_{n-1})$

(a) Unrelated goods (milk, nails)

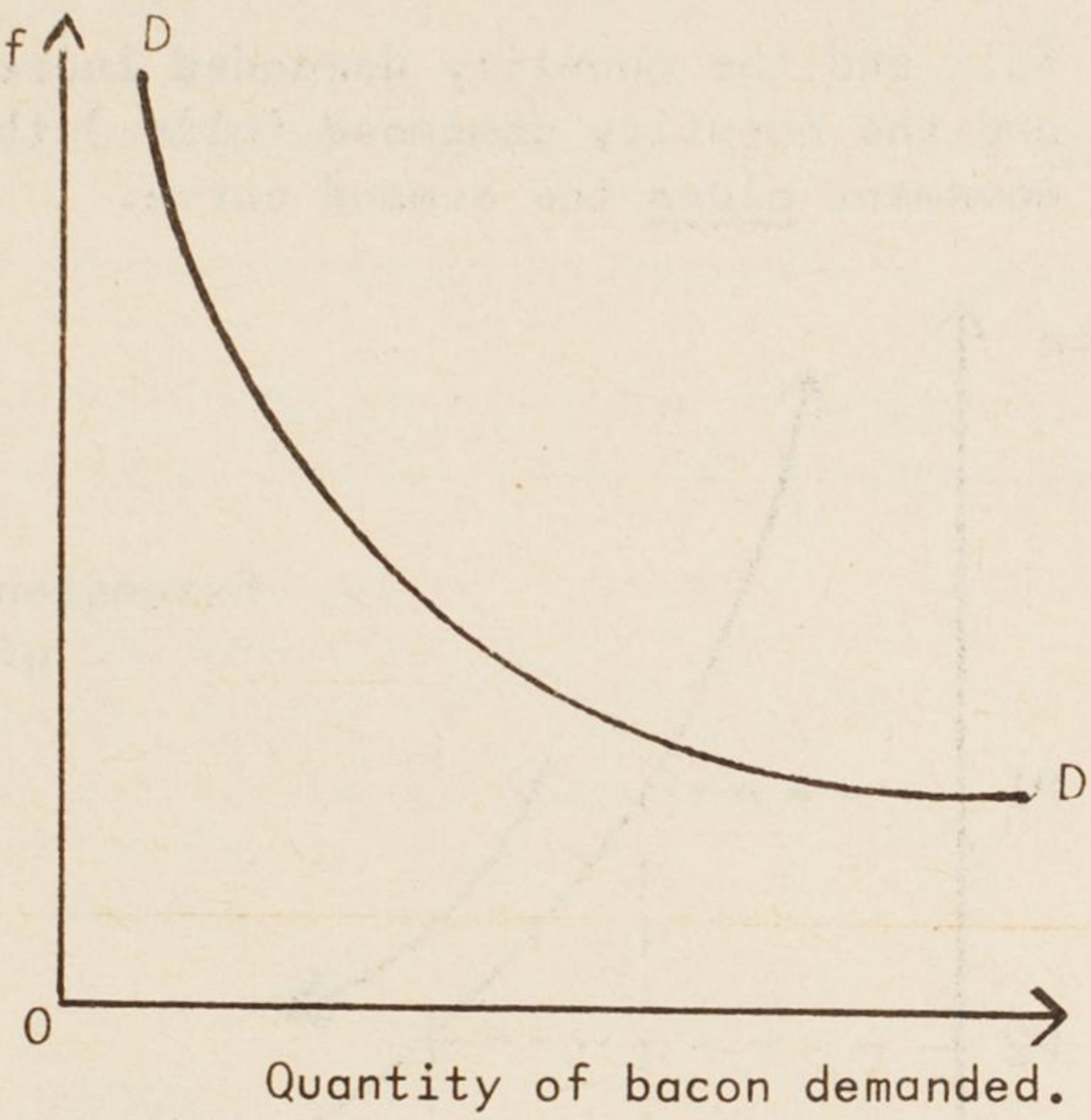
If two goods are not related in any way, a change in the price of the one will have no direct effect on the other, except to the extent that income available to satisfy demand may be limited.

(b) Substitutes (coffee, tea, milo, etc)



As the price of a substitute rises (eg., Y) people will switch their demand to the cheaper but equally useable substitute X. The relationship is not linear because of factors like brand loyalty.

(c) Complements (bacon and eggs, etc)



As the price of a complement falls, so the quantity demanded of the other good (ie., bacon) should rise.

(3) Relationship between demand and tastes, ceteris paribus.
ie., Dn = f (Tn)

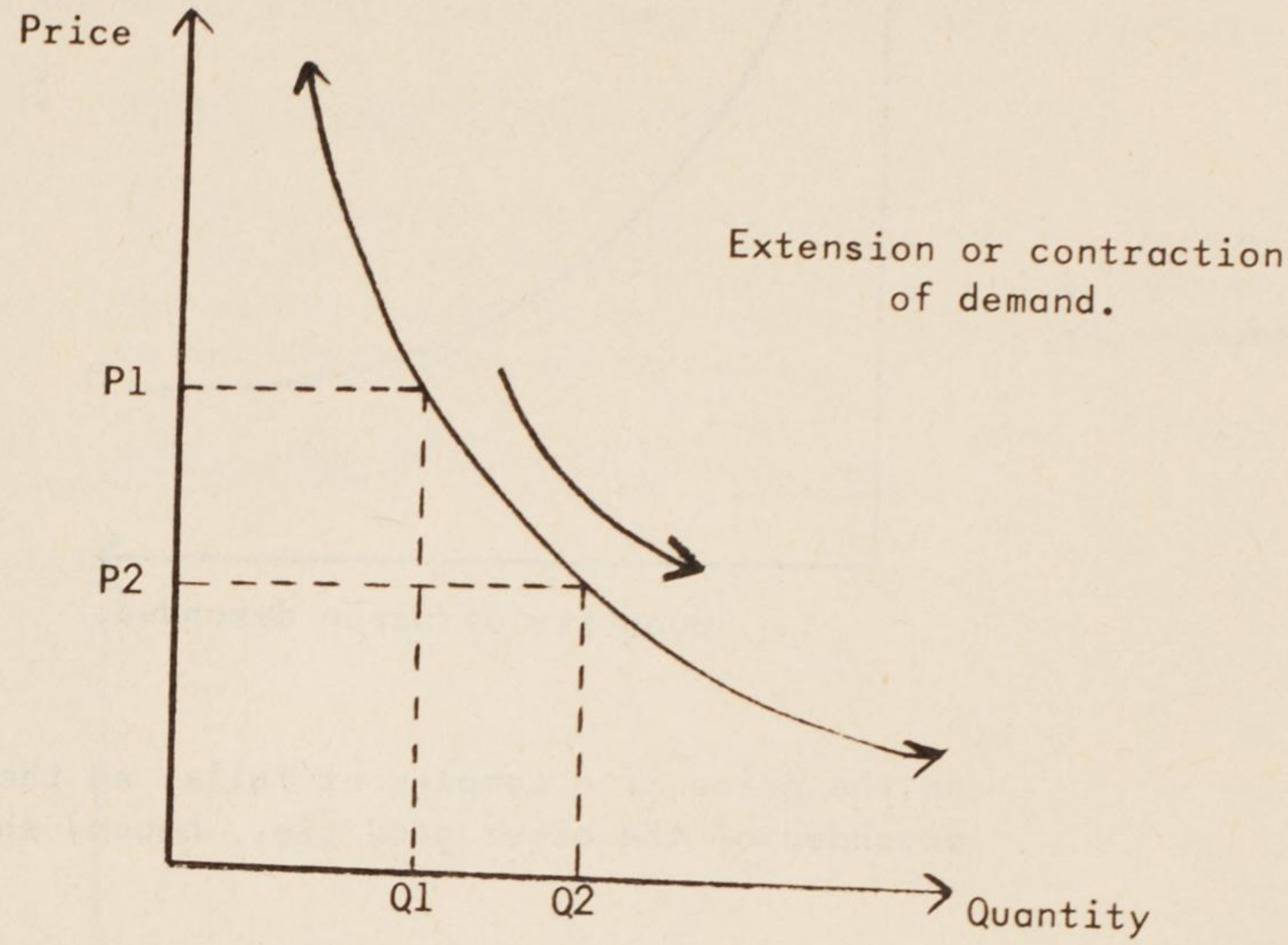
Tastes are usually determined by market surveys, research etc. They are subject to innumerable variables e.g. cultural background, established patterns etc. Suffice to say that changes in tastes change demand.

Hence, it may be said that demand is basically a function of these four variables (endogenous factors) i.e. Dn = f(Pn and Y and P_1 ... P_{n-1} and T). ("Demand is a function of price, and income, and other goods, and tastes").

It should be noted that exogenous factors (factors outside the model hypothesized above) also affect demand e.g., population growth rates.

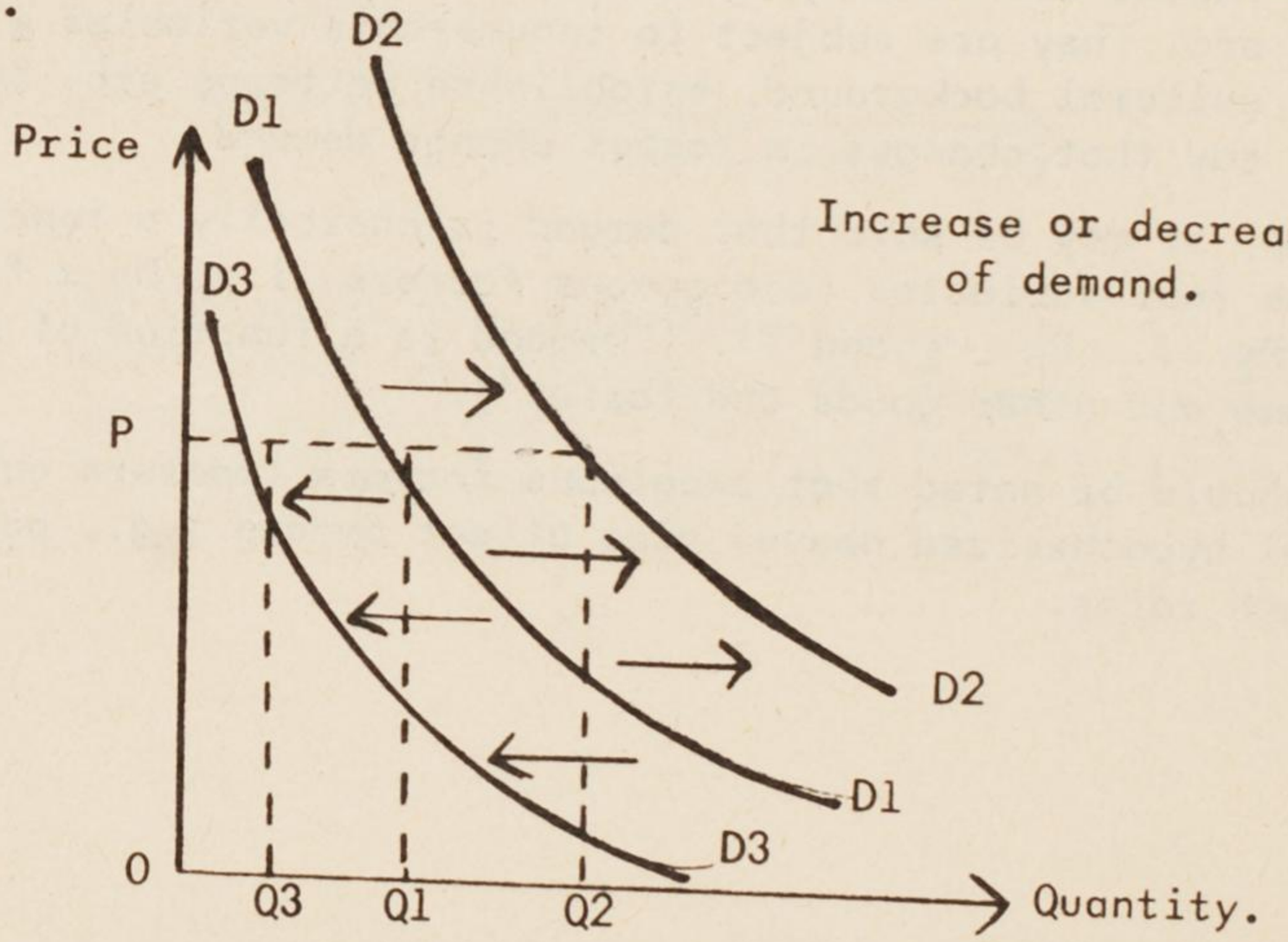
Movements vs. Shifts:

When prices fall and the quantity demanded increases (or when prices rise and the quantity demanded falls) there is said to have been a movement along the demand curve.



Extension or contraction of demand.

However, when one of the parameters of the model changes (eg., income or tastes) the whole curve will shift either inwards or outwards.



Increase or decrease of demand.

For example, if the price of a substitute increases, at the same price "P", demand may increase from Q1 to Q2. Similarly, a fall in household income or an increase in the price of a complement may cause a fall in demand from Q1 to Q3 (at the same price).

The following factors may cause an increase or decrease in demand.

(a) Changes in size and constitution of population.
(b) Changes in money income (temporary changes in demand patterns).
(c) Changes in real income.
(d) Changes in the distribution of wealth.
(e) Changes in the prices of substitutes.
(f) Changes in the prices of complements.
(g) Changes in tastes.
(h) Technical advances.

D. ELASTICITY OF DEMAND:

(1) The Meaning of Elasticity of Demand:

Elasticity of demand is the responsiveness or sensitiveness of demand to price changes. In some cases a marked change in price causes comparatively little fluctuation in demand, whereas in others the demand changes considerably with a comparatively small variation in price.

The demand for a commodity is said to be elastic when a rise or fall in its price is followed by a marked fall or rise in the quantity demanded. The demand for a commodity is inelastic when a relatively large variation in price produces a relatively small change in the demand.

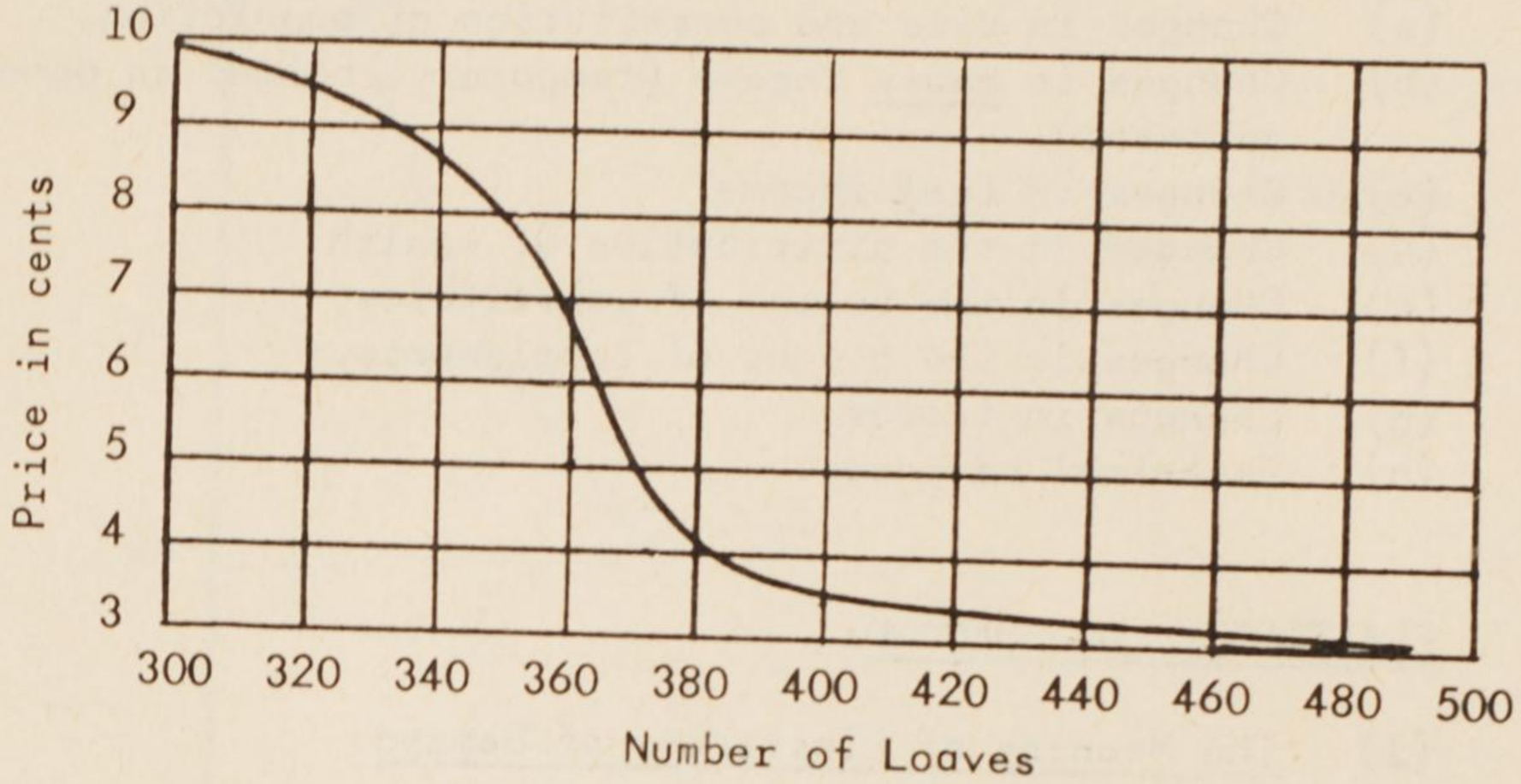
Where a change in price results in the same total amount being spent on a commodity, elasticity is said to be unity. Where a rise in price causes a smaller amount to be spent in the aggregate, then elasticity is greater than unity and where a rise in price causes a greater amount to be spent in the aggregate, elasticity is less than unity.

Symbolically, if $P1 \times Q1 = P2 \times Q2$ (ie., total expenditure before = total expenditure after), elasticity is said to be unity. If $P1 \times Q1 > P2 \times Q2$, then demand curve is

relatively inelastic over this range.

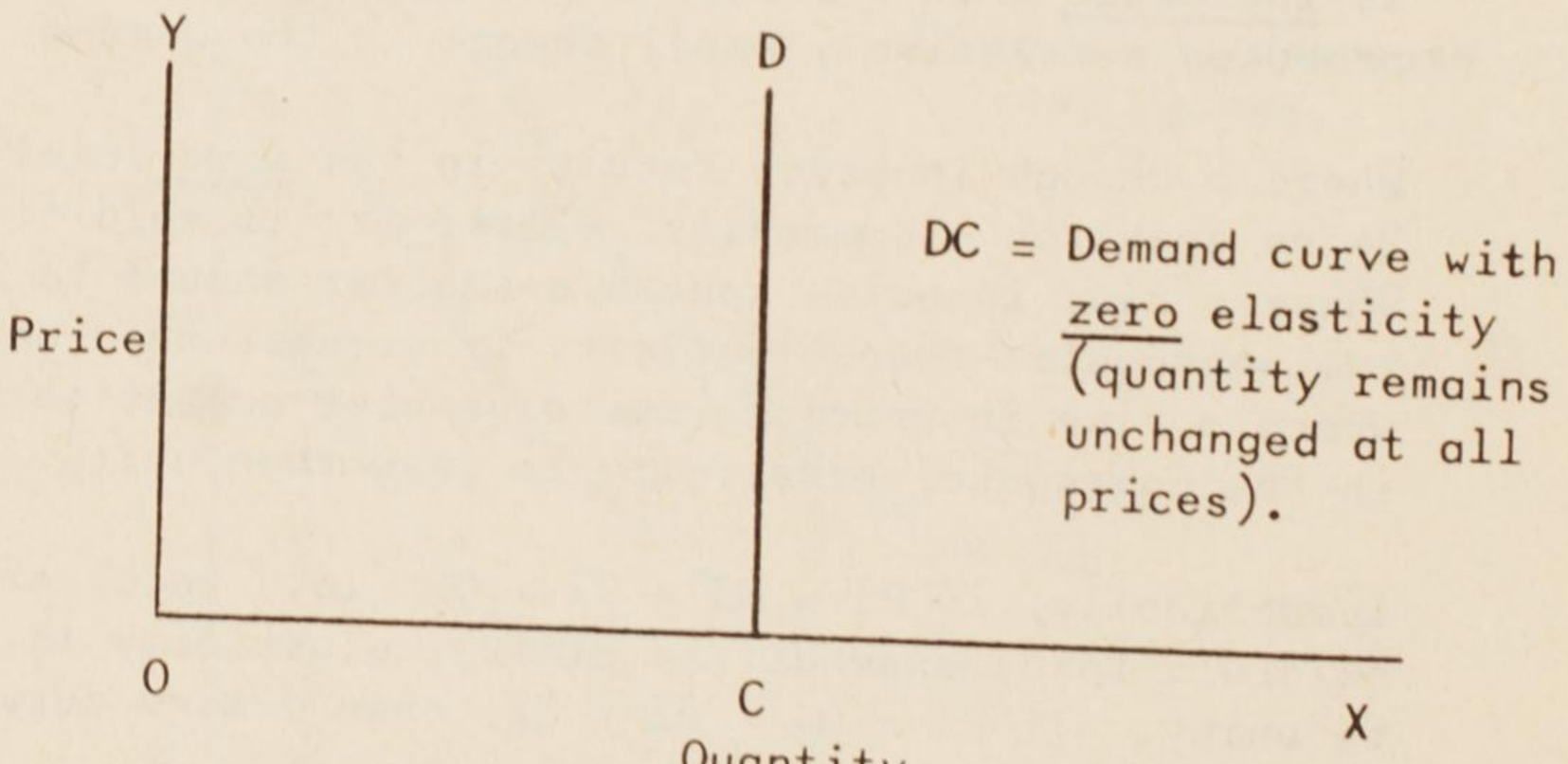
(2) The Diagrammatic Representation of Elasticity of Demand:

Consider the following demand curve:-



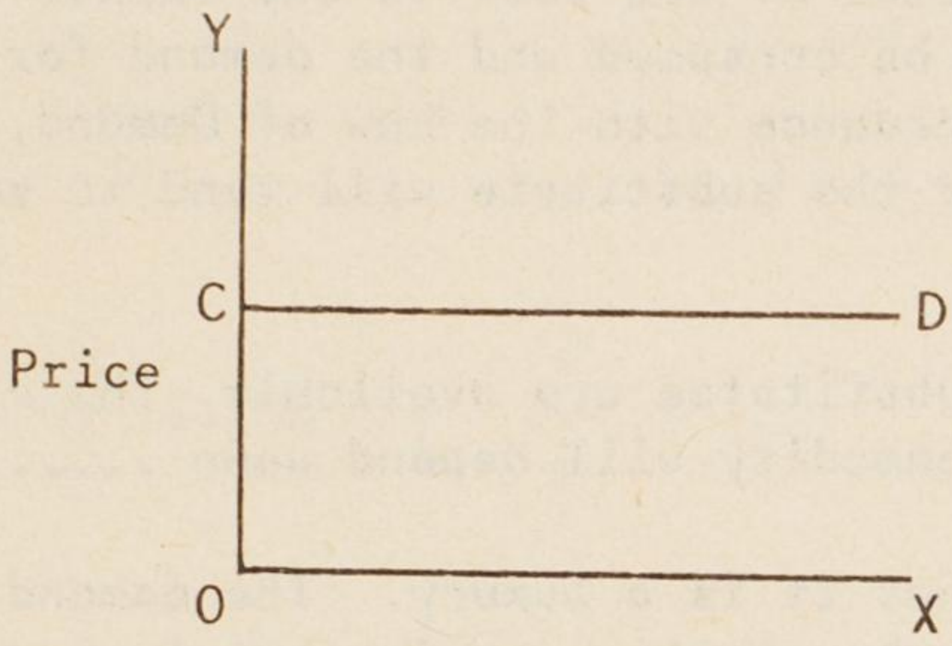
This curve shows that, as elasticity of demand for a commodity diminishes, its demand curve falls more steeply to the right, and as elasticity increases the curve flattens out. An elasticity of zero would be represented by a perfectly vertical line.

PERFECTLY INELASTIC DEMAND GRAPH:



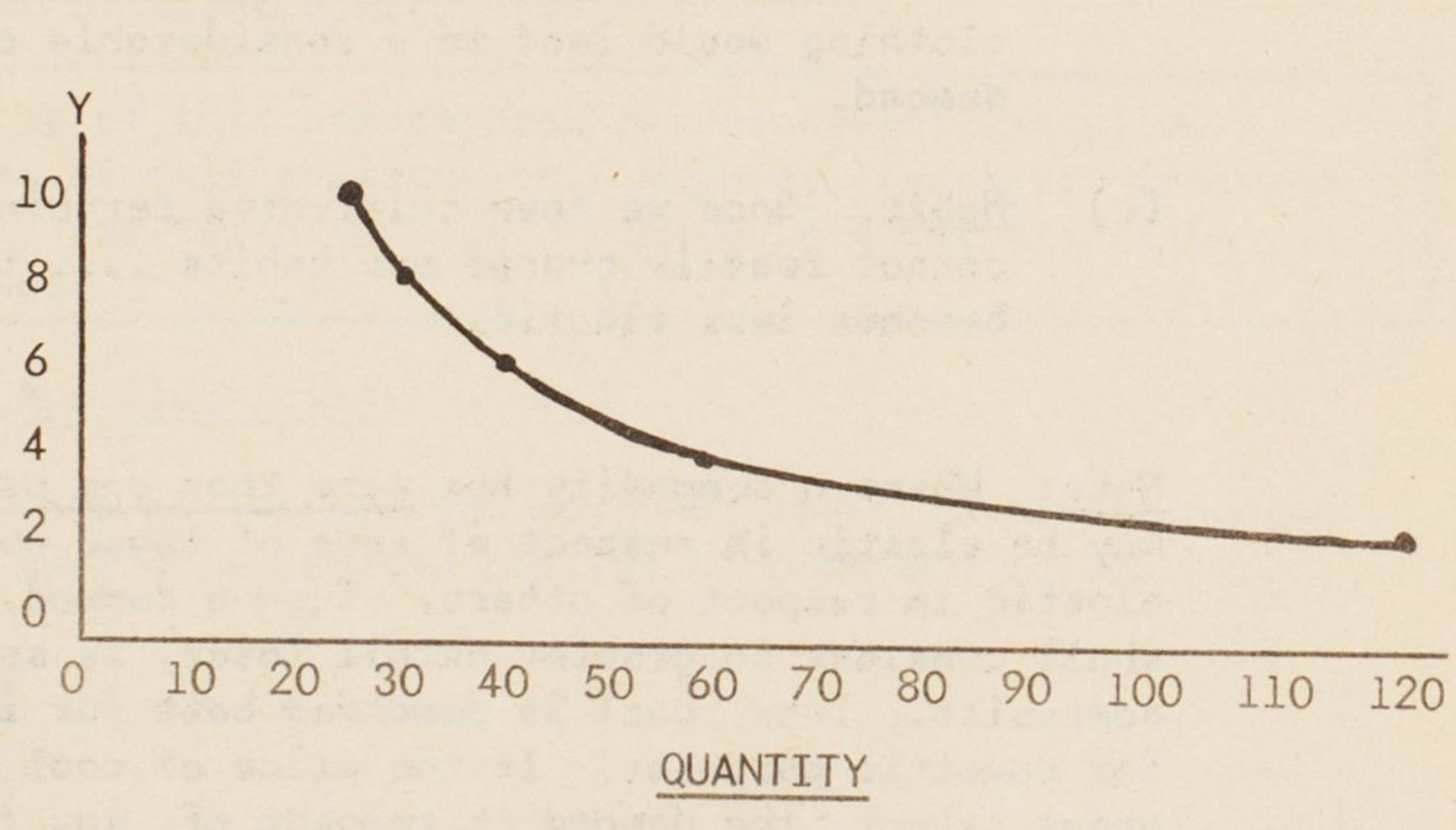
Similarly, perfect elasticity would be represented by a horizontal line:-

PERFECTLY ELASTIC DEMAND GRAPH:



CD = Demand curve with perfect elasticity.

A demand curve of an elasticity of UNITY (which needs the scale to be shown to illustrate 'no change in total expenditure') will look like this:-



This shows total expenditure of 240 at each point (ie., 10 x 24, 8 x 30, 6 x 40, 2 x 120). Thus the shape the graph line takes is a result of the scales used on the 2 axes of the graph.

(3) The Factors Influencing Elasticity of Demand:

The most important factor influencing elasticity of demand is the possibility of substitution. The existence of substitutes increases the elasticity of demand for the commodity. If the price of tea rose to any marked extent, more coffee would be consumed and the demand for tea would fall off. In accordance with the Law of Demand, the increased demand for the substitute will tend to send up its price.

If no effective substitutes are available, the elasticity of demand for a commodity will depend upon .....

(a) Whether or not it is a luxury. The demand for luxuries tends to be elastic, while that for necessaries is inelastic.

(b) The importance of the article in the general plan of expenditure. A rise of 30% in the price of matches would not appreciably affect the demand for matches, but a rise of even 10% in the price of meat or clothing would lead to a considerable contraction of demand.

(c) Habit. Once we have cultivated certain tastes we cannot readily change our habits .... the demand thus becomes less elastic.

Note: Where a commodity has more than one use, the demand may be elastic in respect of some of those uses, but inelastic in respect of others. Such a demand, which we shall consider in greater detail later, is said to be composite. Thus, coal is demanded both for industrial and for domestic purposes. If the price of coal rose to any great extent, the demand in respect of, say, heating rooms would be more elastic than the demand for cooking purposes.

Our conclusion is that in nearly all cases a rise or fall in price is followed by a fall or rise in the quantity demanded (Law of Demand); the extent of the change in demand varies with the elasticity of demand for the article in question.

(4) Calculation of Price Elasticity of Demand:

Price elasticity of demand
= Percentage change in quantity demanded, divided by the Percentage change in price:

$$= \frac{Q1 - Q2}{Q1} \times 100 \div \frac{P1 - P2}{P1} \times 100$$

$$= \frac{\triangle Q}{Q} \times 100 \div \frac{\triangle P}{P} \times 100$$

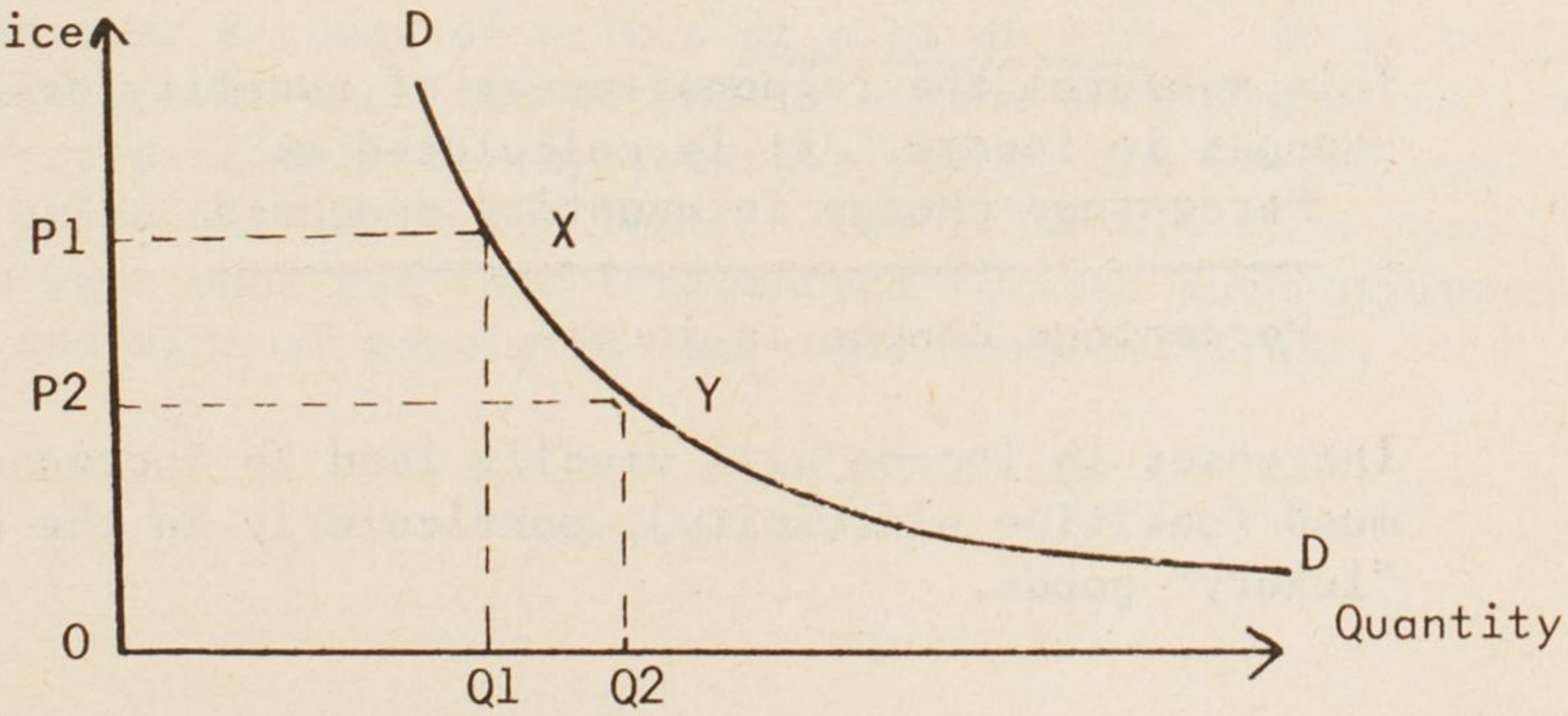
$$= \frac{\triangle Q}{\triangle P} \times \frac{P}{Q}$$

This expression is used as the basis for calculating elasticity following either the concept of arc elasticity or that of point elasticity.

A course of this nature need not necessarily include details of this application. However, these are included briefly for the attention of the more mathematically-inclined!

(a) Arc Elasticity:

This is the average responsiveness to price changes over a stipulated portion of a demand curve.



Price Elasticity of demand, or

$$PEd = \frac{\triangle Q}{\triangle P} \times \frac{P}{Q}$$

where

$\triangle Q = Q1 - Q2$

$\triangle P = P1 - P2$

$Q = \frac{Q1 + Q2}{2}$ (i.e., the average value, as no unique value over a range is attainable).

$P = \frac{P1 + P2}{2}$

By arithmetic, thus the arc elasticity of demand $= \frac{Q1 - Q2}{Q1 + Q2} \times \frac{P1 + P2}{P1 - P2}$

(b) Point Elasticity:

Point elasticity is the elasticity of demand at a point on the curve.

$$PEd = \frac{dQ}{dP} \times \frac{P}{Q}$$

where $\frac{dQ}{dP}$ is the derivative of quantity with respect to price at any point on the curve. To calculate the derivative first requires drawing a tangent to the curve at the point considered.

$\frac{dQ}{dP}$ is the reciprocal of the slope of the straight line tangent to the curve at the point in question.

(5) Income Elasticity of Demand:

This measures the responsiveness of quantity demanded to changes in income. It is calculated as

$$\frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in income}}$$

Increases in income will usually lead to increases in demand (positive elasticity), particularly in the case of "luxury" goods.

In the case of necessities (eg., bread, milk), once demand is saturated, the curve will become totally inelastic. It may even bend backwards ie., negatively eg., because of switching from ordinary bread to special French rye bread.

The dividing line is unitary elasticity.

Note: "zero" is totally inelastic
"infinity" is perfectly elastic

(6) Cross-Elasticity of Demand:

This is a measure of the responsiveness of demand for one commodity to changes in prices of other commodities.

$$\text{ie., } \div \quad \frac{\text{Percentage change in Qd of good X}}{\text{Percentage change in price of good Y}}$$

(Qd = quantity demanded)

(ie., (of x) (of y))

$$\left(\frac{Qo - Q1}{Qo + Q1} \times \frac{Po + P1}{Po - P1} \right)$$

E. FURTHER NOTES ON DEMAND SCHEDULES AND CURVES:

It must be clearly understood that the schedules used as examples in this Lecture are purely imaginary. Even if we desired to use actual figures, it is doubtful whether we could. It would be extremely difficult to arrive at them for they claim to show the position over a range of prices at a given time. It is quite easy to discover what the demand is at the existing price, but it is very difficult to say accurately what the demand would be if the price were,say, 20% lower. The price may have been 20% lower a year ago, but then influential factors such as incomes, tastes and size of population may have been different.

---oOo---

S U M M A R Y

DEMAND:

Demand means the desire to possess a thing, the means of purchasing it and the desire to use those means. By reference to the law of diminishing marginal utility and the law of substitution at the margin, it can be shown that from the side of demand the price of an article tends to equal the marginal utility as measured in terms of money. From this deduction is derived:-

Law of Demand: Other things being equal, as price falls demand extends, and as price rises demand contracts.

Note that this refers to the quantity demanded and not the value of the amount demanded.

Demand is shown as a function of price by demand schedules, which, when presented graphically, give demand curves. When price is on the vertical axis and quantity on the horizontal axis, these curves usually descend to the right.

Demand is said to be elastic when a fall or rise in the price causes a marked rise or fall in the demand.

Demand is said to be inelastic when a fall or rise in the price causes relatively little rise or fall in the demand.

Where the total amount spent on a commodity remains unchanged even though the price of the commodity has changed, elasticity of the demand for that commodity between those two prices is said to be unity. High elasticity is represented graphically by a gradual curve, and low elasticity by a steep curve, provided price is represented along the vertical axis. Elasticity of demand is affected by:-

(a) Existence of substitutes.
(b) Whether the commodity is a luxury or necessity.
(c) Importance of the article in the plan of expenditure.
(d) Habit.

Demand is influenced by:-

(1) Population.
(2) Money income.

(3) Real income.
(4) Trade conditions.
(5) Distribution of wealth.
(6) Price of substitutes or products in joint demand, ie., complements.
(7) Tastes (fashion).
(8) Miscellaneous - eg., advertising, scientific discoveries, weather.

A change in any of the above factors would necessitate the drawing of a new curve.

---oOo---

LIKELY EXAMINATION QUESTIONS:

1. Consider the elasticity of demand for and the supply of bread, motor-cars, Old Masters, corn, watches, books, paper.

2. Discuss the "Law of Satiable Wants" and the "Law of Demand".

3. Why does the demand curve usually descend towards the right? Does it necessarily so descend?

4. (a) Distinguish between a change along an existing demand curve and a shift of the curve to a new position.
   (b) On two consecutive days a commodity was sold on a market as follows:-

   (i) On the first day the quantity sold remained constant but the price rose compared with the previous day;
   (ii) On the second day the quantity sold increased while the price decreased compared with the first day.

   Show whether there has been a change in the demand for the commodity on the first and second days. Give reasons for your answers.

5. Explain what is meant by price elasticity of demand and cross-elasticity of demand.

---oOo---

ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

To answer this question you would first have to define and explain elasticity of demand and supply. This subject is fully treated in the lecture.

Next consider each commodity as affected by price changes.

Bread:

The demand for bread is very inelastic; indeed, some poor families even buy more when the price goes up, because as a smaller proportion of their income remains for the purchase of luxuries, they find it pays to consume greater quantities of bread.

The supply of bread is comparatively inelastic in the short period. In order to increase the supply greater areas of land have to be placed under cultivation for the production of wheat.

Motor-cars:

The demand for motor-cars is very elastic. A change in the price of them will bring them within the reach of a number of people for whom they were previously out of the question. Except when they are used for commercial purposes they are a luxury, and people could manage quite well without them.

The supply is very elastic; it can be adjusted to changes in demand in a relatively short period.

Old Masters:

The demand for Old Masters is fairly elastic, although the demand probably fluctuates more with general prosperity or depression than with their price.

The supply is extremely inelastic, for, apart from occasional discoveries, the world's stocks cannot be increased.

Using these three examples as your guide you will be able to answer the remainder of the question. None of the remaining commodities is exceptional in any way.

QUESTIONS 2 & 3:

Each of these questions is fully dealt with in the Lectures.

QUESTION 4:

(a) It is most important that you should be able to make this distinction. It must be remembered that a demand curve reflects the position at a particular moment of time, or a period of time which is not long enough to permit a change in any of the factors other than price which affects demand, eg., a change in the supply coming to market, a change in the size of the population, a change in weather conditions, etc. Under these circumstances a change to a new position along the existing demand curve merely means that the market price has changed and there is consequently a change in the quantity which the consumer is willing to buy.

A change in the quantity which a consumer is willing to buy even though no change takes place in the market price, necessitates the drawing of a new demand curve. There has been a change in demand rather than a mere change in price with the result that both the quantity demanded and the market price at which exchanges take place may change.

(b) (i) In this case there must have been a change in demand because without this a rise in price must necessarily result in a smaller quantity being sold.

(ii) This is a change along an existing demand curve and consequently reflects a change in the quantity bought (and the price) only. There has been no change in demand.

QUESTION 5:

Price elasticity is merely another way of referring to elasticity of demand, which is fundamentally merely a responsiveness of demand to

price changes.

The demand for some commodities depends to a large extent upon the purchases or sales made of another commodity. If the price of butter rises, for example, people may purchase less butter but more margarine. We can then say that the elasticity of the demand for margarine is affected to a considerable extent by the price of butter and we can say this in other words by referring to the cross-elasticity of margarine and butter being high.

---oOo---

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SUPPLY

A. THE MEANING OF SUPPLY:

By supply is meant that quantity of a commodity or service which is offered for sale at any given moment. Since the words "at any given moment" are inserted into this definition, it automatically follows that the supply is also the quantity offered at a given price, since the term "at any given moment" excludes the possibility of price changes.

Supply, in the strict economic sense, must be distinguished from:-

(a) "supply" in the everyday sense referring to the output over a certain period; and
(b) "stock" which means the quantity in existence.

Supply in the economic sense refers only to that part of stock which is offered for sale.

B. THE LAW OF SUPPLY:

We have seen the effect of a rise in price on demand. On supply the effect is exactly opposite, ie., a rise in price is followed by an increase or expansion of supply and a fall in price by a decrease or contraction of supply.

This is because high prices mean large profits. New producers are attracted and an increase in the supply follows. When prices are low, on the other hand, diminished profits cause some entrepreneurs to cease producing and the supply decreases.

C. SUPPLY SCHEDULES AND CURVES:

Schedules and curves can be constructed in connection with supply in a manner similar to that in which they are constructed in connection with demand. The schedule would, of course, be a tabulated statement showing the various amounts of a commodity which would be forthcoming (ie., supplies) at various prices. In accordance with the law of supply it would show that with each fall in the price, the amount offered would decrease. The curve would illustrate this by rising to the right, just as the demand curve slopes downwards to the right, to indicate a decrease in demand as prices rise.

D. ELASTICITY OF SUPPLY:

Elasticity of supply is the responsiveness or sensitiveness of supply to price changes. The supply of an article is elastic when a small change in price is followed by a marked change in supply; the supply is inelastic when changes in price have comparatively little effect on supply.

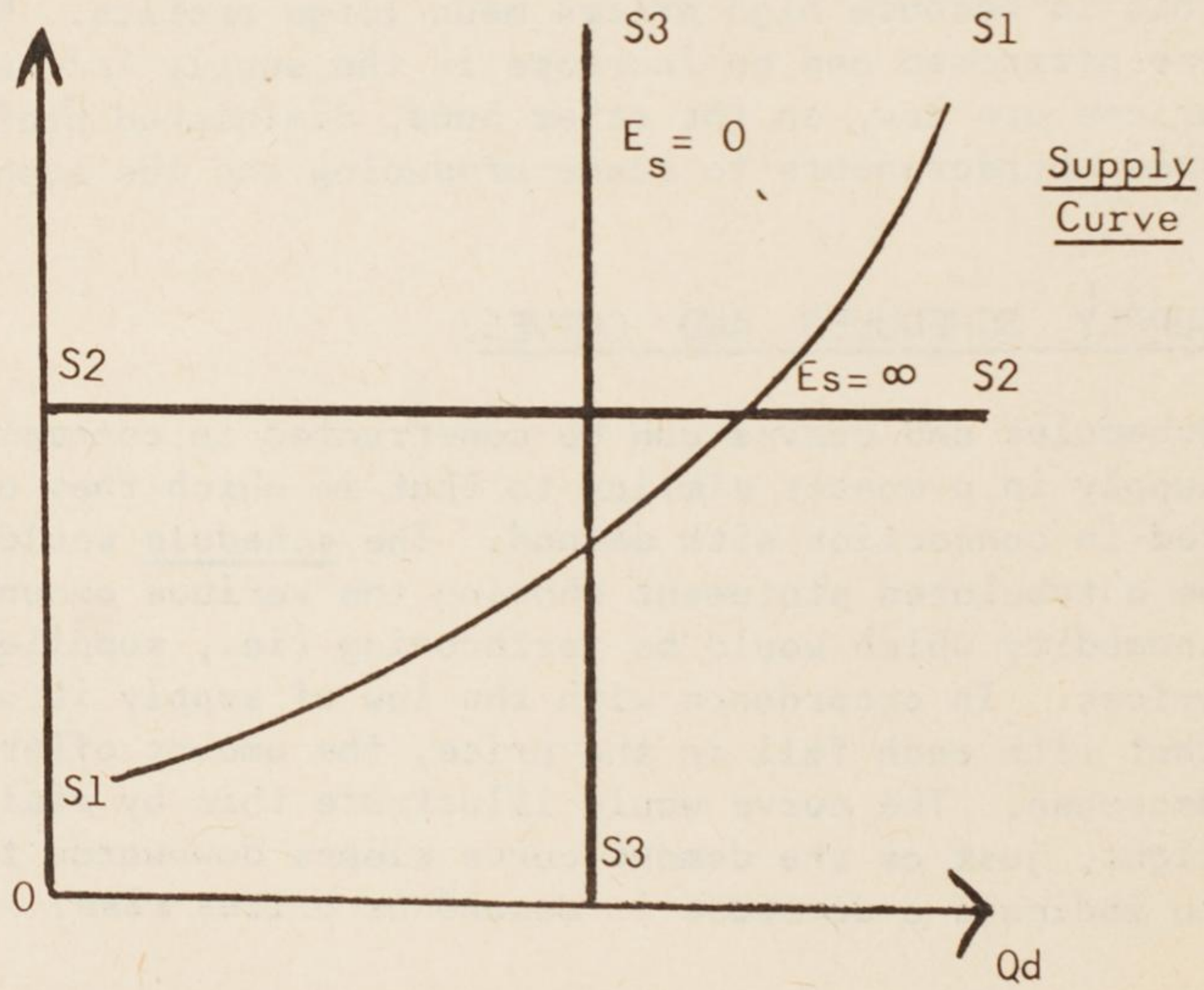
Elasticity of supply could be said to be greater or less than unity according to whether or not the total cash amount received by sellers increased or decreased as price per unit rose or fell. Similarly we would say that the less elastic the supply of a commodity, the more steeply its supply curve would rise to the right, and that an elasticity of zero would be represented by a perfectly vertical line, so:-

$$Es = \div \frac{\text{Percentage change in Qs}}{\text{Percentage change in Price}}$$

$$= \frac{\triangle Qs}{\triangle P} \times \frac{P}{Qs}$$

And Arc Es

$$= \frac{Qo - Q1}{Qo + Q1} \times \frac{Po + P1}{Po - P1}$$



Supply curve S1S1 is typical
S2S2 is perfectly elastic
S3S3 is perfectly inelastic.

Point elasticity of supply would be calculated in a similar way to point elasticity of demand, ie., by drawing a tangent to the curve at the point required.

(a) If the tangent cuts the Q axis first, the point is relatively inelastic w.r.t. supply ie., $0 < Es < 1$ (value lies between zero and one).

(b) If the tangent cuts the P axis first, the elasticity of supply at that point is relatively elastic ie., $1 < Es < \infty$ (value lies between one and infinity).

(c) If it passes through the origin, the elasticity will be unity, irrespective of the slope of the curve.

It is not the usual practice, however, to deal with elasticity of supply in this way, because the circumstances are very different from those relating to demand. Firstly, fluctuations in demand are based fundamentally on individual psychology and are the result of individual estimates which are often very vague; fluctuations in supply on the other hand are the outcome of conscious business decisions, generally based upon a scientific analysis of costs. Secondly, at any particular moment, (the moment to which the curve relates), the upward limit to supply is rigidly set by the stock of the commodity in existence; in the case of demand, the upward limit is set only by the total purchasing power in existence, and this is available for all commodities and services, not only for that represented by the demand curve. For these reasons, the concept of elasticity of supply at a particular time does not feature prominently in economic analysis. Much more important is the manner in which producers change their output policies as prices change. The behaviour of producers in this respect is explained by the Theory of Costs.

E. THE THEORY OF COSTS:

(1) The Meaning of Cost of Production:

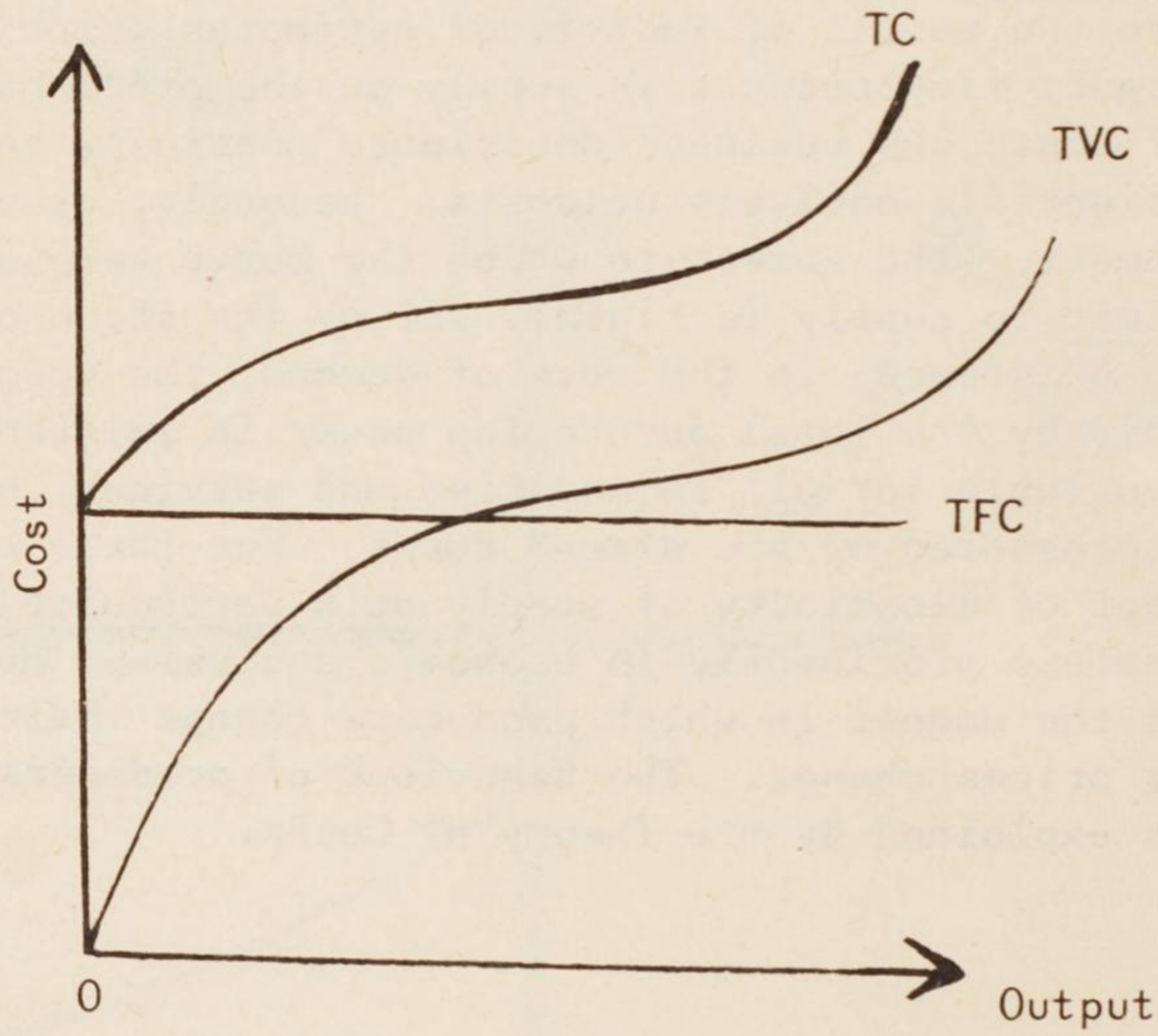
"Cost of production" includes all those charges which the producer has to incur before he can market his product. "Cost of production", however, is a very comprehensive term.

In the short run, total cost can be divided into total fixed cost and total variable cost ie.,

TC = TFC + TVC.

Fixed costs are costs incurred which do not vary when the volume of output changes. They would be incurred to the same extent whether output was zero or production was at full capacity, eg., factory rent, managing director's salary, lease commitments etc.

Variable costs vary in total amount as output increases or decreases, eg., materials, direct labour, etc.



The Total Fixed Cost Curve will of course, be horizontal because changes in output will not affect its absolute value.

Total Variable Cost curve will of necessity pass through the origin and slope upwards because:-

(a) at zero output variable costs are zero;
(b) costs will increase with increases in output.

Note specially that increasing returns to scale are exhibited by the curve (lower costs per successive unit of output), before the more usual law of diminishing returns begins to operate.

Total Cost curve naturally starts at the fixed cost level at zero output, and then rises in the same proportion as the TVC curve.

Note that the values of TC, TVC and TFC will be equal to the value of the areas under the curves.

(2) Prices, Profits and Output:

There is a close relationship between prices, profits and output. The aim of every producer is to maximise his profits. If the profit he makes on each unit sold increases (either on account of an increase in the price at which he can sell, or on account of a reduction in his costs of production) the attractively high profits will induce new producers to enter the industry concerned. On the other hand, if prices fall, those producers who are on the borderline, may go out of production. Production will not take place if it costs more than the consumer is willing to pay, but it will clearly be the least efficient firms who will be affected first by this dictum.

We must consider the effect of price movements on not only the number of firms in an industry, however, but also on the output policy of each individual firm.

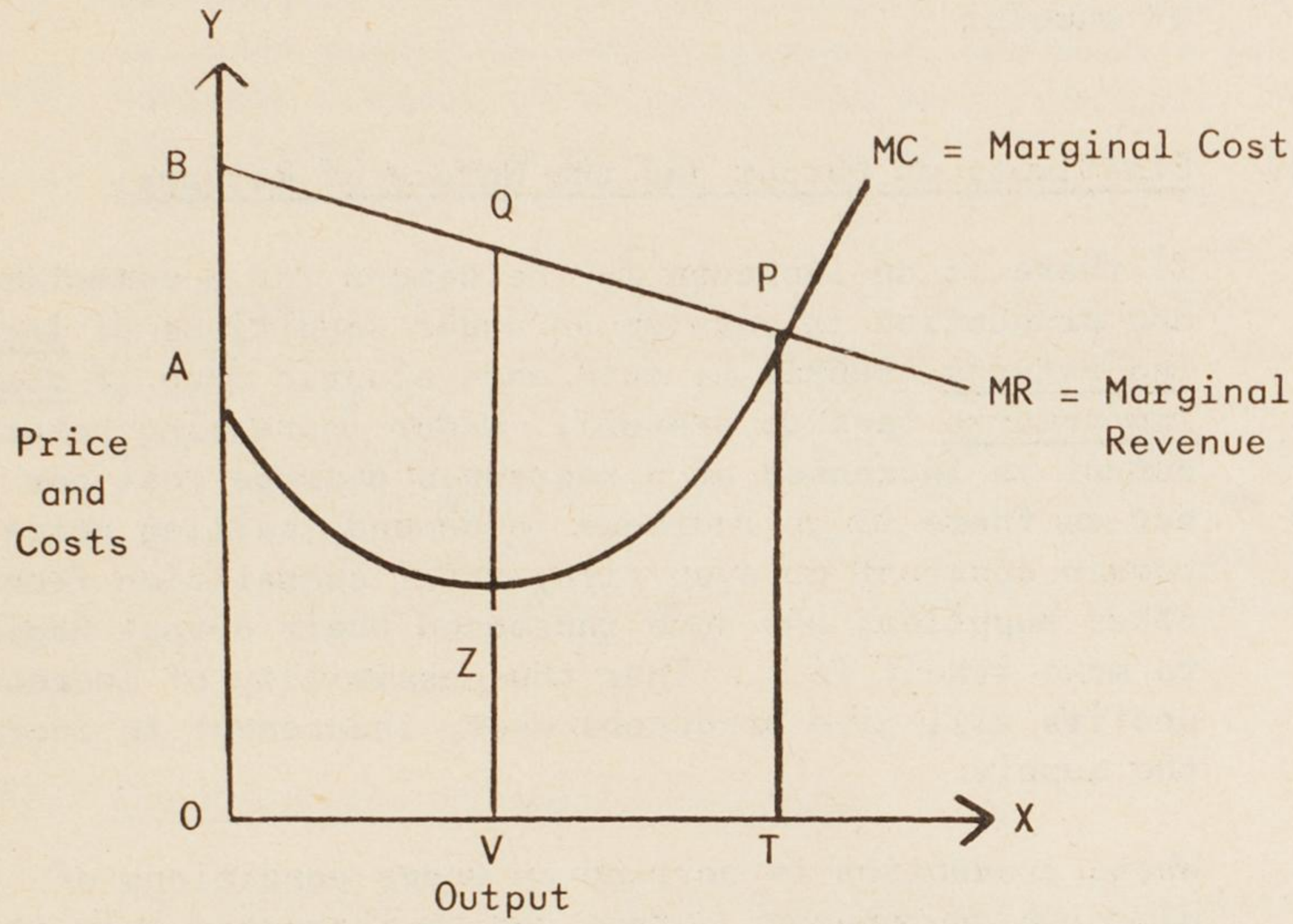
(3) Marginal Costs and Output:

If an intrepreneur could produce an additional unit of product and sell it for more than it cost him to produce it, he would naturally, in accordance with his desire to maximise profits, produce that additional unit. In fact, he will go on producing additional units until, either:-

(a) the additional supply brings down the selling price; or
(b) through the operation of diminishing returns the costs of production increase

to a point where the sale of the additional unit adds no more to total revenue than its production adds to total costs. In other words, he will try to carry production to that point where marginal cost (ie., the costs of producing the marginal unit) equals marginal revenue (ie., the income yielded by the sale of the marginal unit). The marginal cost is the difference in total cost resulting from each additional unit of output produced, ie., the additional cost of producing one additional unit of output. To ascertain it, we must take the total cost of producing, say, 100 units and deduct from this the total cost of producing 99 units. This will give us the marginal cost of the 100th unit.

Marginal revenue is the extra revenue which results from selling an extra unit of goods. The marginal revenue curve will not be identical to the price curve for the following reason - although reducing the price may enable a producer to sell, say, an additional unit then making a total sale of 100 units, he must also reduce the price of the first 99. The total drop in revenue which must be charged to the marginal unit will amount, therefore, to the price of the marginal unit less the reduction in price of the other 99. This may be diagrammatically represented as follows:-



In this diagram, the curve BMR shows that the revenue yielded by each unit falls as output is increased. The curve AMC indicates rising costs as output increases. (Compare this with the supply curve). Consequently the area <u>below</u> BMR represents <u>total revenue</u>, and the area below AMC represents total costs, and since the difference between total revenue and total costs is profit, the area between the two curves represents profits. Clearly this area (and hence profits) is greatest when the output is OT. If the output were reduced to OV, for example, profits would be reduced from BAP to BAZQ.

We are now in a position to state, then, that just as from the side of demand the price of an article tends to equal its marginal utility (or its utility to the marginal purchaser) so from the side of supply it tends to equal the marginal cost of production of the average (or "representative") firm, (or the costs incurred by the marginal firm). Whereas marginal utility continually decreases, however, marginal costs may either rise or fall according to whether decreasing or increasing returns prevail. This, therefore, is another complication

we must take into account in connection with elasticity of supply.

(4) Elasticity of Output and the Nature of Returns:

If there is an increase in the demand for a commodity and production is carried on under conditions of increasing returns, supply is much more elastic than if diminishing returns tend to prevail. Under increasing returns, output is increased at a decreased average cost per unit, but as there is an increase in demand, selling price may remain constant or even rise, until competition from other suppliers who have increased their output begins to make itself felt. Thus the possibility of increased profits will give producers every inducement to increase the supply.

Where production is carried on under conditions of diminishing returns, output can be increased only at an increased average cost per unit of output. The increase in selling price which is necessary to cover cost will then tend to counteract the increase in demand.

On the other hand, if there is a falling off in the demand for a commodity and production is carried on under conditions of decreasing returns, then supply is much more elastic than if increasing returns tend to prevail.

(5) The Time Element:

It must be stressed, however, that this concept of elasticity of supply is different from the concept of elasticity of demand. Obviously it will take some time for firms to bring about a change in their production policies, and increasing or decreasing returns can affect output only over a period. Demand, on the other hand, changes immediately in response to a change in price.

The period necessary to bring about a change in output differs from product to product. In certain cases the supply cannot be increased at all. Consider, for example,

Old Masters or rare postage stamps. In the case of these articles supply is wholly inelastic, and demand is the variable element which determines price changes. In other cases, the length of the productive process, or the amount of fixed capital involved, are the important factors. Thus, an increase in the yearly crop of wool can be achieved only by increasing the number of sheep reared, while to increase the output of rubber, new trees which will take several years to mature, must be planted. Again, the textile industries require large factories and machines and a large increase in the output of cloth could not be achieved until the required capital had been obtained and converted into suitable form.

(6) The Principle of Opportunity Cost:

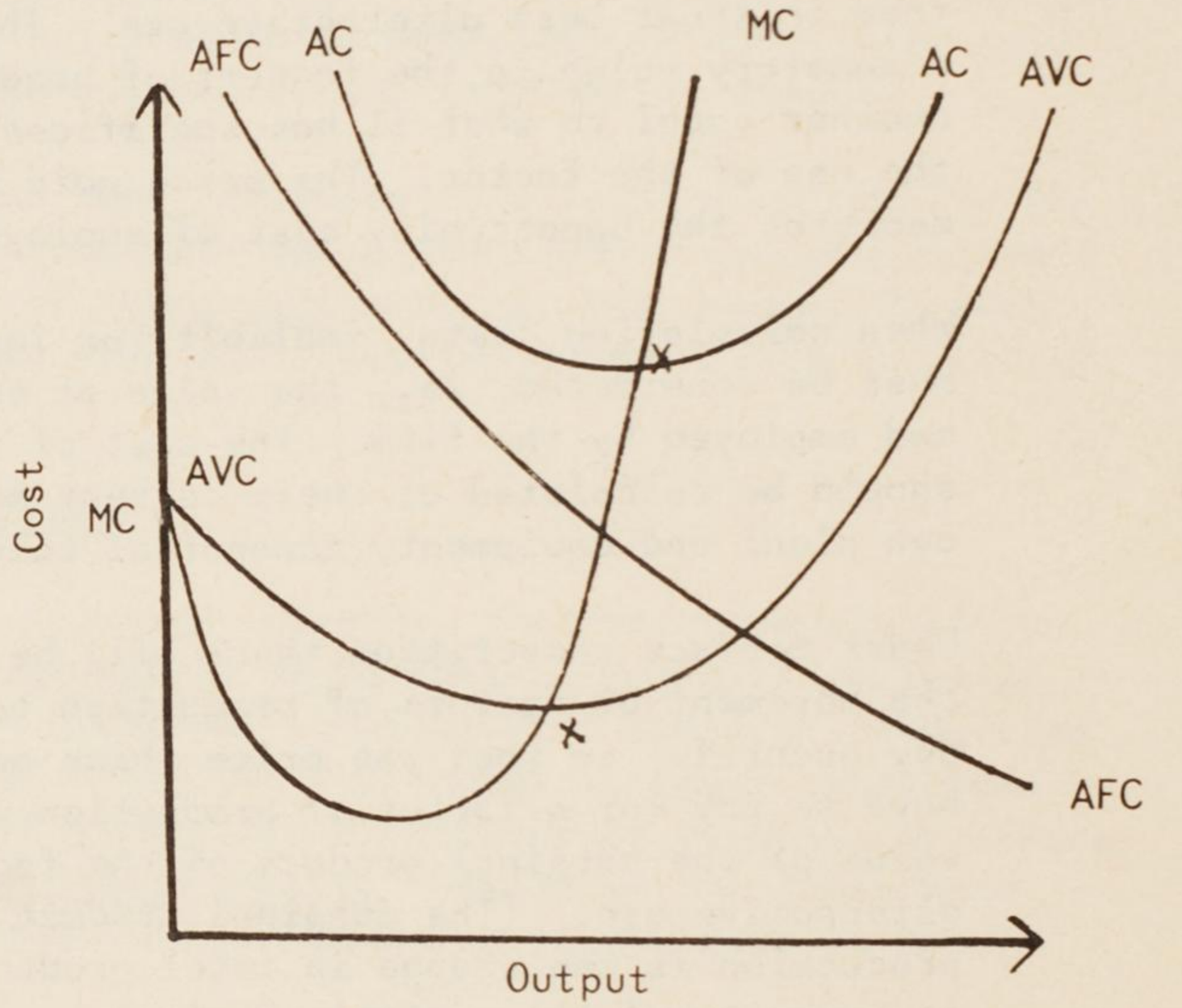
The opportunity cost of using resources in a venture is the benefit foregone (or opportunity lost) by not using them in their best alternative use. The firm will assign a monetary value to the factors of production used and another equal to what it has sacrificed in order to have the use of the factor. The price paid to the factor measures the opportunity cost of employing it.

When calculating costs, implicit (or imputed) outlays must be considered, ie., the value of resources owned and employed by the firm. The cost of these factors should be calculated at their current market price, eg., own plant and equipment, managerial talents, etc.

Under perfect competition there will be no restriction on the movement of factors of production to other uses, in any quantity, so that the price which an intrepreneur will have to pay for a factor of production will always be the value of the marginal product of the factor in its best alternative use. (The marginal product of a factor of production is the change in total product per unit change in quantity of the variable factor).

(7) Average Costs:

Average Cost = total cost divided by output. When output is low average cost will be very high because the fixed costs are shared by only a few units; indeed, when output is zero, average costs may be infinity. Average cost falls rapidly as output is increased up to the point where variable costs also begin to increase rapidly owing to difficulties of space or management, etc., and this eventually causes average cost also to rise. The average cost curve is, as a result, U - shaped and it is significant that the marginal cost curve always cuts the average cost curve at its lowest point. This is the point on the marginal cost curve where the marginal cost first exceeds the average cost; from this point onwards the marginal cost curve must also pull up the average cost curve. If you draw a curve reflecting average variable costs, the same reasoning will apply and the marginal cost curve will cut the average variable cost curve also at its lowest point.



(a) AFC curve falls as output increases.
$AFC = \frac{TFC}{Q}$

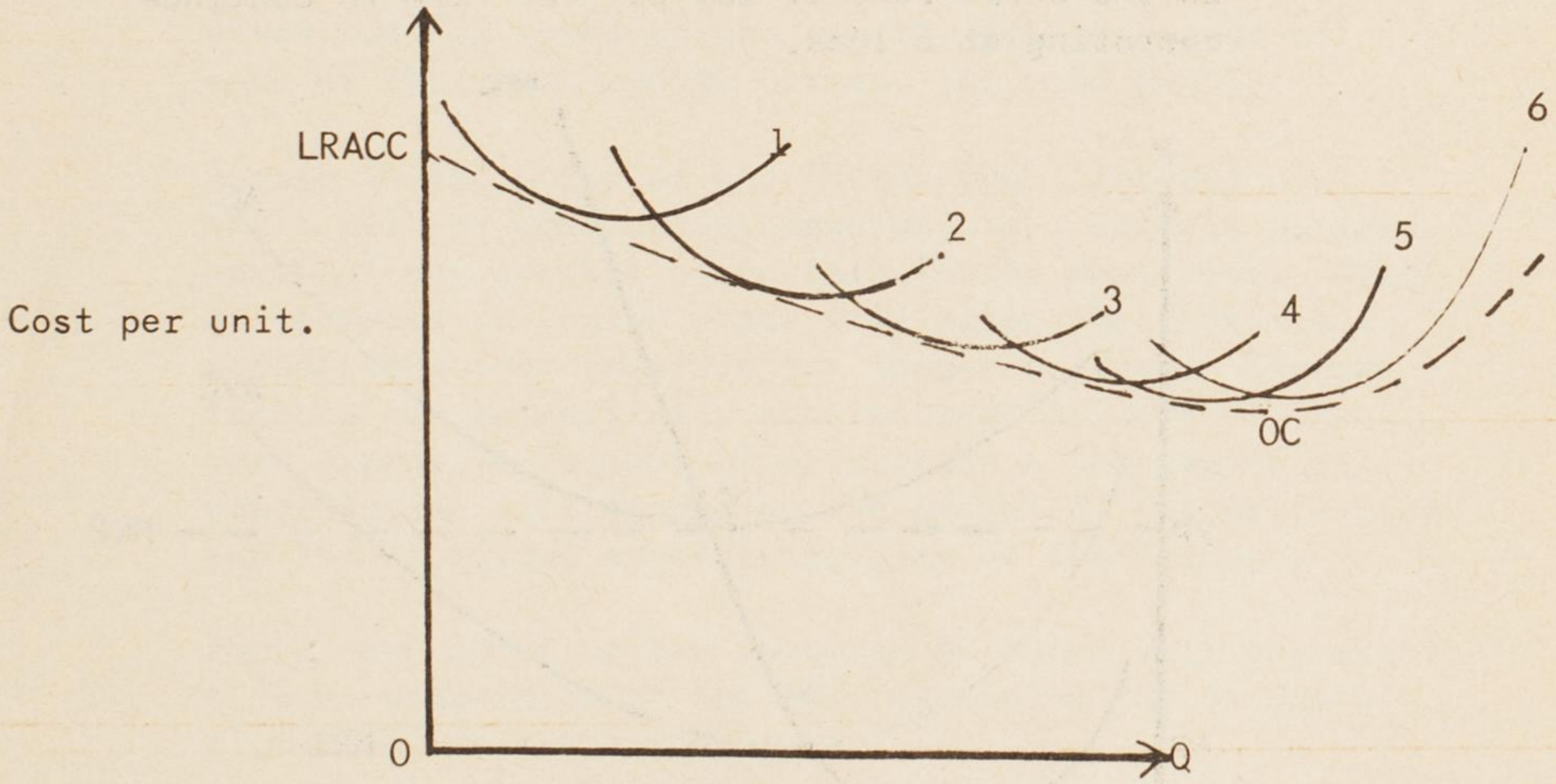
(b) MC curve falls initially and then climbs, passing through the lowest cost point of the AVC and AC curves.

(c) AVC and AC curves are U-shaped.
$AVC = \frac{TVC}{Q}$ and $ATC = \frac{TC}{Q}$ or AVC + AFC.

Note carefully where the curves begin in relation to the vertical axis.

(8) Long-Run Costs:

In the long-run, the firm will be able to vary all its factor inputs and no costs can be regarded as fixed.



(LRACC = Long-Run Average Cost Curve)

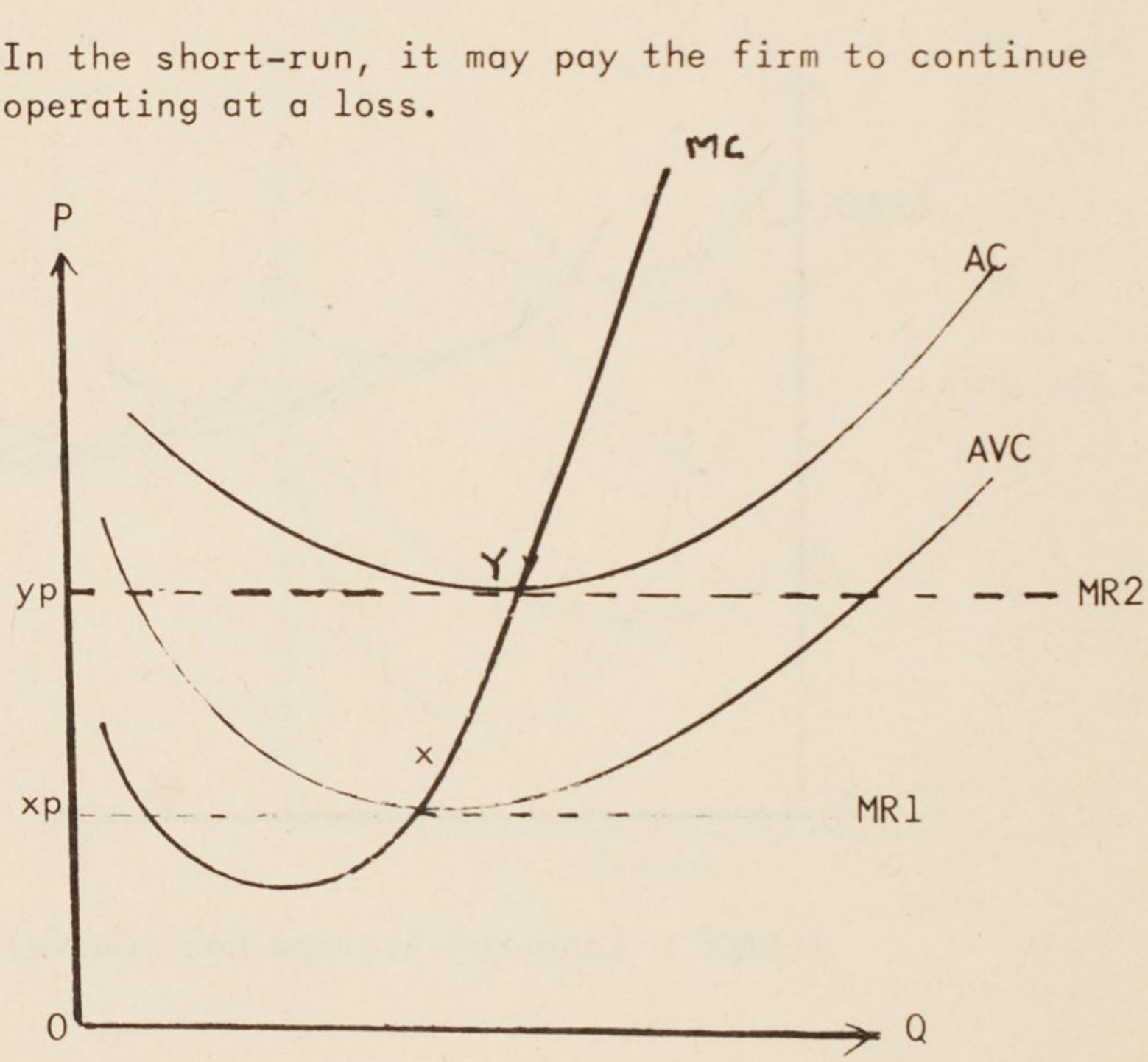
In the short-run, increased production will move the producer along his short-run average cost curve (SRACC 1 or 2 or 3 or 4 etc). In the longer term, he will alter his fixed production facilities, eg., plant; and by doing so, will move on to another SRACC, eg., 1 to 2. On the new curve, his lowest potential average cost will be lower than previously if increasing returns to scale are operating. He will in fact have moved <u>along</u> his long-run average cost curve.

The LRACC runs tangential to the lowest cost points of the SRACC's which would result as plant capacity is increased.

In the long-run, efficient firms will tend to gravitate towards point OC. Beyond this, increased plant size may be subject to decreasing returns to scale (diseconomies of scale).

In the long-run, it will be necessary for firms to cover <u>all</u> costs in order to survive - this is logical.

In the short-run, it may pay the firm to continue operating at a loss.



x = shut-down point. If a price below this level must be charged, the firm will close down. At xp the firm is at least covering its average variable costs and, in the short-run, will usually be able to continue operating. At any point above x, some contribution is made towards fixed cost. Hence, the losses will be less than if the firm was to close completely (on the assumption that, in the short-run, fixed costs are incurred whether production takes place or not). Production will therefore, continue.

y = break-even point. All costs (including normal profit, interest, wages and rent) will be covered. This will be the long-term equilibrium point for this scale of operation. No abnormal profits (if price exceeded yp) or abnormal losses would be incurred.

The Law of Variable Proportions:

This states that for a given level of output, an optimal proportion of factors exists which will give the lowest average costs per unit.

These optimal combinations are the lowest points of each of the short-run AC curves, ie., the LRACC.

A rise in the price of any factor (eg., labour) will shift all the cost curves upwards, ie., ceteris paribus, costs of any product using this factor must rise. Such an increase in factor price will alter the least-cost proportions that underlie the long-run curve. Cheaper factors may be partially substituted for some of the more expensive factors of production - the degree of substitution will depend on the extent of the price rise and the technical substitutability of the factors.

Hence each point on the long-run AC curve will represent a lower proportion of the more expensive factor and a higher of its substitutes.

(9) Increasing returns to scale may be a result of:-

(a) increased specialisation of labour as production

increases;
(b) better utilisation of top-management;
(c) better productive equipment;
(d) better use of by-products;
(e) spreading of risks;
(f) economies of increased dimensions.

Diseconomies are largely associated with the managerial problems of large scale firms. Problems of delegation and co-ordination develop.

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S U M M A R Y.

SUPPLY:

Supply = the quantity of goods that would be sold at a given price. (Distinguish from stock).

The Law of Supply = Rising prices tend to increase supply, falling prices tend to reduce it (ie., the converse of the Law of Demand).

The concept of elasticity could be applied to supply in the same way as to demand, but since in the case of supply it is changes over a period which are important, more attention is usually given to the effects of changing costs on output than to the effects of changing prices on sales.

Cost of Production includes = Variable Costs, ie., materials and labour and any other expense that can be definitely attributed to the given piece of work.

= Fixed Costs, ie., those costs which are incurred whether production is taking place or not.

From the side of supply, price tends to equal marginal cost. This will be a price at which the average firm just makes normal profits, and at which the marginal firm, ie., the firm which can only just exist, just covers its costs of production. The nature of costs

(increasing or decreasing), capital requirements, and the length of the productive process all affect the elasticity of output. In some cases supply (ie., stock) is rigidly fixed.

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LIKELY EXAMINATION QUESTIONS:

1. Discuss and illustrate diagramatically the concept of elasticity of supply. (Use wheat and motor cars for examples).

2. In the short-term there are two types of costs - fixed and variable. Distinguish between them and illustrate graphically. Explain the shape of the curves.

3. Explain in detail the concepts of marginal costs and marginal revenue.

4. Explain the calculation of average costs and illustrate graphically.

5. Discuss all the relationships between AC, AVC, MC and ATC with the aid of a graph.

6. What is opportunity cost? Give an example.

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ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

This question is well-covered in the notes. It also requires you to give an account of elasticity of supply, making use of the products mentioned for purposes of illustration. First of all, you should explain the special circumstances which make it desirable to treat elasticity of supply on a different basis from elasticity of demand. Then proceed to point out that in the case of supply it is the period of time which must elapse before output can be changed and the effect upon unit costs such a change will have, which are the

important factors. The output of wheat cannot be changed (by policy) of course, in less than twelve months where there is only one crop a year (and this is usual). In this instance, however, vagaries of nature also play an important part. Assembly lines in an automobile factory, on the other hand, can be extended or shortened in a matter of months and the actual change in output can be accurately calculated. Unless there are great expanses of untilled land adjacent to that which is already under wheat, an increase in the crop will most probably be at the expense of increasing unit costs, but the output of motor-cars will generally be subject to diminishing costs, ie., increasing returns.

QUESTIONS 2 - 5:

Are well-covered by the notes.

QUESTION 6:

In addition to what is provided in the notes:- for example, the opportunity cost of using an owner/manager's capital would be the return obtainable if invested in its best alternative use elsewhere.

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THE DETERMINATION OF PRICE.

A. EARLY THEORIES OF VALUE:

Early economists maintained that an article had value because labour was used in its production. This was known as the Labour Theory of Value. It was not long before it was disproved. If it were true, then a rare postage stamp could not be worth any more than a used current stamp.

Improvements on the Labour Theory were made by later economists who made allowances for contributions made to the product by factors other than labour. They introduced, in other words, a Cost of Production theory of value and claimed that the higher the costs of production, the greater the value of the product. This theory, however, failed to explain why a diamond picked up (with very little effort) in a river bed should have a greater value than a tailored suit on which hours of work had been spent.

B. THE UTILITY THEORY OF VALUE:

The Cost of Production Theory of Value, which clearly disregarded any relationship between demand and price, held sway until about half-way through the nineteenth century. In the second half of the nineteenth century, economists began to realise that the force of demand must receive some consideration as an influence on value. Some of them went so far as to say that utility, the basis of demand, was the dominant factor in the determination of price. It is perfectly true that demand is the stimulating force and that production will not be undertaken in the absence of a demand, actual or anticipated; but a moment's reflection will show that a theory of prices working from the side of demand only is open to just as much criticism as one which works only from the side of supply. To say that price depends on utility without any references to cost would not be consistent with facts. For example, water is indispensable to existence, its total utility is enormous, yet its price is almost negligible. On the other hand, the utility of a painting by Rembrandt is apparently small, but its price may ransom a king. This "paradox of value", whereby a thing with a high "use value" (utility) may have a low "exchange value" (price), and vice versa, puzzled many generations of economists, for neither the cost theory nor the utility theory offered a satisfactory solution.

C. THE CONCEPT OF THE MARGIN:

Perhaps the greatest advance in price theory came from the introduction of the concept of the margin. The economists who first did this are known as the Austrian School; many of them were Austrians (including three outstanding leaders, namely Menger, von Wieser and Böhm-Bawerk), but not all. Jevons (in England) and Walras (in Switzerland) are also recognised as forerunners of the Austrian School.

The Austrian School accepted that value springs essentially from utility, but added two important refinements:-

(1) Value is determined at the margin. This is the point where the consumer discontinues adding to his stock - at the point at which, because he already has a stock of several units and is reaching saturation point, utility has diminished. Taking price as given, eg., 15c, we may say the consumer aims to get the same utility from 15c, whatever he spends it on. If he buys half a litre of beer at 15c (having perhaps bought 2 litres already at the same price) and half a loaf of bread at 15c, we may deduce that beer and bread each give him the same utility at this point, ie., they have the same value to him. Alternatively, having bought two litres of beer, he may decide that a fifth half-litre would have less utility to him than some other purchases costing 15c, eg. a hamburger!

(2) Agents of production are utilised to produce goods because the goods have value. They do not derive their value from the costs of these agents of production. The well known example of this was quoted by Archbishop Whitely some years before the Austrian School came into being. He said that pearls are not valuable because men have to dive for them. Men dive for them because they are valuable.

D. THE MODERN THEORY OF VALUE:

The Theory of Value which is accepted today is one which takes into account the forces of both supply and demand. It is known as the Marginal Utility Theory of Value and states that the point of coincidence between the marginal utility and the

marginal costs, both as measured in terms of money, indicates the price. That is to say, the price of anything at any given time is determined by demand relative to supply. The price is not "governed" either by marginal utility or by marginal costs working alone; it is merely measured by the point of equilibrium of the two forces, the point where the marginal utility force equals or neutralises the marginal costs force.

We may say, therefore, that price is determined by the interplay of both demand and supply and represents the point at which buyers and sellers "come together". This statement, however, does not give us very much information and it is necessary to examine the interaction of demand and supply a little more closely.

E. EQUILIBRIUM PRICE:

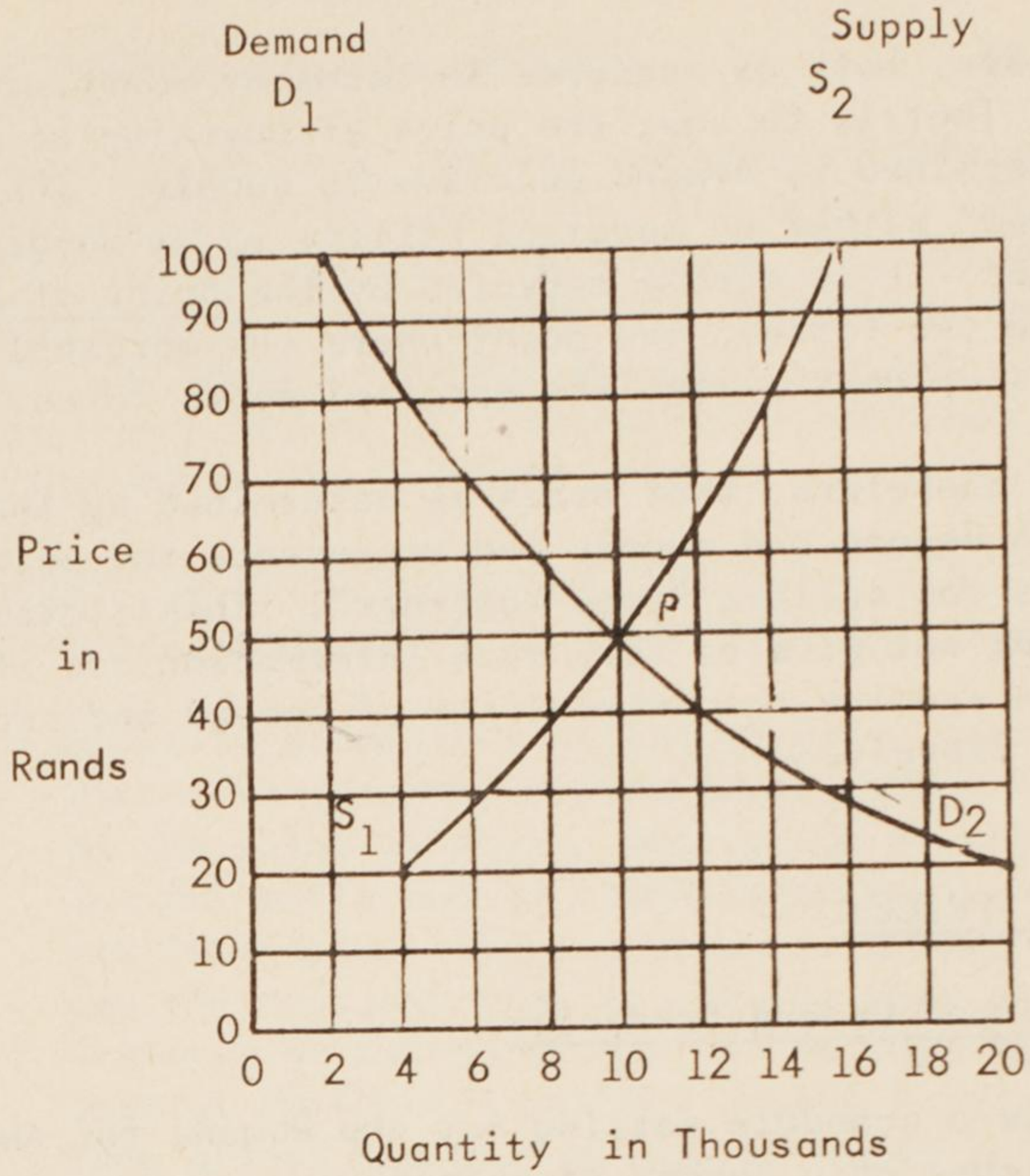
(1) Supply and Demand Schedules:

Here is a schedule setting out the demand for, and supply of, watches at a number of prices:-

Price (Rands)	Demand	Supply
20	21 000	4 000
30	16 000	6 500
40	12 000	8 600
50	10 000	10 000
60	7 500	12 000
70	5 800	13 000
80	4 000	14 400
90	2 900	15 100
100	2 000	16 000

(2) Supply and Demand Curves:

This combined schedule can be illustrated graphically by superimposing both demand and supply curves on one diagram, as follows:-



The point P, at which supply and demand curves intersect, is the point of equilibrium at which the quantity demanded is equal to the quantity supplied. Watches will tend to be sold for R50, because at this price the quantity demanded (10 000) is equal to the quantity supplied.

Let us consider why the price should be fixed at this amount. Well, suppose the watch were being sold at R40, then at that price there would be 12 000 buyers but only 8 000 willing to sell. Not all the purchasers could be satisfied and the competition among buyers would force prices up. Suppose the price goes up to R60. At that price, more sellers come into the market to obtain the benefit of the increased profit but the rise in price has checked the demand. The result is that at R60 there are 12 000 watches for sale, but only 7 500 wanted. At this price then, all those who are prepared to sell at R60 will not get rid of their watches.

Eventually, therefore, the price will be fixed at R50, for at that figure 10 000 watches are offered and 10 000 are wanted. The whole supply will be taken at that price.

This first survey makes it clear that supply and demand are of equal importance in the determination of prices. We must now pay some attention to the time factor, which, as we have already seen, is an important element on the supply side.

F. THE TIME FACTOR:

We must now consider the differences in the application of the theory of value at one particular time and over a period, dealing first with a long period and then with a short period.

(1) Market Price:

Market Price is the price prevailing at any moment, and represents an equilibrium between demand and supply. This price may vary from day to day with changes in demand and supply. It is the price indicated by the curves in the diagram on page 4 of this Lecture, the fact that these represent conditions existing at any particular moment being understood.

A distinction may be drawn between perishable and durable commodities.

In the case of perishable commodities like fish and fruit it is particularly important that sellers should adjust the price so that the whole supply is disposed of, otherwise the amount left over will probably be a complete loss. If, therefore, the supply is large and the demand small the market price will be low. The prices of perishables are liable to constant changes.

The prices of more durable goods are not likely to fluctuate to the same extent, since sellers can afford to wait and will not necessarily have to dispose of the whole supply immediately. The durability of the commodity has, in other words, a marked effect on Sellers' demands.

The prices of fashionable and seasonable goods, however, like summer hats and tennis racquets, are liable to fluctuations in the same way as those of perishable commodities.

You will notice that as yet we have not mentioned cost of production as an element in price. It is, as we have already seen, a very important factor, but I want you to note that so far we have been dealing with <u>market</u> price, that is, the price prevailing on the market at any given moment. At any one time cost of production is not a determining factor, especially where, as we have seen, the goods are perishable or seasonable. As Professor Jones says, "The cost at which the supply was produced is not a factor <u>immediately</u> relevant to the issue". The cost to the seller is not going to influence the action of the buyer, who is concerned solely with the marginal utility of the purchase to him.

(2) <u>Normal Price</u>:

<u>Normal</u> price is the price to which the market price tends to return over a long period. In considering Normal Price, we must distinguish between Long and Short Periods.

(a) <u>Short Period</u>:

Market Price, as we saw, is determined by the relation of demand to supply. This price may be either above or below <u>cost</u> of production. If it is much above, then producers will endeavour to increase their output to take advantage of the high price.

Now during a short period, production can be increased only by more intensive use of the existing machinery and labour. Over a short period the technical equipment of a factory cannot be increased.

If, then, an increase in price takes place, supply can be increased only by a more intensive use of the existing capital and labour. Such work is expensive .. overtime rates are above the normal

rates and then again, an increase in the number of hours worked is usually followed by fatigue and a decrease in efficiency. An increase in output also increases the wear and tear on the machinery. Finally, the increased demand for raw materials may have increased their price.

In view of all this, the cost of producing the extra supply will be greater than the cost of producing the normal supply.

Now we have already seen that producers will not add to the supply unless the price at which an additional unit can be sold is at least equal to the costs entailed in producing that additional unit. This is in accordance with the marginal cost conception. It follows, therefore, that to induce producers to make a more intensive use of the factors of production employed by them, market price will have to increase by a certain minimum margin.
N.B.: In the short term, in other words, producers are producing subject to increasing marginal costs.

(b) Long Periods:

We have now to consider normal price over a long period. By long period we mean a period long enough not only for supply to be adjusted to demand but also for the equipment and appliances of production to be altered in accordance with changes, or rather anticipated changes, in demand. The length of the period varies with the industry.

This time, we have to take into account whether production takes place subject to increasing or diminishing returns.

If production is subject to diminishing returns, then additional output can be obtained only at an increased cost and the conclusions we drew regarding short periods will apply in this case as well. There will have to be not only a considerable rise

in market prices, but also one which is expected to be relatively permanent.

If production is subject to <u>increasing</u> returns, an increase in the scale of production will result in a lowering of the unit cost of production. An increase in demand will, therefore, result in cheaper supplies, and prices in the long run will tend to fall.

Since economic progress is continually being made, this is the state of affairs which is usually found in practice. With every improvement in the methods of production, costs fall. Prices may at first remain unchanged, but when the increased profits bring new producers into the industry, competition may force prices down.

This chain of events accounts for the statement which is often made in books on economics - that the present <u>lowest</u> costs of production tend to become the future <u>highest</u> costs.

Perhaps this will be clearer if we suppose that all firms are divisible into three classes, 1, 2 and 3. Class 1 consists of the most efficient firms whose costs of production are lowest. Class 2 consists of average firms and Class 3 of the marginal firm whose costs of production are highest. If the costs are respectively, say, R8, R9 and R10 per unit, then even if demand remains constant, improvements in methods of production, which are always taking place, will result in a lowering of these costs. Firms in Class 3 producing at R10 (which was formerly the marginal cost) are gradually forced out of competition and the marginal cost becomes R9 (Class B), and will ultimately tend to R8 per unit.

Our conclusion, then, is that present prices circulate around present highest costs and future prices will circulate around present lowest costs, which will then be the highest costs.

(c) Conclusions:

(i) While supply and demand at all times interact to determine price, the intensity of these two forces varies with the length of the period. At any moment supply is more or less fixed, and demand (marginal utility) is then the great factor. Over a period supply can be adjusted to demand and supply (marginal cost) then becomes the chief determinant. Over a long period the nature of the returns must also be taken into consideration.

(ii) The normal price of an article may be stated to be the price which is produced by the normal action of economic forces on both the demand and the supply side. Although it is the price towards which market price will always tend, however, it may never actually be reached, because before these forces have had time to work themselves out to a logical conclusion, a new set of conditions may have developed in the market. Normal price is an ideal price rather than an actual one.

(iii) There is no hard and sharp line of division between "long" and "short" periods. Four classes stand out and it is useful to classify the problems of value by the periods to which they refer. In each, price is governed by the relations between demand and supply. The four classes are:-

1. Problems of market prices; supply is taken to mean the stock of commodity on hand, or "in sight".
2. Problems of normal prices, as regards short periods. Supply here means, what can be produced with factors, the supply of which cannot vary.
3. Problems of normal prices, as regards

long periods. Supply here means what can be produced where there is sufficient time for production to vary.

4. Problems of the secular movements of the normal price, caused by the changing conditions of demand and supply from one generation to another.

G. THEORY AND PRACTICE:

Our theoretical conclusion is that, under competitive conditions price will always tend to settle at the equilibrium level, ie., at a level which equates the quantity of commodity demanded with the quantity supplied. In practice, it may be difficult to see the working of this theory, because:-

(1) Business men tend to rely upon costs to provide them with the answers to their pricing problems. The demand aspect is there, however, and should not be neglected. Market research is necessary to bring in to the entrepreneur information about the nature of the demand for his products.

(2) Prices may have been influenced by Government policy. Thus production may have been curtailed, or output destroyed, in order to raise or "stabilise" prices, or a maximum price may have been fixed for the product. When a Government controls the output, however, the law of supply and demand has not been violated; the Government is obtaining its objective by working through the law of supply and demand. When prices are fixed at a maximum level, however, then the working of the price mechanism has been obstructed. When this happens then it is non-market considerations which determine who shall be buyers and sellers.

(3) There are a few commodities which are purchased purely because they are expensive. Indeed, the demand may fall off if the price is reduced. Items such as jewellery, fashionable goods and wines may be valued because "their price tag shows all over them".

(4) There may be conditions of absolute or semi-monopoly. A public utility such as the railways tries to fix its prices generally speaking at a level which will give it a "fair" return on the invested capital.

(5) A firm which produces a variety of products, or the same product in a variety of sizes, cannot analyse separately the effects of demand for each product or size of product. Thus, a shoe factory will price the different shoe sizes strictly in accordance with their relative costs of production.

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S U M M A R Y.

THE DETERMINATION OF PRICE:

The early theories of value, the Labour Theory and the Cost of Production Theory, were replaced in the middle of the nineteenth century by the Utility Theory. The former overlooked the importance of demand and the latter gave demand too much emphasis. The modern theory, the Marginal Utility Theory, takes both demand and supply into account; it says that the point of coincidence between the marginal utility and the marginal costs, both as measured in terms of money, indicates the price.

In the determination of price, the time factor is an important one. Thus, in analysing the effects of a change in demand, the following possibilities must be borne in mind:-

(1) At the moment, the supply cannot be altered.

A rise in demand causes a rise in price, and a fall in demand causes a fall in price.

The explanation of this is straightforward; a rise in demand means that people will take more at the old price; and accordingly if the old price were to remain undisturbed, there would be unsatisfied demands; the competition of buyers raises the price.

(2) Over a short period a rise in demand results in a rise in price because existing plant has to be used more intensively and a fall in demand results in a reduction in price, particularly where the commodity is not of a durable character, or where it is subject to the vagaries of fashion and consequently cannot be kept back for a future market.

(3) Over a long period one has to consider whether the commodity is produced under increasing or diminishing returns.

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LIKELY EXAMINATION QUESTIONS:

1. Write notes on the following:-

   (a) Market supply.
   (b) Stock.
   (c) Actual and possible demand.

   What is the difference between actual and possible demand, and what influence has stock on market supply and price?

2. "Value can never exist unless scarcity and demand are co-present". Do you agree with this statement? Give reasons.

3. Show the importance of the analysis of demand in relation to the theory of value. How is it that value cannot be explained entirely from the supply side?

4. What considerations affect the determination of prices in the long run which are absent from the determination of prices at any given moment?

5. "The distinction between fixed and variable costs is a short period distinction" (Benham). Explain this statement.

6. "The pricing system is designed to ensure a rational distribution of scarce resources". Comment.

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ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

(a) Market Supply: This means nothing more than "supply" as defined in these Lectures.

(b) Stock is the amount of a commodity already in existence and which would be available for sale if the price offered became sufficiently attractive.

(c) Actual and possible demand. The actual demand for a commodity may be measured by the amount of the commodity which can be sold to purchasers at the price actually obtaining in the market. Possible demand is the amount which might be taken up by purchasers if the actual price changes to some different price.

The future supply of a commodity is influenced by the anticipated future demand for the commodity and the estimated future cost of production. Stocks already in existence will be taken into consideration. If available stocks are so high that prices are likely to fall, a producer will probably wait until the existing stocks have been partly exhausted; so that the rise in price which will follow (assuming demand remains constant) will make it more profitable for him to produce further supplies at current costs of production.

In the case of perishable commodities, existing stocks have very little effect on price, because they must be sold within a short time at any price. For example, during the Cape grape season there may be a glut of grapes. Six months later, the price of grapes in the Cape may be six times as high, but no supplies may be available because it is impossible to keep back supplies from the market to obtain a better price. Price is, therefore, influenced mainly by demand.

There are other commodities which, owing to their nature, are consumed only to a small extent, and of which the stock is, therefore, continually increasing as long as production is taking place. Gold and diamonds are examples of such commodities. In these cases, supplies may be held back from the market so that the price may be controlled, and the largest amount gained from sales over a long period.

QUESTION 2:

No objection to this statement can be raised if the word "scarcity" is used in the purely economic sense, namely to indicate that the amount in existence does not exceed the amount that people can consume. If scarcity in this sense is present, then value will emerge, if an effective demand is present too. Thus, there will be no value attached to a commodity which is so scarce that nobody is in a position to obtain it.

For examination purposes, you should discuss the significance of economic scarcity fully and then explain the part played by demand in the determination of value in order to answer this question.

QUESTION 3:

Although supply must be taken into account in explaining the determination of price (since goods will not be consistently sold for less than their cost of production), value cannot be explained entirely from the supply side; a theory which attempted to explain solely from the supply side would not explain, for example:-

(a) Why commodities provided by nature have value, eg., guano deposited by sea birds. These commodities have value because they satisfy a want which is more prevalent than the supply. In other words, the presence of a demand gives them a scarcity value.

(b) Misdirected labour. If, for instance, I were to expend considerable labour in writing a book on some obscure subject and my publisher incurred a wage bill in having it published, could I possibly claim that although nobody wanted the book, (ie., there was no demand for it) it had value because supply costs had been incurred. Obviously not. As long as a thing

is not desired, no value could possibly attach to it.

(c) The value of a thing may change after it has been produced. Fashion changes may give an article a temporary scarcity value. Here again value depends largely on demand.

Recognition of the fact that demand as well as supply played an important part in the determination of price led economists to develop value theories based on utility. Some went so far as to say that utility, the basis of demand, was the dominant factor. Although economists soon realised that a theory of prices working from the side of demand only is open to just as much criticism as one which works only from the side of supply, further analysis of demand in relation to the theory of value led to the development of the theories of total and marginal utility.

Still further analysis of demand necessitated a new consideration of the effect of costs on price and division into long and short period effects. This led to an appreciation of the full significance of demand, making possible an explanation of the fact that many of the essentials of life have very low market prices.

Value cannot be explained entirely from the side of supply because sellers can obtain no more than buyers are prepared to give for their goods and services. The quantity sold depends, therefore, on the intensity of the effective demand. To formulate a complete explanation of the determination of value it is, therefore, necessary to examine what determines how much the consumer will buy and what he will be prepared to pay, so that total and marginal utility will have to be taken into account.

QUESTION 4:

To answer this question fully you must give an account of:-

Fixed and variable cost: ie., costs which go on unchanged whatever the output and costs, which vary as output varies. Fixed costs are sometimes referred to as overheads.

Marginal costs: ie., the cost of producing an additional unit of output. There will be no element of overheads in marginal cost because these go on unchanged, regardless of output.

In the long run, the entrepreneur must recover all costs, fixed and variable, because eventually he will have to replace his plant and machinery. In the short run he will be satisfied if price covers marginal cost only.

Here is a full answer to Question 5 which tackles the same problem from the other side.

QUESTION 5:

Fixed costs are those which do not vary with the size of the firm's output, and variable costs are those which do.

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Items of capital expenditure like land and plant and machinery form part of the producer's fixed costs - which do not increase, or diminish should he decide to increase or decrease his production. Variable costs, on the other hand, comprise such expenditure as that on raw materials to be processed, labour and electric power, which do increase or diminish, should he decide to increase or reduce the amount of his production.

The purpose of making the distinction between these two elements of cost is to explain the fact that increases in supply often result in increased costs per unit; while expenditure on wages and materials increases, the cost per unit increases because the fixed costs like plant and machinery remain stationary, more and more units of labour and materials being applied to the same amount of capital. It is the Law of Diminishing Returns which Ricardo explained and which he believed was a peculiarity of agricultural production.

Should demand for the product decline, then provided the variable costs are covered, production will continue and the articles will be sold at a cost lower than that of production, because expenses like depreciation on machinery are ignored.

But, as Benham points out, the distinction between fixed and variable costs is a short-period one. Even if plant and machinery cannot be increased immediately, they can eventually; and over the long period more machinery will be installed, the law of diminishing returns will cease to operate and cost per unit will decrease, other things

being equal, to at least its former level. In other words, fixed costs will vary with the output of the firm, but only over a long period.

Similarly, should demand wither, though production may continue for a while, the time will come when a machine will be completely worn out and it will not be replaced. Here, again, fixed costs will vary with production over the long period.

The proportion which fixed costs bears to variable costs is, of course, important in connection with the concept of elasticity of supply. If the proportion of fixed costs is large, supply cannot be readily adjusted and the supply is inelastic. If, however, variable costs form the greater part of expenditure, supply can be more easily adjusted and the supply is elastic. It is, however, a distinction more of degree than of principle, for over a sufficiently long period all expenses are variable.

The distinction between fixed and variable costs is also important where the effects of sudden changes in demand have to be estimated. If demand increases, the producers of the article become temporary monopolists and reap a windfall profit while the fixed capital is produced; if demand falls off the consumers gain a temporary advantage until production is stopped altogether.

QUESTION 6:

We know that a consumer has limited resources which he aims to use in the manner which will give him the maximum satisfaction. Similarly, the producer aims to use his resources in a manner which will give him the maximum profit. In each case, there is the basic economic problem of the distribution of scarce means between alternative ends.

In a free economy, ie., where competition is not restricted by monopoly, or where there are no artificial controls imposed on prices and production, the price system enables this distribution of scarce resources to alternative ends to be made in a rational and satisfactory manner. The consumer, by making his choices, brings into being the pattern of consumer demand which in a competitive market influences output. From this demand for consumer goods is derived the demand for factors of production, but entrepreneurs will purchase these factors of production only up to the

point where their use remains profitable. This is another way of saying that the entrepreneurs distribute their resources among the various factors of production in the manner and combination which proves the most profitable. A farmer, for example, is able to measure the relative profitability of portions of land which he is using in one case for growing pineapples and in the other case for grazing cattle, by comparing the prices he receives for the products, ie., pineapples and dairy products. By considering these prices and the cost of the land (in units of area) which he is using for the two different purposes, he can decide whether it will be profitable for him to change some land over from dairy products to pineapples, or vice versa.

The final consumer is concerned with relating his personal preferences to the assortment of goods and services which are available for him to buy; and in converting his preferences into money terms as represented by market prices, he cannot achieve a high degree of accuracy. To the best of his ability, however, he makes a rational distribution of income. He bases his decisions on non-exact psychological reactions allied to his incomplete knowledge of the market. The producer, on the other hand has to consider the cost of the factors he uses as well as the prices he receives for his products, but these are considerations which can be accurately measured (we usually say that they are objective factors) and we can expect his distribution of resources to be completely rational.

In practice, there may be factors other than ignorance or faulty estimates on the part of consumers which prevent the price system from distributing goods and resources in a manner which gives the maximum satisfaction. Monopoly may result in prices getting out of line with costs, or prices may be controlled by the State in the interests of general economic policy.

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MARKETS.

A. MEANING OF THE TERM "MARKET":

Popularly conceived, a market is a place where people meet to exchange their wares. The exchange of goods, therefore, implies a market. The origin of markets can be traced to that particular stage in economic development when Man began to specialise in production of those goods for which he was most suited. In order that specialisation may exist, it is necessary that other goods which are needed may be had by exchange.

The fundamental condition for the existence of a market is that sellers should be in touch with buyers and buyers with sellers, because it is only thus that a basis for exchange can arise. Isolation of buyers and sellers would hinder exchange by resulting in inadequate knowledge of each other's intentions and actions.

It is not essential that the goods being marketed should be concentrated at a particular point for, with modern methods of standardisation of products, certain types of goods (eg., raw cotton, maize and wheat) can be bought by merely quoting the grade required. The main essential of a market is, then, not the place where the goods are bought and sold, but the contact that is established between buyers and sellers. With the development of communications, business contacts have been facilitated to such an extent that some markets are, for all practical purposes, world-wide.

B. THE PERFECT MARKET:

A perfect market is one in which, ceteris paribus, there is at any given moment only one price for identical goods. For perfect competition to exist, certain conditions must prevail:-

(1) Commodities must be perfectly homogenous, ie., each unit must be accepted by buyers as identical.

(2) There must be a large enough number of sellers for the action of one individual seller not to affect price.

(3) There must be a large enough number of buyers for the action of one individual buyer not to affect price.

(4) There must be complete freedom of buying and selling in the market.

(5) There must be perfect knowledge on the part of buyers and sellers.

(6) There must be free mobility of factors of production.

(7) There must be no costs to producers other than production costs.

(8) There must be complete freedom for firms to enter or leave the industry.

If these eight conditions are met, the market price will be solely determined by supply and demand and only one price will prevail in the market at one time. Depending on which conditions are not met, the market will be more or less imperfect. For example, consider:

a. Commodities which are not standardised or which are not portable or reasonably durable.
b. Small numbers of buyers or sellers.
c. Buyers or sellers who are not indifferent to whom they sell or buy.
d. Limited knowledge in some areas of the market.
e. Factors of production not able to move from industry to industry without prejudice (e.g., specialised capital equipment).
f. Costs additional to production costs.
g. Free entry blocked in some way (e.g. patents).

The nearest approaches to perfect markets are the markets for invested capital, such as the London and Johannesburg Stock Exchanges. In London, "deals" are effected by jobbers who transact business for their own account and depend for their profits on the difference between their purchasing and selling prices ("the jobber's turn"). Each jobber on the Stock Exchange specialises in a particular group of shares. When a stockbroker has an order from a customer to buy or sell a certain share on his account he goes to the jobber who specialises in that particular share and obtains a quotation. This quotation is double-barrelled, eg., 230c - 235c. This means that if the order is to be a sale, the jobber will

charge 235c per share; if it is to be a purchase he will pay 230c per share. Between the jobbers and the public stand the stockbrokers who are middlemen and whose remuneration is their commission.

The organised exchanges, such as the Cotton and Corn Exchanges in the chief commercial centres of the world, perform functions similar to those of the stock exchanges. They provide for the grading and classifying of the commodity so that dealings may be effected between parties far apart in the shortest possible time. Certain commodities, such as wheat and cotton, are very suitable for grading, but commodities like wool are not divisible into sharply defined classes and such articles are usually sold by auction.

C. MERCHANTS:

The channel of distribution from producer to consumer is most commonly from grower or manufacturer to wholesaler (sometimes called middleman) to retailer and then to consumer.

It is the function of the merchant, therefore, to collect materials from scattered producers, to grade and classify them as they are required for consumption, to pack, store and transport the goods to where they are required and to sell them in the best market. The merchant bears much of the risk incidental to production.

Selling the product is not a simple matter. Production takes place in anticipation of a future demand and the longer the period between production and final consumption, the greater is the risk that demand will have changed. It is the function of the middleman, not merely to satisfy existing demands, but to create new demands by offering supplies of new commodities. It will be clear that they perform an essential economic function. The producer and consumer have, as a rule, neither the time nor the knowledge to perform the marketing function and although manufacturers in some instances have been able to eliminate the middleman, yet, as Professor Jones says "the functions of marketing and distribution remain. And these functions are briefly to forecast the future demands of society, to collect and concentrate supplies from many sources and to carry stocks. The specialist merchant forecasts through

knowledge gathered from wholesale and retail dealers and places orders in accordance with this forecast".

The merchant, then, is a market specialist. He provides the market for the manufacturer and takes the risk of changes in prices. He collects the supplies of producers and re-distributes them, through wholesale and retail dealers, to the consumers. This necessitates either the carrying of large stocks, or the ability to obtain supplies as they are required, and also the finding of markets for new supplies.

D. SPECULATION:

Speculation may be described as the struggle of intelligence against chance; on markets it ranges from the legitimate business of assuming risk in the ordinary business of purchase and sale, to speculation in futures by specialists and gambling by inexperienced persons. Gambling may merely accentuate price fluctuations, but the work of specialist speculators not only tends to smooth out price fluctuations, but it also makes it possible for genuine traders to transfer a certain amount of marketing risk by "hedging". Insurance is another method of transferring risk to specialists. Steps may be taken to eliminate risk by ... government action, combination and co-operation, scientific marketing, offsetting risks and technical improvements.

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SUMMARY.

MARKETS:

The term "market" does not refer to a place but to a commodity and the buyers and sellers of it who are in competition with one another. Where identical goods command the same price in all parts of the market, the market is said to be perfect. Such a market is most likely to develop where:-

(a) Homogenous commodity;
(b) Large number of buyers; and
(c) Large number of sellers;
(d) Freedom of buying and selling;
(e) Perfect knowledge;
(f) Free factor mobility;
(g) Only production costs;
(h) Freedom of entry.

Organised produce exchanges and the Johannesburg Stock Exchange are near approaches to perfect markets. Merchants undertake the task of forecasting the future demands of society (thus relieving the manufacturers of some risk in this respect), and collecting and concentrating supplies from many sources. As intermediaries between producers and manufacturers they collect small supplies from many sources and sell them in bulk to the manufacturers (who are then consumers), and as intermediaries between manufacturers and retailers they buy in bulk from manufacturers, hold stocks, and distribute to retailers in small quantities.

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LIKELY EXAMINATION QUESTIONS:

1. What are the conditions of a perfect market? Consider them in the cases of the market for (i) labour, (ii) gold.

2. In connection with the theory of value, explain what is meant by "normal equilibrium".

3. Explain in what circumstances it may be necessary for manufacturing firms to sell their products at a loss for a short period. Discuss the consequences of such a policy.

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ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

The first part of this question can be adequately answered from the lecture. Here is a model answer to the second part:-

"The labour market is a very poor market. The workman cannot sell his services apart from his presence. On the other hand, the employer has to consider a number of circumstances, such as the man's honesty, age and his probable output in a given time. There is no definite unit of labour; a man's labour varies greatly according to his age, personal strength, habits and experience.

The market for gold approaches the conditions of a perfect market, practically world-wide. The purchase and sale of gold in London and the ruling price for the day is the result of the deliberations of a number of brokers. Gold, of standard quality, is traded by large numbers of buyers and sellers freely in world markets linked by almost immediate communications".

You will understand this answer better when we study the gold market later in your course.

QUESTION 2:

"If the market price for a certain commodity is in excess of the costs of production to such an extent that the producer is making abnormal profits, the amount produced will tend to increase. In other words, the demand price for the amount produced in a given time cannot exceed the supply price indefinitely, the supply price being the minimum price which will cover the costs of production and which must be offered before the amount of the commodity in question will be produced. The sellers would be receiving more than sufficient to make it worth their while to produce at the rate they are producing and they would be encouraged to increase the scale of production. Supplies therefore tend to increase.

On the other hand, if the demand price had been less than the supply price, the amount brought into the market, ie., the supply, would

have tended to diminish.

When the demand price and the supply price are equal the quantity produced or offered has no tendency either to increase or to diminish and normal equilibrium is said to have been reached.

Normal equilibrium is the position to which market price and the scale of production will tend to return over a long period, ie., the normal period. If any force or influence disturbs the equilibrium and the scale of production is changed, other forces tending to restore the position of normal equilibrium will come into operation. Immediately production moves away from equilibrium, forces which tend to restore it to normal come into play and the further production is removed from equilibrium the stronger will become these tendencies to bring it back.

In considering this normal equilibrium, changes due to general economic progress must, however, be taken into account".

QUESTION 3:

The costs of production of manufacturing firms consist of the costs of the raw materials used in the manufacturing process, the wages paid to the factory employees and a portion of the initial and maintenance costs of plant and equipment, rent and rates on buildings and salaries of administrative workers and interest on capital. The costs of materials used and the wages of the factory workers vary directly with the volume of output and are called variable costs. Items like rent, rates, salaries of administrative personnel and interest on capital do not, however, vary directly with the volume of output and they are called fixed costs. They are not fixed in the sense that they never change; they will change when buildings or machinery become obsolete and have to be replaced or they will change if output expands so much that additional machines or additional factory space becomes necessary. Small day to day variations, however, will be within the scope of existing capital equipment - eg., machines may be used for longer hours.

Let us consider an individual machine for a moment. Over its lifetime - assuming that it does not become obsolescent through some new invention - it will be able to produce a more or less predeterminable number of articles and from the prices charged for these articles, the capital cost of the machine and interest on the

capital outlay will have to be recovered. It may happen that there is a temporary lull in demand and the producer is not able to sell the articles for a price which will make any contribution towards the capital cost of the machine. Now the point of this question is that it may be sound policy for the firm to continue to produce under under these circumstances for a while. As long as the variable costs - wages and material - are recovered in full, it may pay the producer to accept a price which entails a loss on <u>total cost</u>, ie., variable plus fixed cost.

The lull in demand may be only temporary and this policy enables the producer to keep his labour force together and may, in fact, enable him to recover something towards the fixed costs which will continue whether anything is produced or not (eg., interest on capital). Later on, if and when demand recovers, there will be no loss at all.

It should be stressed that this principle can only be applied if the fall in demand is temporary. Over the long period - ie., the period when the replacement of machinery and plant must be contemplated, both fixed and variable costs must be recovered. This is sometimes expressed by saying that in the long run all costs are variable.

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MONOPOLY AND IMPERFECT COMPETITION.

A. THE MEANING OF PERFECT COMPETITION:

Competition is said to be perfect when no individual seller can raise or lower price by an appreciable amount merely by increasing or decreasing the quantity of product he puts on the market. This is because the output of each individual producer represents only a very small part of the total quantity on the market; in other words, there is a very large number of producers.

From the point of view of each individual producer, this means that it would be futile to do anything but accept the price fixed by the market ... ie., market price. If he charges more than market price he will sell nothing owing to the Law of Indifference; if he charges less than market price he would be needlessly sacrificing profits because he could sell his total output (which, remember, is only a very small proportion of the total supply) at market price.

You must not get the idea, however, that this in any way conflicts with the normal interaction of total demand and total supply. If a large number of producers decides more or less at the same time to increase output, price will tend to fall. The point is that one producer acting alone, without any collusion with his competitors, cannot exercise any perceptible effect on price.

B. THE MEANING OF MONOPOLY:

Pure monopoly exists when there is only one supplier of a certain commodity. If there is only one buyer (and several producers), we have a buyer's monopoly which is called a MONOPSONY. Our analysis will proceed on the basis of a seller's monopoly and, for convenience, we shall assume that there is control of the whole supply. This means that the producer can manipulate price if demand remains unchanged by virtue of changes in supply. If he increases supply, price will tend to fall; if he decreases supply, price will tend to rise. He is able to regulate the supply and fix the price, but he cannot affect the demand. He may elect to fix the supply and let the price be determined by the marginal utility of the amount available to the consumer, or he may fix on a certain price, in which case the amount consumed depends on the consumer's

estimate of the value of the commodity.

C. THE NATURE OF THE MONOPOLY PROBLEM:

We are now concerned with the manner in which monopoly price is determined. In this instance, too, of course, demand and supply schedules and curves play an important part, and the producer will also try te equate marginal costs and marginal revenue, because, as explained in the Lecture on Supply, his total profits must be greatest where these two are equal. The monopolist producer has, however, another interest; in so fixing his prices as to obtain a maximum net revenue. His desire is to make the difference between his total receipts and his total expenditure as great as possible. Thus, while under free competition prices do not over a period greatly exceed costs of production because abnormal profits will attract new producers into the industry, under monopolistic conditions there may be a permanent abnormal excess of receipts over costs. Rival producers do not compete with each other to obtain a larger share of the market and, by doing so, increase the supply until prices fall.

(It should be noted that Total Cost consists of:-

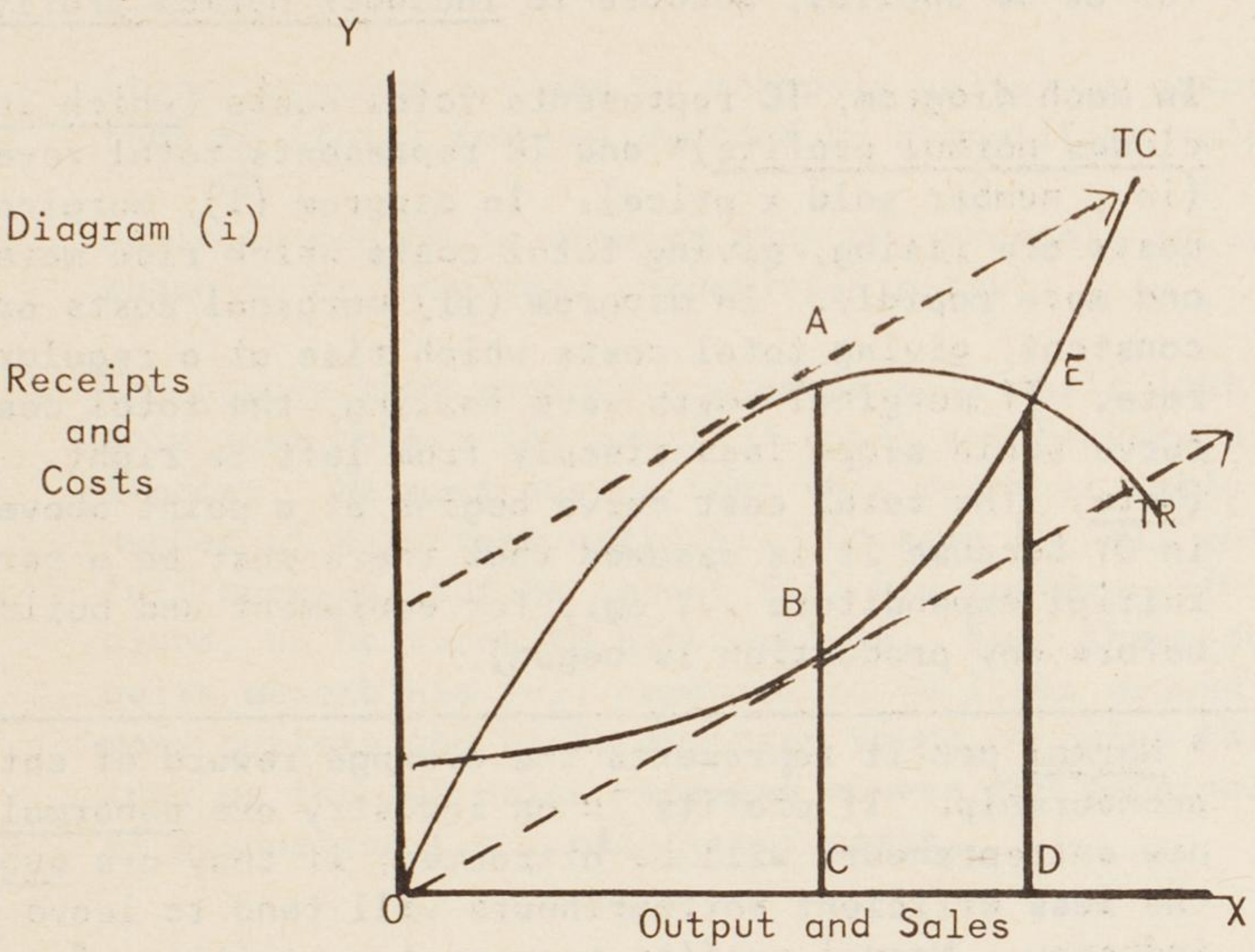
(a) Payment to Labour = wages
(b) do to Capitalists = interest
(c) do to Landowners = rent
(d) do to Entrepreneurs = normal profit

Interest has to be imputed if the capital belongs to the entrepreneur. In the same way, normal profit is an imputed cost based on industry norm.).

D. HOW TO ILLUSTRATE THE THEORY OF MONOPOLY OUTPUT:

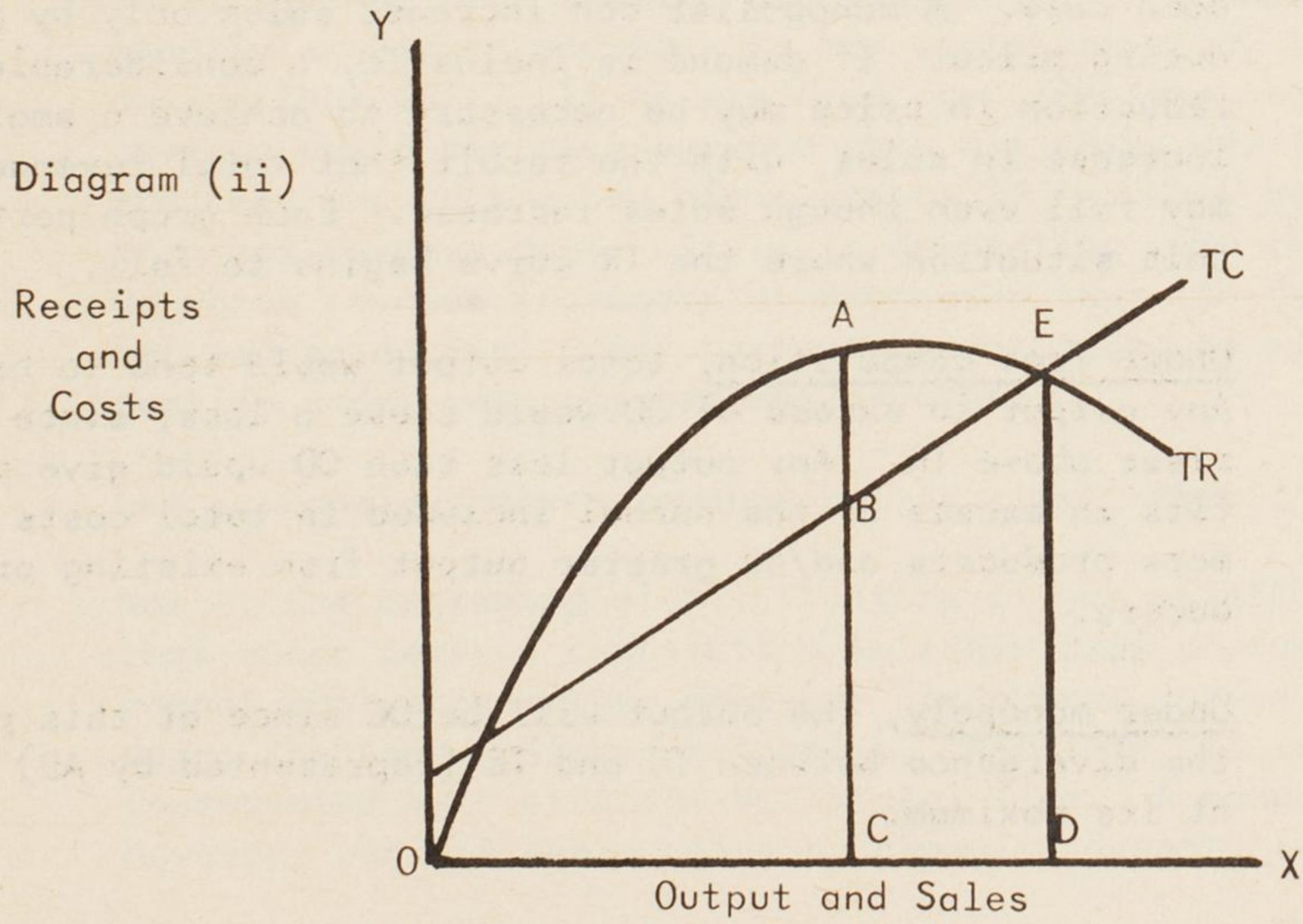
(1) By Reference to Total Costs and Total Revenue:

Diagram (i)



MR = MC when the tangents to the TR and TC curves have the same slope. Production at this point will maximise abnormal profit.

Diagram (ii)



It must be stressed that Diagram (i) only holds good, as far as OD applies, because TC includes normal profit.

In each diagram, TC represents total costs (which includes normal profits)* and TR represents total revenue (ie., number sold x price). In diagram (i), marginal costs are rising, giving total costs which rise more and more rapidly. In diagram (ii) marginal costs are constant, giving total costs which rise at a regular rate. If marginal costs were falling, the total cost curve would slope less steeply from left to right. (Note: The total cost curve begins at a point above O in OY because it is assumed that there must be a certain initial expenditure ... eg., for equipment and buildings before any production is begun).

* Normal profit represents the average reward of entrepreneurship. If profits in an industry are abnormal, new entrepreneurs will be attracted; if they are subnormal, the less efficient entrepreneurs will tend to leave the industry. Normal profits represent a position of equilibrium, where the movement of entrepreneurs into and out of the industry is negligible.

Elasticity of demand, as represented by the slope of the total revenue curve, is assumed to be about the same in each case. A monopolist can increase sales only by reducing price. If demand is inelastic, a considerable reduction in price may be necessary to achieve a small increase in sales, with the result that total revenue may fall even though sales increase. Each graph portrays this situation where the TR curve begins to fall.

Under free competition, total output would tend to be OD. Any output in excess of OD would cause a loss, since TC rises above TR. Any output less than OD would give profits in excess of the normal included in total costs and more producers and/or greater output from existing producers.

Under monopoly, the output will be OC since at this point the divergence between TC and TR (represented by AB) is at its maximum.

These diagrams make it clear that monopoly price will be higher than competitive price because in each case $\frac{AC}{OC}$ (total revenue divided by monopoly sales) is greater than $\frac{ED}{OD}$ (total revenue divided by competitive sales).

Again, since OD is greater than OC, monopoly output is shown to be less than competitive output.

The theory that producers produce till their last article sold just covers the marginal cost, can be very misleading. We must assume that this producer sells a number of different articles. On some he will get his full mark-up, but he cannot fill his factory with these alone, so he turns to alternatives. Even these do not quite absorb his full capacity so he looks around for more outlets and he is prepared to go on doing this, so long as the net price received covers the marginal cost of production i.e., all direct costs.

(2) By Reference to Marginal Cost and Marginal Revenue:

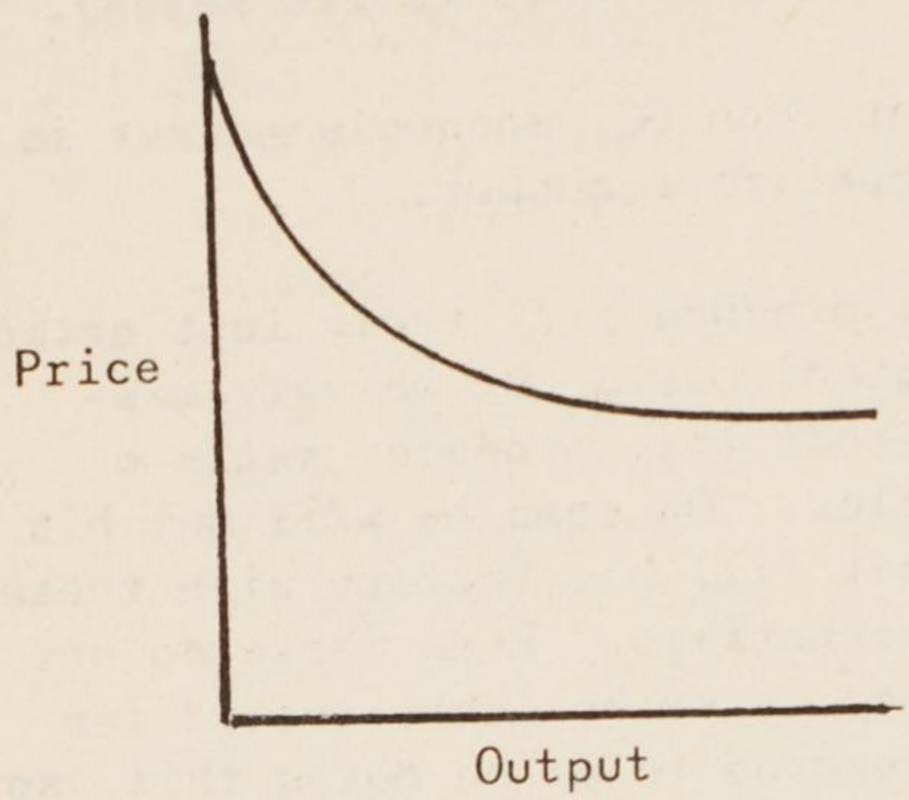
The aim of every producer, whether he is producing under conditions of competition or under a monopoly, will be to regulate output in such a way that the addition to his total revenue from selling one additional unit would exactly equal the addition to his costs caused by producing that unit. If he produced one unit less, his revenue would diminish by more than his costs do; if he produced one unit more, his costs would increase by more than his revenue does. It is in connection with the rate at which revenue increases or decreases that the difference between production under perfect competition and production under monopoly becomes apparent.

Let us consider these revenue curves first, then.

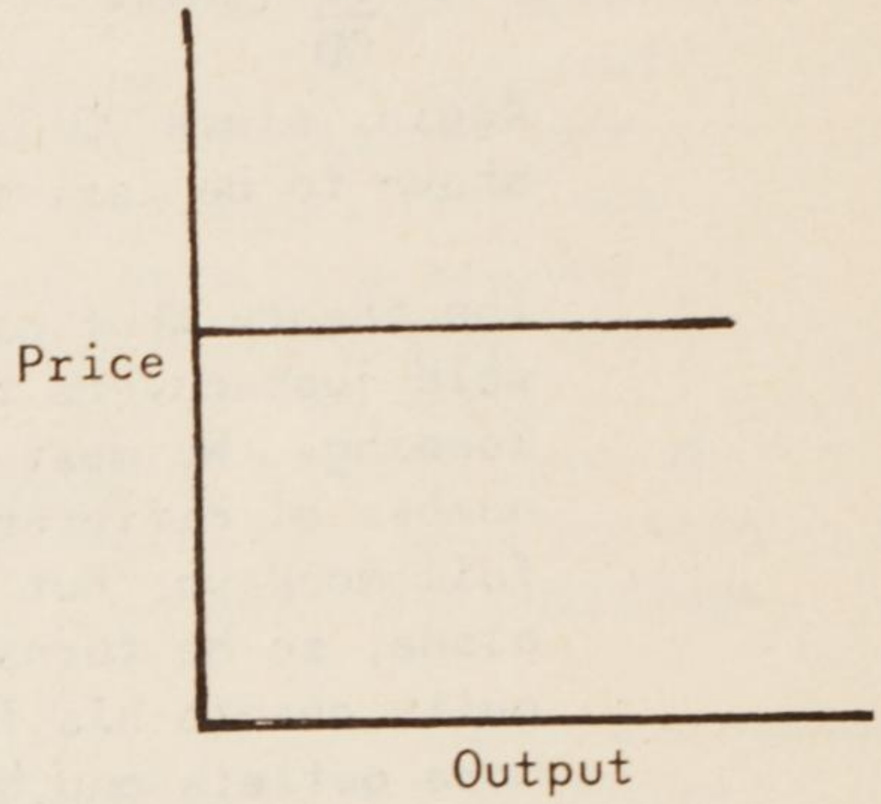
Now at the beginning of this Lecture it was pointed out that under perfect competition an individual producer cannot influence price; whatever his output, price remains the same. Diagrammatically, therefore, it is represented by a straight horizontal line. A monopolist, however, can influence price by changing output; in his

case, the price curve slopes downwards to the right. Here are the two curves:-

A. Monopoly.



B. Perfect Competition.



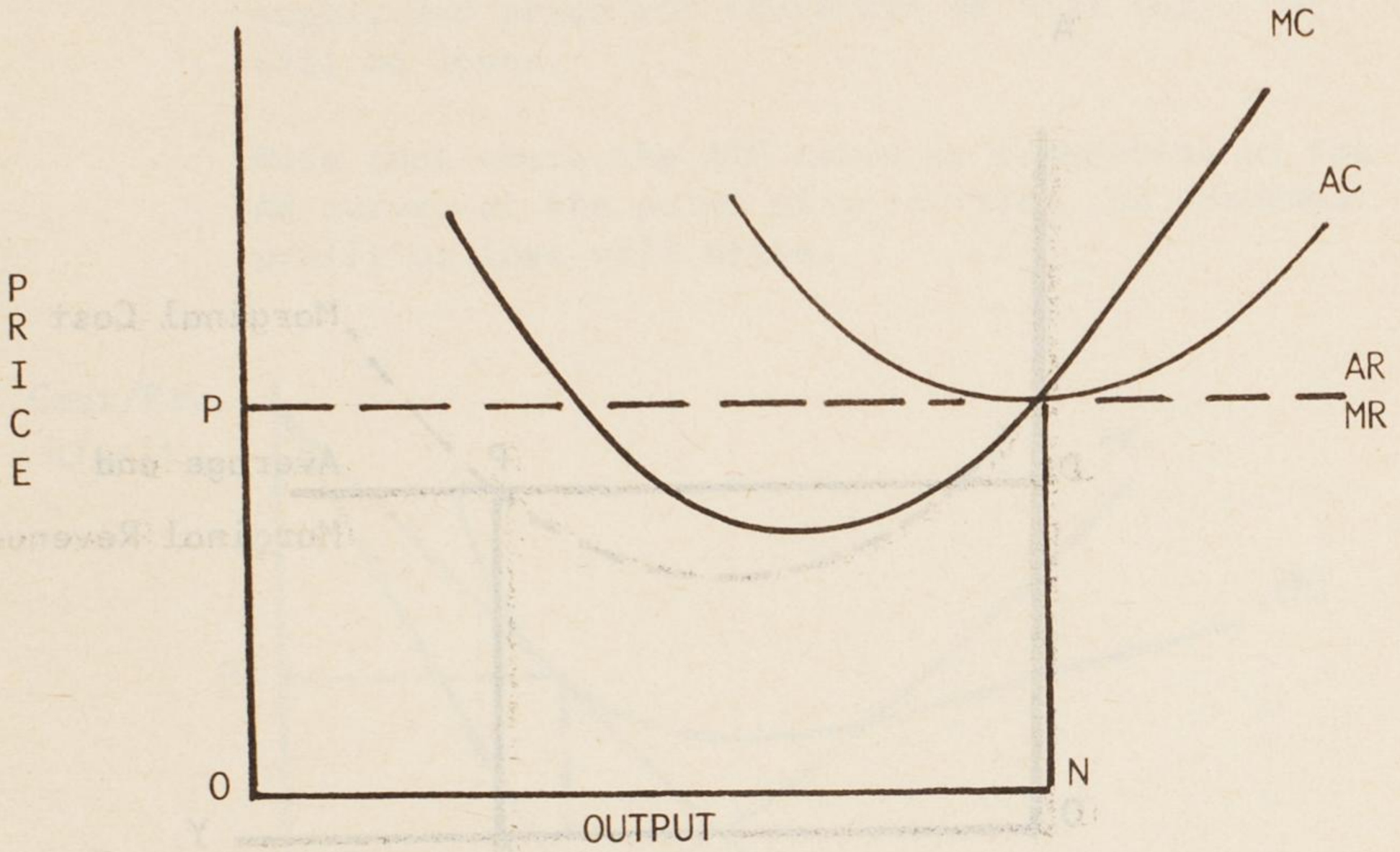
The next points to note are:-

1. Price is the same as average revenue (ie., total revenue divided by units sold).

2. In the case of diagram B, the marginal revenue (MR) curve will coincide with the average revenue (AR) curve. (Each unit sold yields the same additional revenue.)

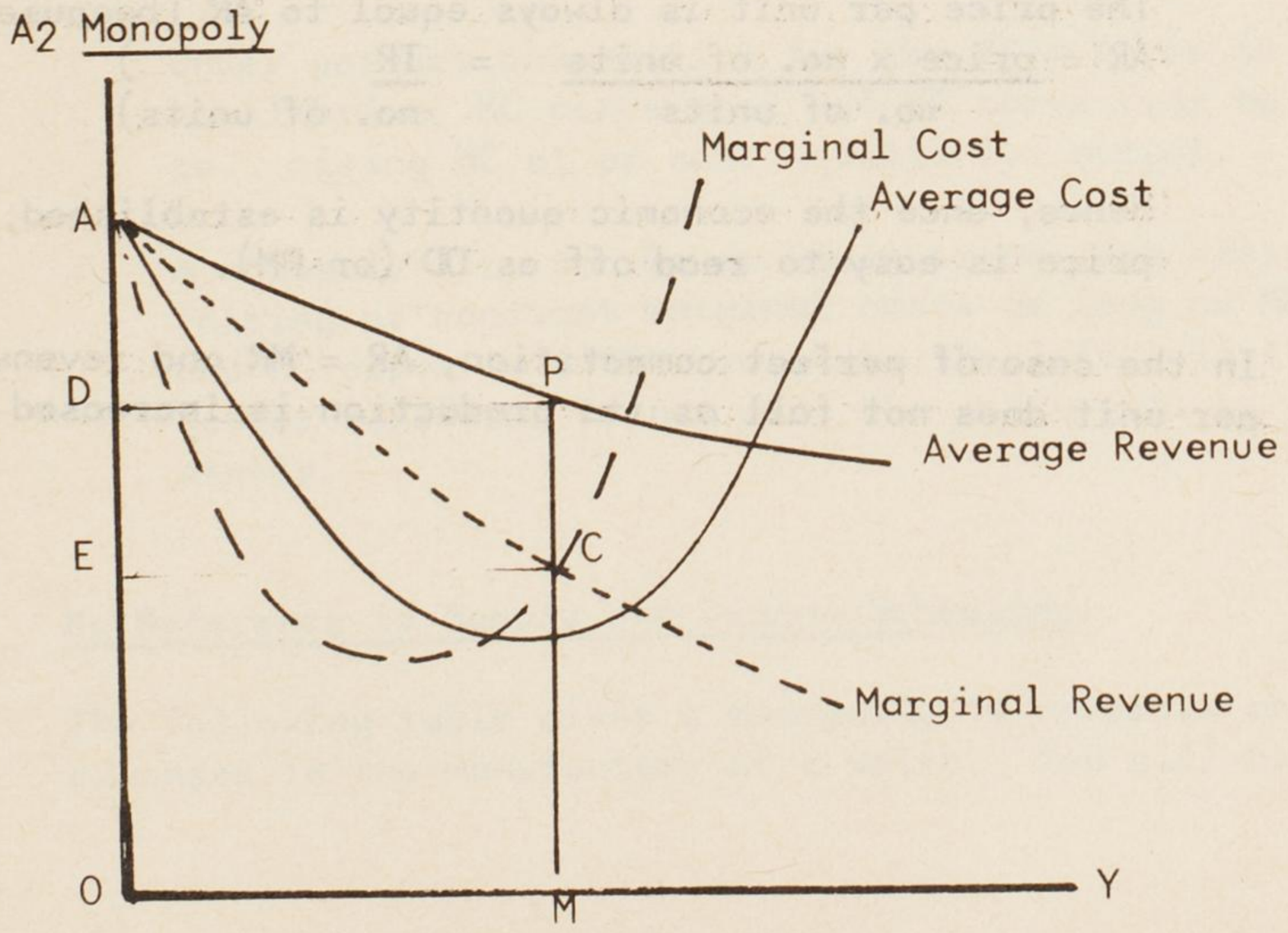
3. We also know precisely the direction of the marginal revenue curve applicable to diagram A. (In the first section of this Course we dealt with the relation between marginal and average products and saw that the marginal product curve cuts the average product curve at its highest point. We are now dealing with curves which slope the opposite way and may conclude that the marginal revenue curve cuts the average revenue curve at its lowest point. In other words when the average curve is falling, the marginal curve is below it, when the average curve is rising, the marginal curve is above it).

Graph showing Price Determination under conditions of Perfect Competition.



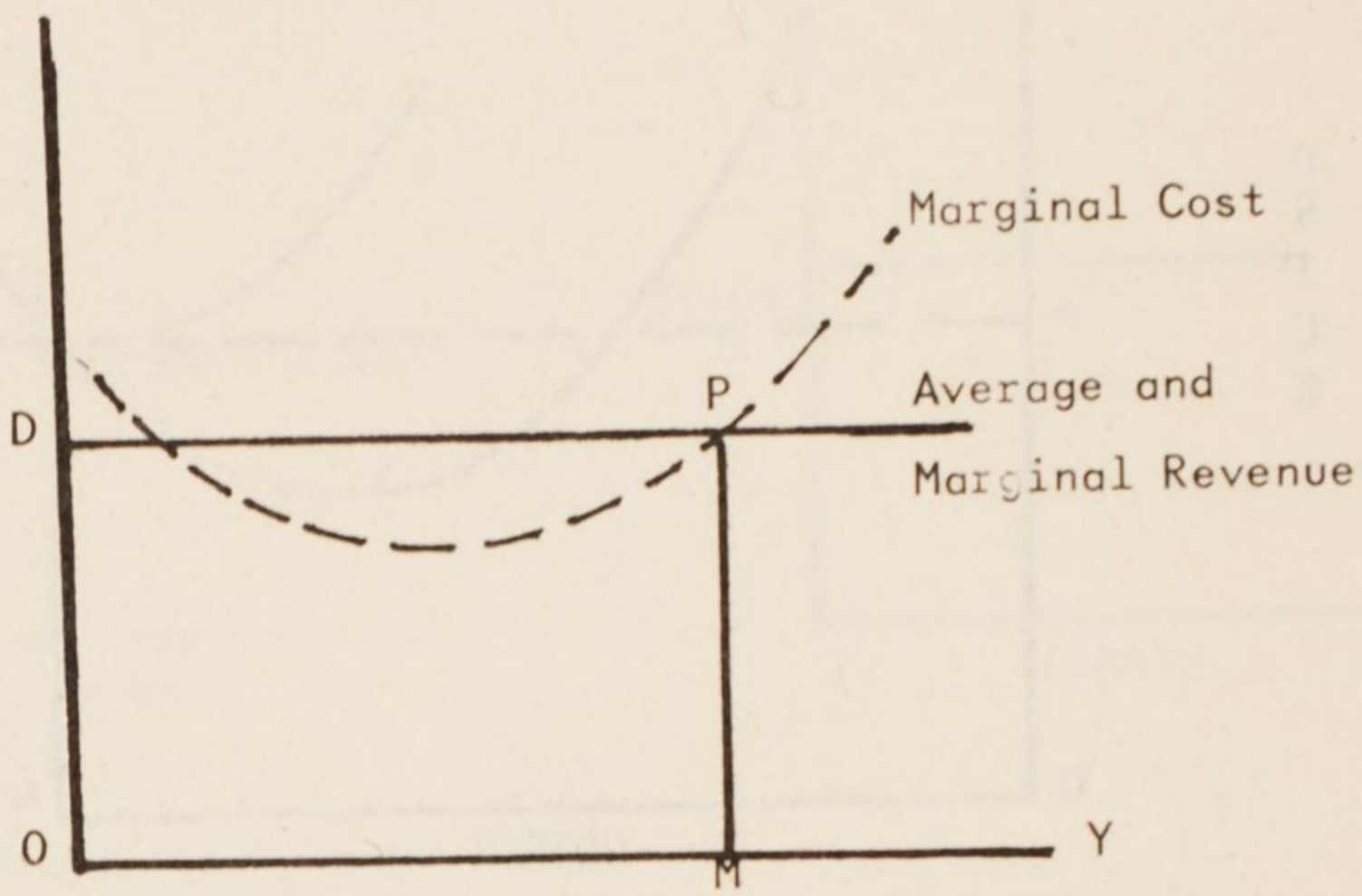
Competition will ensure that production is carried to the point where AR = MR.

4. Applying these principles, we can portray the fixation of output under monopoly or by an individual producer under perfect competition as follows:-



OM - Most Profitable output which sells at price PM giving <u>abnormal</u> profit DECP.

B_2 Perfect Competition.



OM - Most profitable output, which sells at PM giving no revenue over cost, which includes only a normal profit.

In the monopoly situation, then, MC = MR is still the determinant of the quantity produced, ie., OM. The price per unit is always equal to AR (because

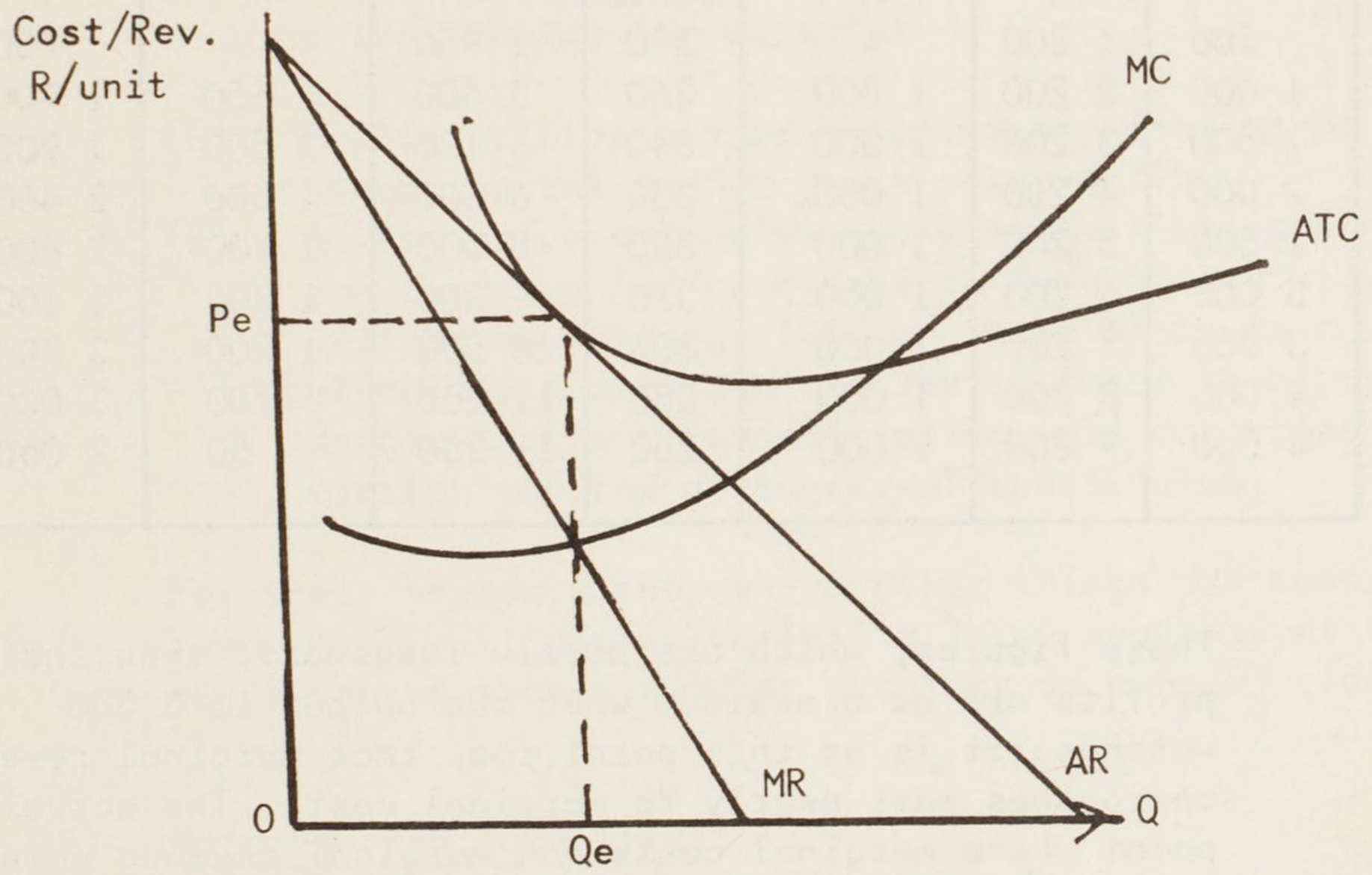
$$AR = \frac{\text{price x no. of units}}{\text{no. of units}} = \frac{TR}{\text{no. of units}})$$

Hence, once the economic quantity is established, price is easy to read off as OD (or PM).

In the case of perfect competition, AR = MR and revenue per unit does not fall as its production is increased (to the

point where MR = MC). An increase in monopolist's production naturally affects directly the industry supply and price and therefore AR will fall. MR will be lower.

Note that where the ATC curve is tangential to the AR curve, at the point of production, no abnormal profit or loss will arise.



Under perfect competition for the firm to be in equilibrium, MC curve must cut MR curve from below ie., rising MC at or near equilibrium output.

A monopoly firm can be in equilibrium with rising falling or constant marginal costs as long as MR=MC and MC curve cuts MR curve from the left. If this latter condition is not met, the model will be unstable.

(3) By Reference to Supply and Demand Schedules:

The following table gives a monopolist's receipts and expenses in the manufacture of a watch. You will notice

that the demand is elastic and that production is subject to constant returns. It is assumed that overheads are fixed at R200 and that each 500 watches adds R1 000 to the total cost.

Output	Total Cost	Marginal Cost	Price	Total Revenue	Marginal Revenue	Profit
	R	R	cents	R	R	R
500	1 200	-	390	1 950	-	750
1 000	2 200	1 000	360	3 600	1 650	1 400
1 500	3 200	1 000	340	5 100	1 500	1 900
2 000	4 200	1 000	330	6 600	1 500	2 400
2 500	5 200	1 000	320	8 000	1 400	2 800
3 000	6 200	1 000	310	9 300	1 300	3 100
3 500	7 200	1 000	300	10 500	1 200	3 300
4 000	8 200	1 000	280	11 200	700	3 000
4 500	9 200	1 000	250	11 250	50	2 050

These figures, which are purely imaginary, show that profits are at a maximum when the output is 3 500 watches; it is at this point, too, that marginal revenue approaches most nearly to marginal cost. The actual point where marginal costs and marginal revenue coincide and where profits are at a maximum, will probably be when the output is just over 3 500 watches, and when the price charged is little under 300c per watch.

Note: Do not attempt to reproduce a schedule like the above in the examination; it would take far too long. Curves illustrate the theory just as well.

E. THE ECONOMIC EFFECTS OF MONOPOLY:

(1) Monopoly Price:

Earlier in this Lecture it was suggested that monopoly price tends to be higher than the price which would rule under free competition. It must be noted, however, that

this argument was based on the assumption that the same cost curve was applicable to both free competition and monopoly, whereas in practice production costs tend to be lower where there is a monopoly because a monopolistic organisation is more likely to be able to benefit from the use of large scale methods. Reduced costs as a result of amalgamation then may go some way to offset the higher prices resulting from limitation of supply by a group of firms. There are, moreover, a number of reasons why monopolists often hesitate to raise their prices as much as they could; for example:-

(a) Public opinion may be antagonised, leading to a strong agitation for State intervention.
(b) As the price of the monopoly product becomes higher, the tendency for consumers to turn to substitutes will become stronger. Even where there is no effective substitute available, there is always the danger that an excessive price will encourage invention and the discovery of substitutes.

For these reasons, too, where other things are equal, a monopolist will prefer to sell a large quantity at a low price rather than a smaller quantity at a high price.

(2) Monopoly and Inventions:

Under free competition, a firm must pay close attention to up-to-date technical developments. If it does not, it will find itself becoming one of the less efficient firms in the industry, until eventually it will become a marginal firm and likely to be forced out of existence. Where there is keen competition, then, new devices and inventions will be readily adopted, even though valuable machinery and equipment, which has served only a fraction of its working life, has to be scrapped.

Under monopoly, however, it is no means certain that the consumers will benefit from the discovery of more efficient machines or methods. A monopolist will not scrap his existing plant and install new unless the cost of operating the new plant plus the interest which could have been earned if the capital spent on it had been

invested in some other direction (ie., at the current rate of interest) amounts to less than the cost of operating the existing plant. Again, he will install new machinery alongside his existing plant (thus increasing total output) only if this increases net revenue.

(3) Utilisation of Resources:

As a result of monopoly interests, goods may be destroyed or productive resources neglected, in order to restrict the supply on the market. The coffee thrown into the sea between 1931 and 1934 by the Coffee Institute of Brazil or the bananas destroyed in South Africa in 1962 by the Banana Marketing Association are examples of the former; the output quota imposed upon Natal and Zululand sugar farmers is an example of the latter. In some cases, the "waste" may not be so apparent as it is in these examples, because the resources which are excluded from the monopolistic industry, where they could earn most, are used for some other purpose. In other words, factors of production are not allowed to offer their services where they would be most valuable. From this it follows that where there is monopolistic restriction of output, "the assortment of goods and services produced is not the assortment which consumers want most" (Benham). There is interference with the operation of the Law of Substitution at the Margin; the sovereignty of the consumer is limited.

In order to understand the above argument, consider the Law of Substitution at the Margin in its application to factors of production, rather than to consumption of goods. Under competitive conditions, an entrepreneur will buy factors of production up to the point where the market price for his finished article is at least equal to his costs, these costs being the prices he pays for factors of production. By these standards, a monopolist could probably afford to buy, for example, more raw wool for the manufacture of clothes, but because of his monopoly, he does not carry production up to this point. The raw wool he would have bought under competitive conditions, and by an application of his resources in accordance with the Law of Substitution at the Margin, now goes to some

use other than the manufacture of clothes, a use for which, from the point of view of the wealth of the community, it is not so well suited. From the point of view of the community, in other words, there has been a waste and this waste has arisen from the suspense of the Law of Substitution at the Margin, caused by the monopoly.

F. IMPERFECT COMPETITION:

We have now discussed the determination of price under competition and under monopoly. I want again to emphasize at this point that neither absolute monopoly nor absolutely perfect competition is often found. Let us examine this contention more closely.

(1) The Meaning of "Commodity":

We have seen that one of the essentials of perfect competition is the existence of such a large number of producers that a change in the output of any one of them has a negligible effect upon the output of the commodity as a whole. Clearly this implies that the "Commodity" of one producer is a perfect substitute for that of the other producers; if we are applying the idea to cigarettes, for example, we must apply it first to one brand and then another; we cannot regard these two brands of cigarettes as the same "commodity". The test to apply in order to determine whether two units belong to the same commodity, is to ask whether every potential purchaser would be quite indifferent as to which unit he received for his money. If he would not be completely indifferent, then the units are not absolute substitutes, and belong to different commodities.

This narrowed meaning of the term "commodity" obviously limits the number of cases in which the above-mentioned essential of perfect competition is present.

(2) Market Imperfections:

The existence of a perfect market is extremely rare in

practice. The customers who make up the market do not all react in the same way to changes in the prices charged by different sellers. They may be influenced by such factors as:-

(a) Ignorance of what is happening in other parts of the market.
(b) Costs of transport, which makes it preferable to buy from a dealer near at hand.
(c) The attraction of a well-known name. Even if the product is identical, buyers will tend to flock to the reputable dealer of long standing.
(d) Extra facilities such as credit, speed of service and good salesmanship given by certain sellers.
(e) Advertising.

In some cases, as suggested earlier in this Course, the higher price of a particular product may be taken as an indication of better quality, whether or not this is so.

(3) Imperfect Substitutes:

Carrying this argument to its logical conclusion, we may say that the producer of a commodity for which there is no perfect substitute is a monopolist. He has full control of the supply of a particular article. Yet at the same time he, like all other monopolists, is subject to the competition of similar goods, ie., virtual substitutes; and the more or less perfect these substitutes, the stronger or weaker will be the competition to which he is subject.

Owing to the rarity of either perfect competition or perfect monopoly, but to the relatively common occurrence of producers who produce enough of the total output of their "commodity" to be able to exert a perceptible effect on its price by changing their own output, economists have introduced the concept of imperfect competition (sometimes called monopolistic competition).

(4) The Determination of Prices:

Unfortunately we cannot formulate a general rule on the fixing of prices by entrepreneurs who produce under conditions of imperfect competition, partly because there are no statistics or confirmed facts to show what is done in practice, and partly because it is possible that in different industries there are wide divergences in procedures. For the following reasons, however, it can be said with some degree of certainty that most firms working under imperfect competition do NOT consciously aim to equate marginal costs and marginal revenue:-

(a) Marginal revenue for a different price is difficult to estimate because the action which will be taken by competitors with regard to their prices cannot be foreseen.

(b) Even if the price which will maximise profits can be determined, a firm might prefer to charge less rather than attract further competitors into the industry.

(c) Many manufacturers, particularly of branded products, prefer to keep prices stable rather than change them each time costs or demands vary.

There is, as Marshall said, an unwritten "code of morality" among entrepreneurs. None wants to spoil the market for others by charging a price which is needlessly low, and newcomers to the industry tend to base their price on what is being charged by other manufacturers for more or less similar goods.

Special Note:

You should note the use of the terms "free competition" and "perfect competition" in this lecture. I have used the former when it is the absence of monopoly which is to be stressed and the latter when the stress is on the market perfections. "Pure competition" is sometimes used instead of "free competition".

(5) Oligopoly:

Between a state of perfect competition in the field of supply and a state of monopoly, one frequently finds a market situation in which each of a limited number of producers is strong enough to influence the market but is not strong enough to disregard the reaction of his competitors. This is a situation sometimes referred to as oligopoly. While the monopolistic trends and tendencies are present, they are modulated by the actions of the other producers. Frequently, this tends to develop into a situation where the producers reach agreement between themselves regarding certain conditions, expecially relating to the minimum price at which they will sell. Sometimes they agree to curb production if the free market price falls below a certain level.

In recent years the four major copper-producing groups of the world - who control some 90% of the free world's copper production - have reached just such an agreement, in order to bring some stability into the market and to curb sub-economic production.

G. RESALE PRICE MAINTENANCE:

To avoid ill-will and dissatisfaction among buyers who see the particular commodity they have bought being sold in another shop at a lower price, manufacturers of branded products aim to ensure that their retail outlets charge neither more nor less than the price they have laid down in their price policy. In other words, this is an aspect of monopoly. Prices of these products are not dictated by supply and demand conditions, but by the price policy of the "monopolist".

The system operates through agreements between the suppliers and the retailers and whatever the legal or moral arguments for or against it may be, it is a system which has gained wide acceptance and has become a characteristic of the marketing of manufactured goods which are branded or which are "differentiated" in some other way.

H. NOTE ON EQUILIBRIUM:

Early in this batch of Lectures we referred to "equilibrium analysis", and in the course of succeeding Lectures we have noted the significance of equilibrium analysis in the determination of prices and the theory of value. You should have no difficulty now, therefore, in understanding this term, but you should note again at this stage, that the condition determining equilibrium under perfect competition are somewhat different from those which determine equilibrium under other conditions. The two diagrams set out of page 6 of this Lecture illustrate this point, but because students are sometimes puzzled by a qualifying reference to perfect competition in an examination question on equilibrium, the position is again summarised here:-

1. Whatever the nature of the competition (perfect, imperfect or absent altogether) a firm is in equilibrium when a change in the scale of output cannot increase profits, ie., MC = MR.

2. Under perfect competition, average revenue does not change with output. It is only because average costs may change that output may alter profits.

3. Under monopoly and imperfect competition, both average revenue and average costs change with output.

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S U M M A R Y.

MONOPOLY AND IMPERFECT COMPETITION:

Competition is perfect when no individual seller can affect price. Where any producer (or seller) can manipulate price by changing the supply, competition is imperfect or there is monopoly. A monopolist aims at manipulating price to that level where his total net revenue reaches the maximum (his marginal costs and marginal revenue being equal).

A monopolist can sometimes resort to price discrimination. This means the charging of different prices to different persons, in different areas or in different trades. Dumping is a form of local price discrimination applied to international markets. It may be adopted to:-

(1) Capture foreign markets.
(2) Obtain the advantages of increasing returns.
(3) Dispose of a surplus.

Price discrimination cannot be successfully undertaken if goods can easily be transferred from one market to the other, or if elasticity of demand is the same in both markets.

Although a monopolist is in a position to force up prices, prices to consumers may actually be lower under monopoly because there is opportunity to benefit from the advantages of large-scale production. In any case, in fixing prices a monopolist will give due consideration to the availability of substitutes, public opinion and the possibility of State interference. Monopoly may, however, lead to delay in adopting inventions and may lead to waste of economic resources.

In practice, there is rarely perfect competition or absolute monopoly. Although two commodities are not often perfect substitutes for each other, all commodities must be regarded as being substitutes to a greater or less degree; all commodities and services for the consumer's spending power. Buyers, too, are rarely absolutely indifferent between sellers.

Oligopoly = a market situation in which each of a limited number of producers is strong enough to influence the market but not strong enough to disregard the reactions of his competitors.

Monopsony = a buyer's monopoly.

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LIKELY EXAMINATION QUESTIONS:

1. In what respect is monopoly price determined in a different way from the ordinary competitive price?

2. Write a short essay on "Charging what the traffic will bear".

3. Discuss the relative merits and demerits of competition and monopoly.

4. Discuss the influence of elasticity of demand upon the price policy of a monopolist.

5. Draw a diagram showing the average fixed, average variable and the total average cost curves of a firm under perfect competition. With the aid of your diagram discuss:-

   (a) The factors determining the equilibrium output of the firm; and
   (b) The minimum price at which the firm would remain in production in the short run.

6. Discuss the statement that monopoly leads to higher prices.

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ANSWERS TO LIKELY EXAMINATION QUESTIONS:

QUESTION 1:

The material necessary for a good answer to this question is in the Lecture.

QUESTION 2:

The phrase "charging what the traffic will bear" occurs most frequently in connection with the economics of transport, but its scope is not, in fact, limited to this use. It can be applied to the general theory of monopoly to refer to the aim of the monopolist to charge every cent that can be extorted, while the scale of production is maintained at the point where net profits are at their

maximum. The phrase is more generally taken to refer to the monopolist's power of price discrimination, ie., the levying of high charges upon users and consumers who can well afford to pay them and giving (out of the surplus obtained) the benefit of very low charges to users and consumers who could ill afford to pay more.

QUESTION 3:

Advantages of Monopoly:

The economics which result from large-scale production are saving on administrative and distributive expenses, reduced advertisement costs, economy of transport costs.

Objections to Monopoly:

(1) The above economies may not be passed on to the consumer. In fact, the monopolist may raise the price of his goods if the demand is sufficiently inelastic to bear the increase.

(2) The monopolist may adopt the anti-social policy of deliberately restricting supplies in order to force up price and profits.

(3) Monopoly tends to kill enterprise. There is no great incentive to try out new machines or methods.

(4) Economic resources may be wasted.

Merits of Free Competition:

(1) It tends to produce and maintain efficiency. Inefficient producers are driven out of employment.

(2) Costs of production and prices tend to be reduced and consumers benefit.

(3) It tends to limit the abuses of monopolies and may break them up.

Demerits of Competition:

(1) It often means waste through overlapping, competitive advertising and lack of specialisation.

(2) Intense competitive struggle may result in combines which attempt to gain control of the market by unfair methods such as price discrimination.

(3) Promising new industries are sometimes stifled out of production by very strong competitors before they have had a chance to establish themselves.

QUESTION 4:

We shall assume that the aim of the monopolist is to maximise his profit; that is, we shall exclude altruistic or philanthropic arguments from the discussion.

First of all, let us assume that demand for the product is unity, that price times quantity remains the same whatever amount is placed on the market.

It will then be immaterial to the monopolist what amount he supplies; if he produces under conditions of increasing returns, then he will maximise his output so as to benefit by the economies of large-scale production; but if he produces under conditions of diminishing returns, he will reduce the supply until cost per unit is at its minimum.

If the demand for the product is inelastic, then a greater total revenue will be obtained by reducing the supply. As the demand is unlikely to be inelastic throughout the entire range of supply, there will come a point where further reduction in supply will no longer increase his total return. He will adjust his supply at this point if he produces under constant returns; under increasing returns it will pay the monopolist to increase supply beyond this point so as to gain by the reduction in cost per unit; under diminishing returns (ie., increasing costs) it will pay him still further to reduce supply so as to diminish his cost per unit.

If the demand for the product is elastic, increases in supply will cause less than proportionate reductions in price, so that the

monopolist's revenue will increase; other things being equal he will continue to increase supply until demand ceases to be elastic and as demand is unlikely to stay elastic throughout the whole range of supply, a point will be reached where a further increase in supply will no longer bring about an increase in the total revenue.

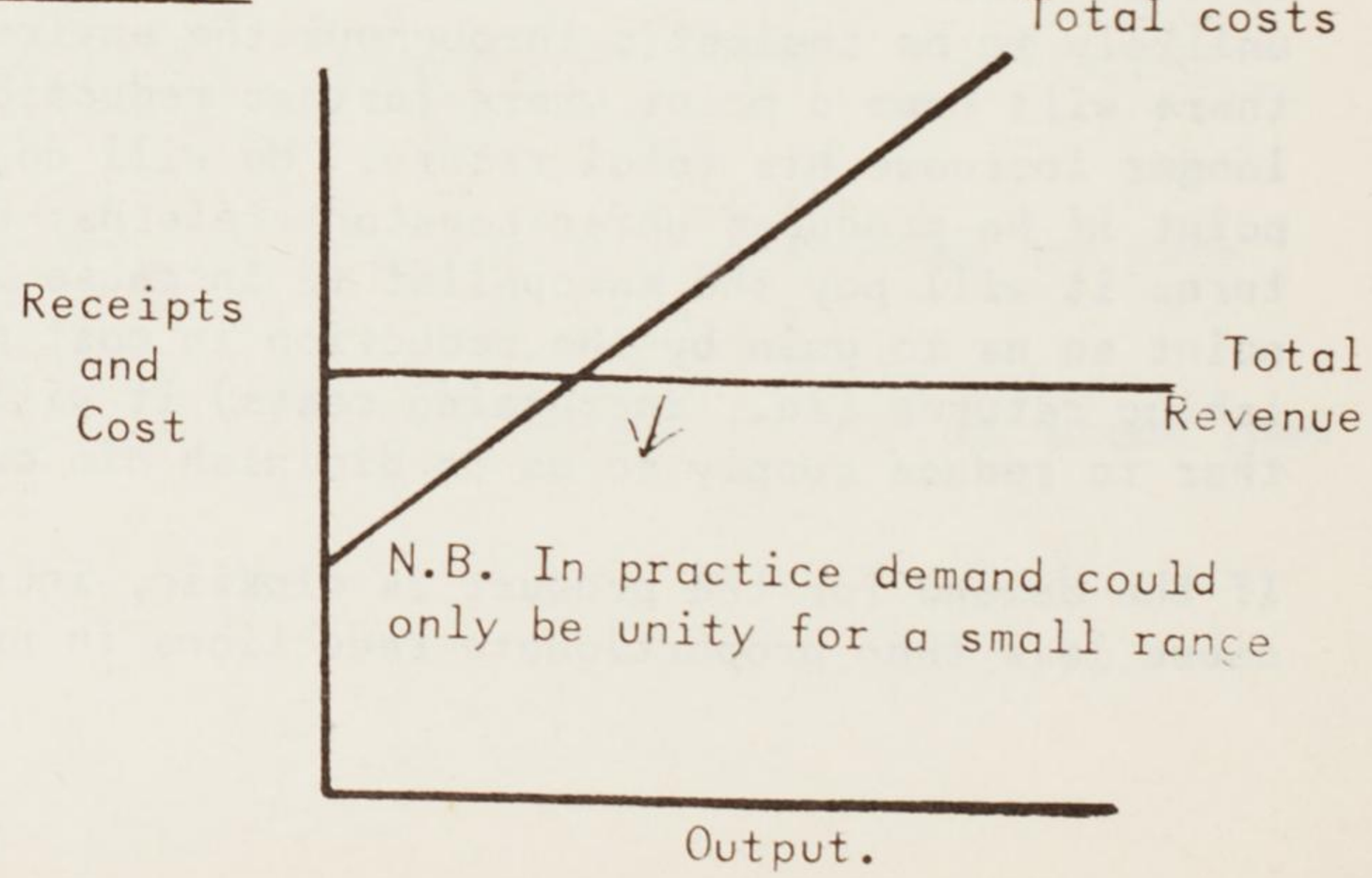
Should the article be produced under constant returns, the cost of production will not influence the monopolist in fixing his supply. But if he produces under diminishing returns, every increase in supply causes an increase in cost per unit, so it will pay the monopolist to produce less than he would do if he were producing under constant returns. Again, if he be subject to increasing returns, the monopolist will benefit by increasing the supply to a point beyond that which he would choose if he were producing under constant returns, so as to gain by the economies of increased production.

The argument can be illustrated by diagrams. Assuming that in every case cost schedule remains the same, the three diagrams show:-

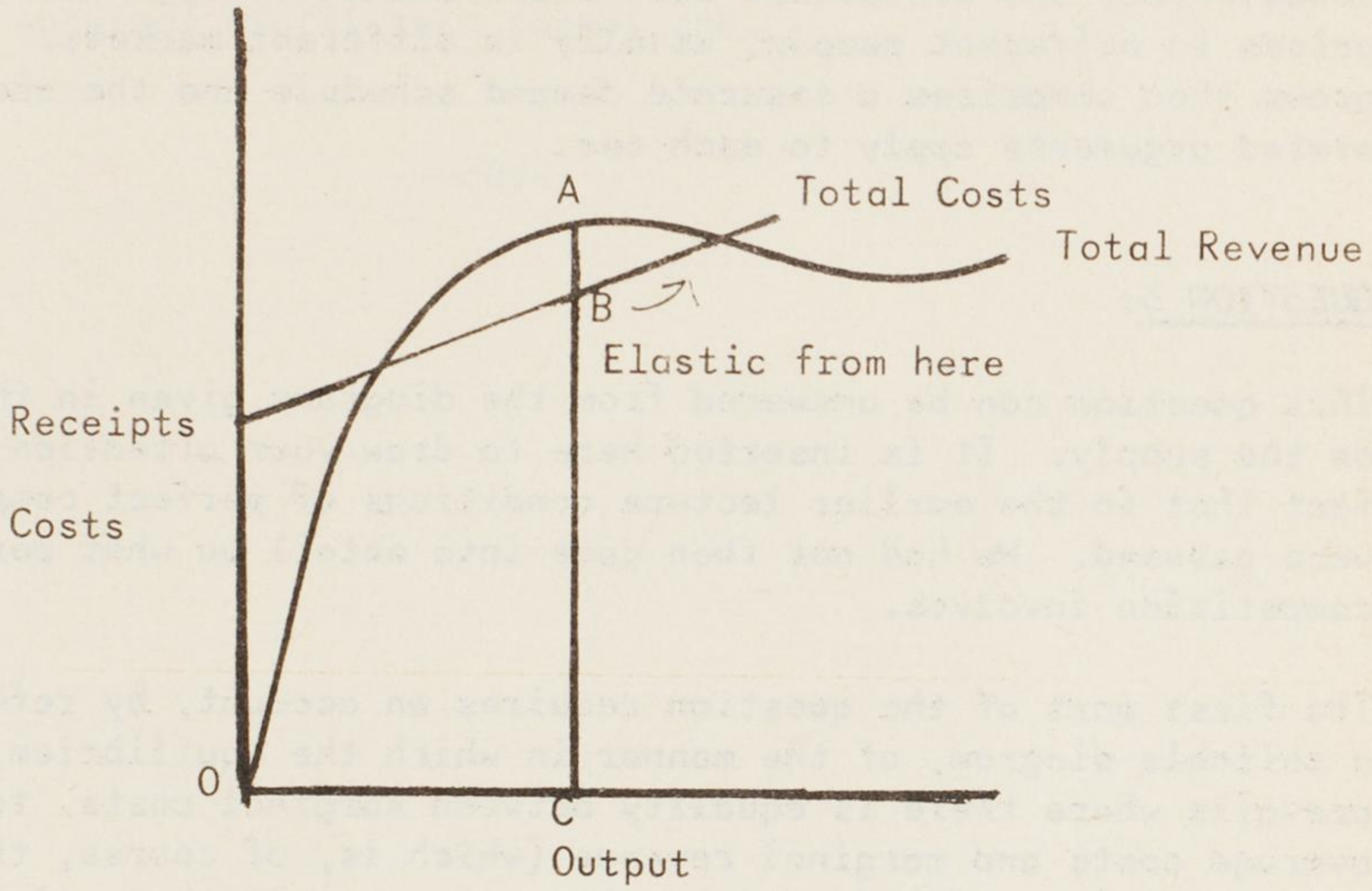
(1) the position where demand is unity,
(2) where demand is elastic throughout most of its course, and
(3) where demand is inelastic throughout most of its course.

It will be seen that the monopolist invariably stands to gain by reducing his supply to a greater or lesser extent. In other words, under free competition, where the producer's contribution to the total product is so small that he cannot influence price, the quantity of supplies is always greater than under monopolist conditions.

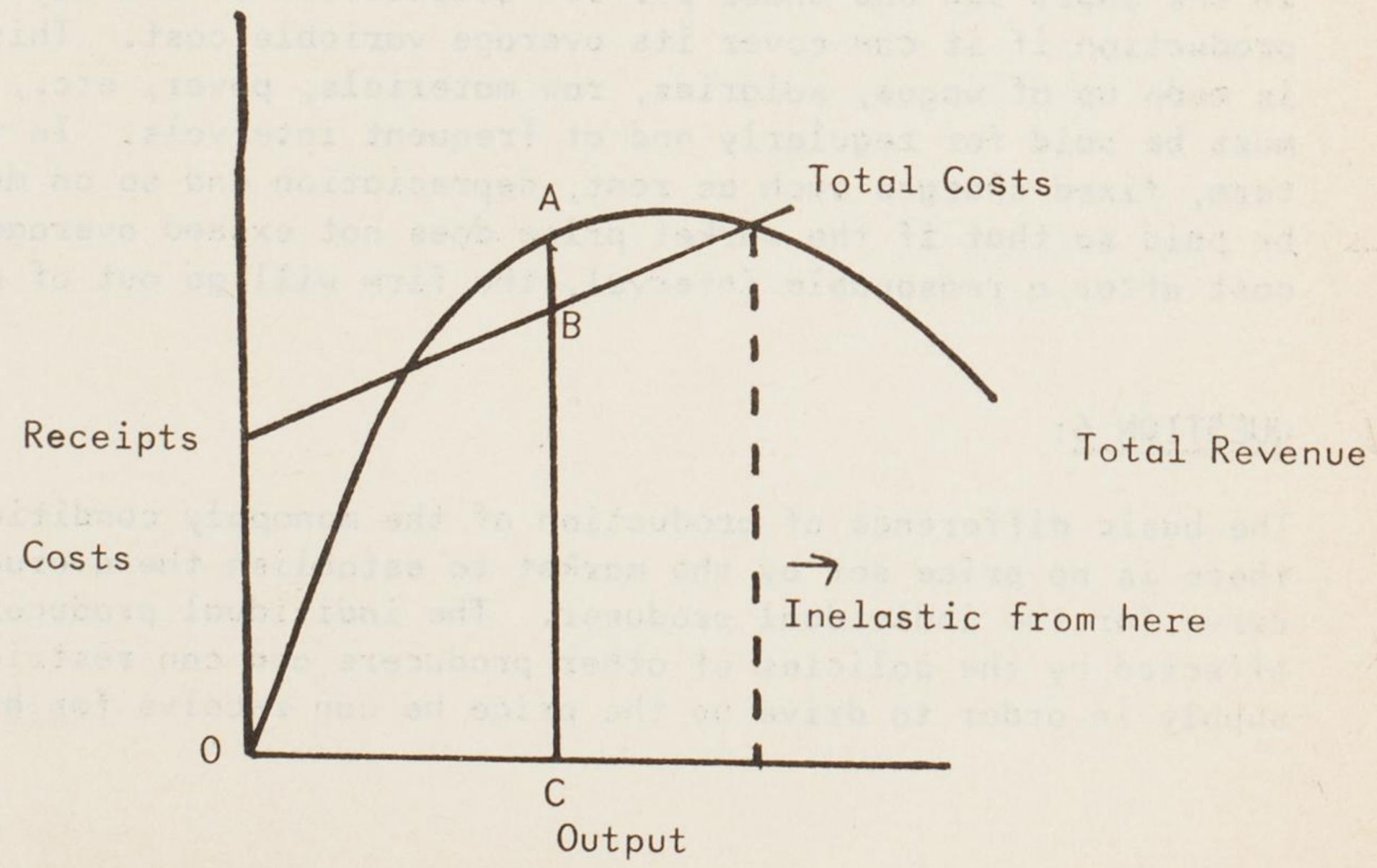
(1) Demand unity.



(2) Demand elastic.



(3) Demand inelastic.



In each case AB represents the monopolistic gain and OC the amount produced.

Occasionally the monopolist can discriminate - charge different prices to different people, usually in different markets. Each group then comprises a separate demand schedule and the above-stated arguments apply to each one.

QUESTION 5:

This question can be answered from the diagrams given in the lecture on the supply. It is inserted here to draw your attention to the fact that in the earlier lecture conditions of perfect competition were assumed. We had not then gone into detail on what perfect competition involves.

The first part of the question requires an account, by reference to a suitable diagram, of the manner in which the equilibrium position prevails where there is equality between marginal costs, total average costs and marginal revenue (which is, of course, the market price and also coincides with average revenue at that point). If, in trying to increase profits the firm produced an output to the right of the point of equilibrium on the various curves, marginal costs would exceed marginal revenue, while an output giving a position to the left of the optimum point, would result in a profit which could be increased by increasing output.

In the short run and under perfect competition a firm may remain in production if it can cover its average variable cost. This cost is made up of wages, salaries, raw materials, power, etc., which must be paid for regularly and at frequent intervals. In the long term, fixed charges such as rent, depreciation and so on must also be paid so that if the market price does not exceed average variable cost after a reasonable interval, the firm will go out of production.

QUESTION 6:

The basic difference of production of the monopoly conditions is that there is no price set by the market to establish the average revenue curve for the individual producer. The individual producer is not affected by the policies of other producers and can restrict his supply in order to drive up the price he can receive for his product.

The monopolist can make for himself an abnormal profit by restricting output so that average revenue is considerably above average cost and there are no other producers to enter the market to drive down his abnormal profit to a normal one.

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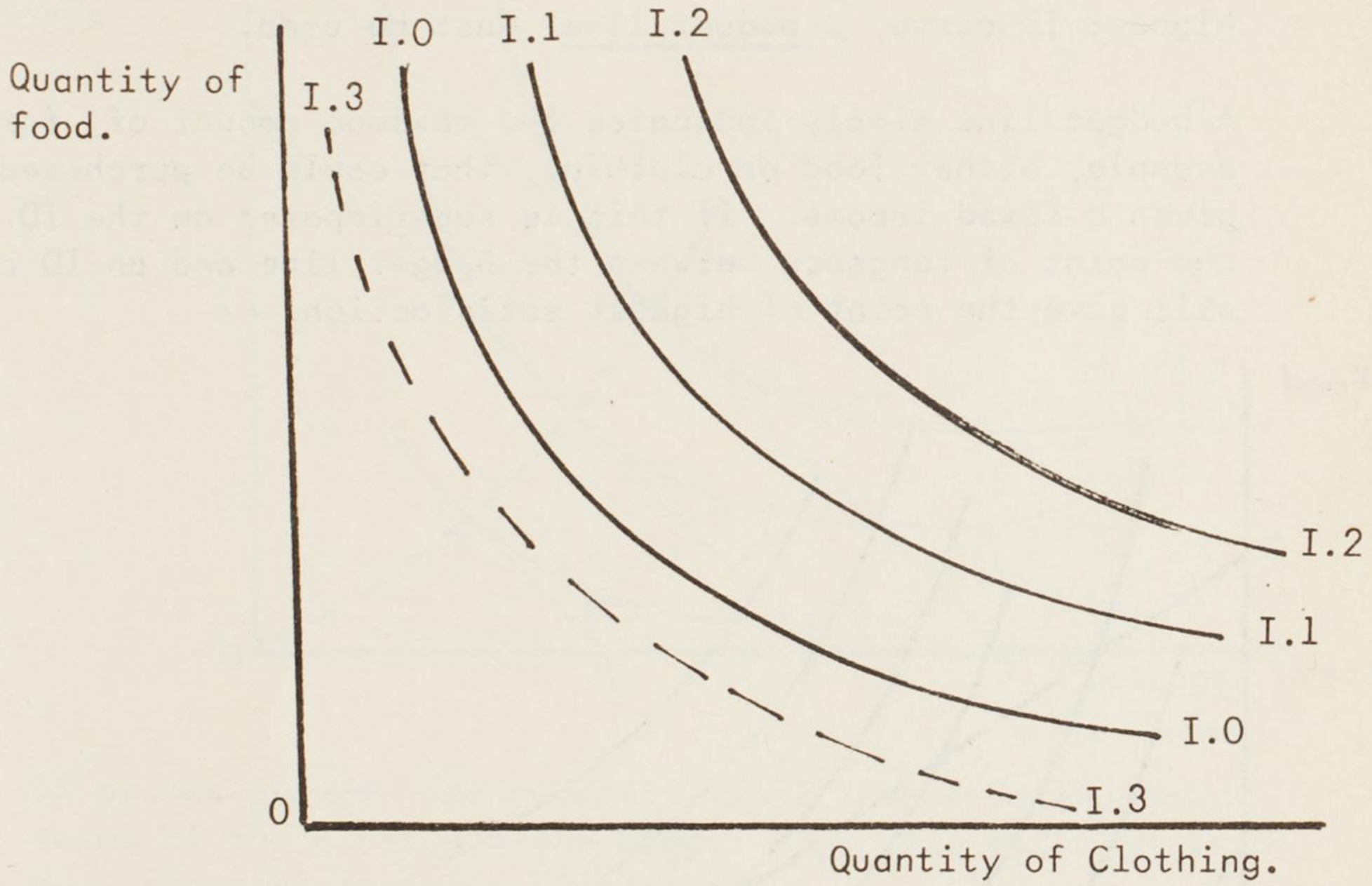
MISCELLANEOUS.

A. INDIFFERENCE CURVE ANALYSIS:

The assumption of cardinal measureability weakens the conclusion of marginal utility, theory as the basis of consumer behaviour. As an alternative, indifference curve analysis may be considered.

An indifference curve is a curve representing different combinations of commodities between which the consumer is indifferent in his choice eg., he may be indifferent to whether he has one fried egg and three rashers of bacon or two fried eggs and one rasher of bacon.



The indifference curve has a negative slope and is convex to the origin. The negative slope follows from the assumption that the consumer prefers more goods to less goods.

The assumption of convexity to the origin means that the marginal rate of substitution of one commodity for another diminishes, ie., the more food a consumer receives, the less willing he is to give up another unit of clothing for more food - the importance of a unit of clothing becomes progressively greater compared with a unit of food.

(MRS

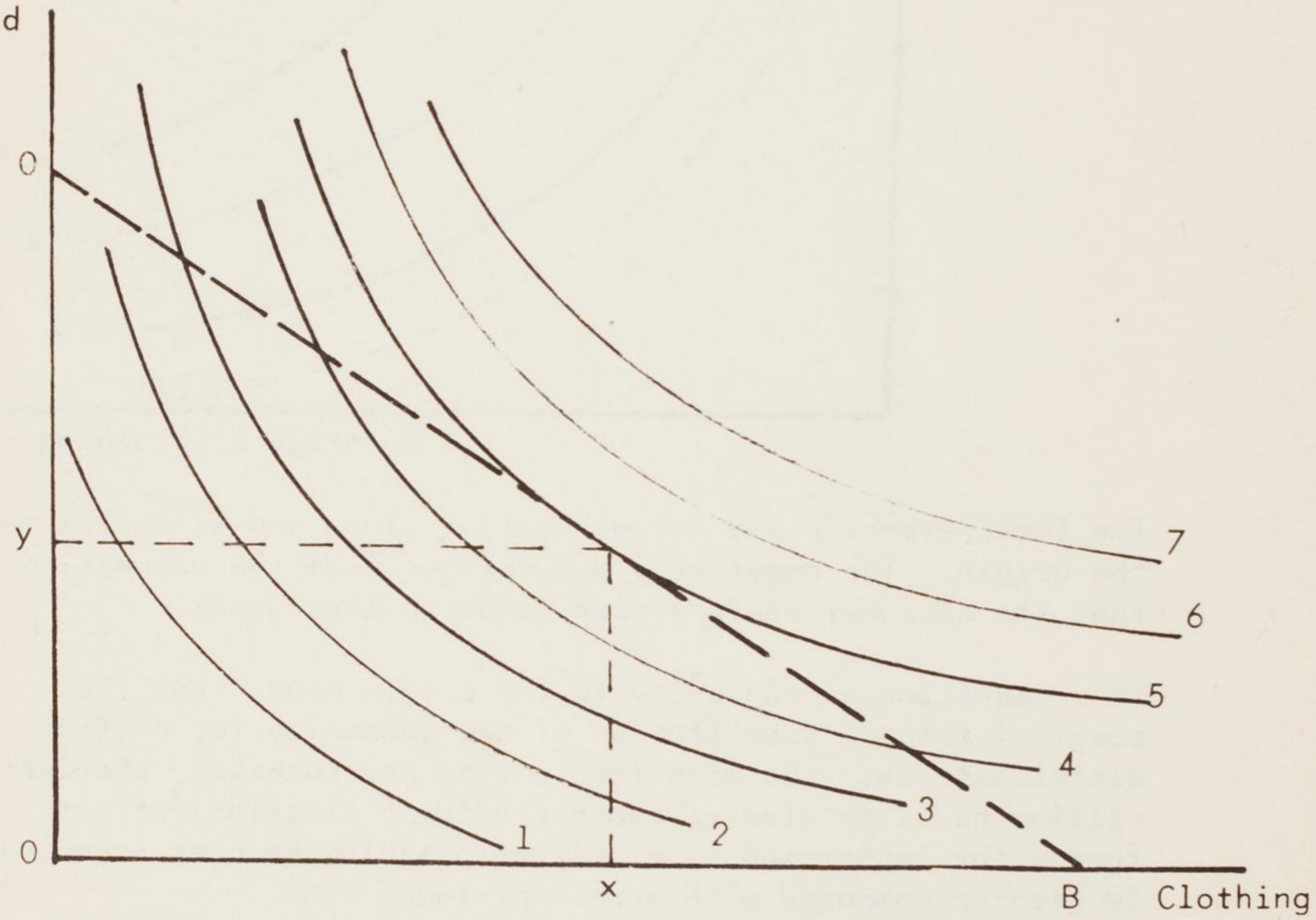
$$FC = \frac{\triangle C}{\triangle F}$$ .....for the mathematically inclined!)

Following the principle of Consumer Rationality, the consumer will strive to obtain the highest possible indifference curve as higher curves represent higher levels of satisfaction to the consumer.

A set of indifference curves (as shown in the above diagram) is called an Indifference Map.

To determine the consumer's maximum satisfaction position, ie., highest ID curve, a budget line must be used.

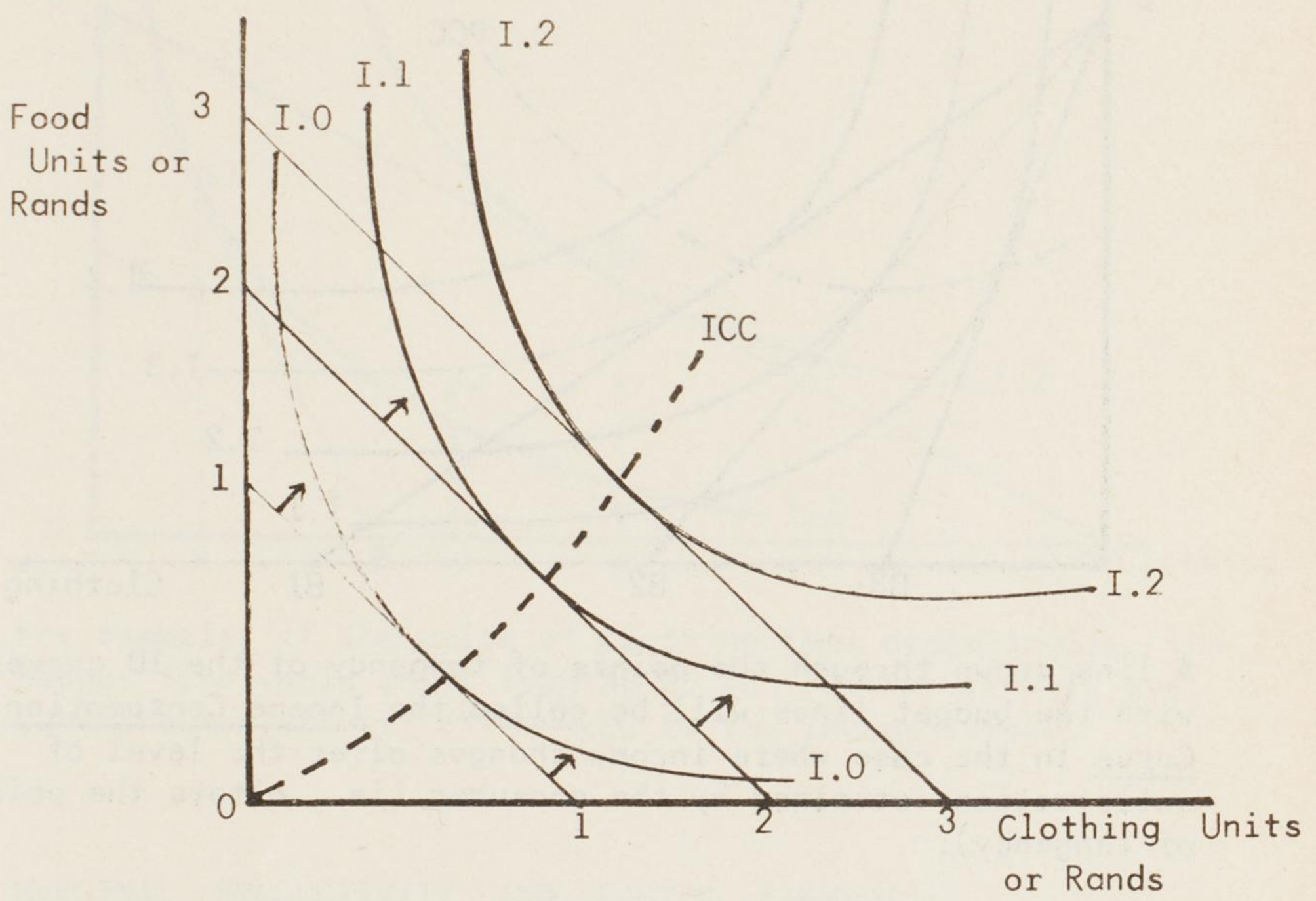
A budget line simply indicates the maximum amount of, for example, either food or clothing, that could be purchased given a fixed income. If this is superimposed on the ID map, the point of tangency between the budget line and an ID curve will give the point of highest satisfaction.



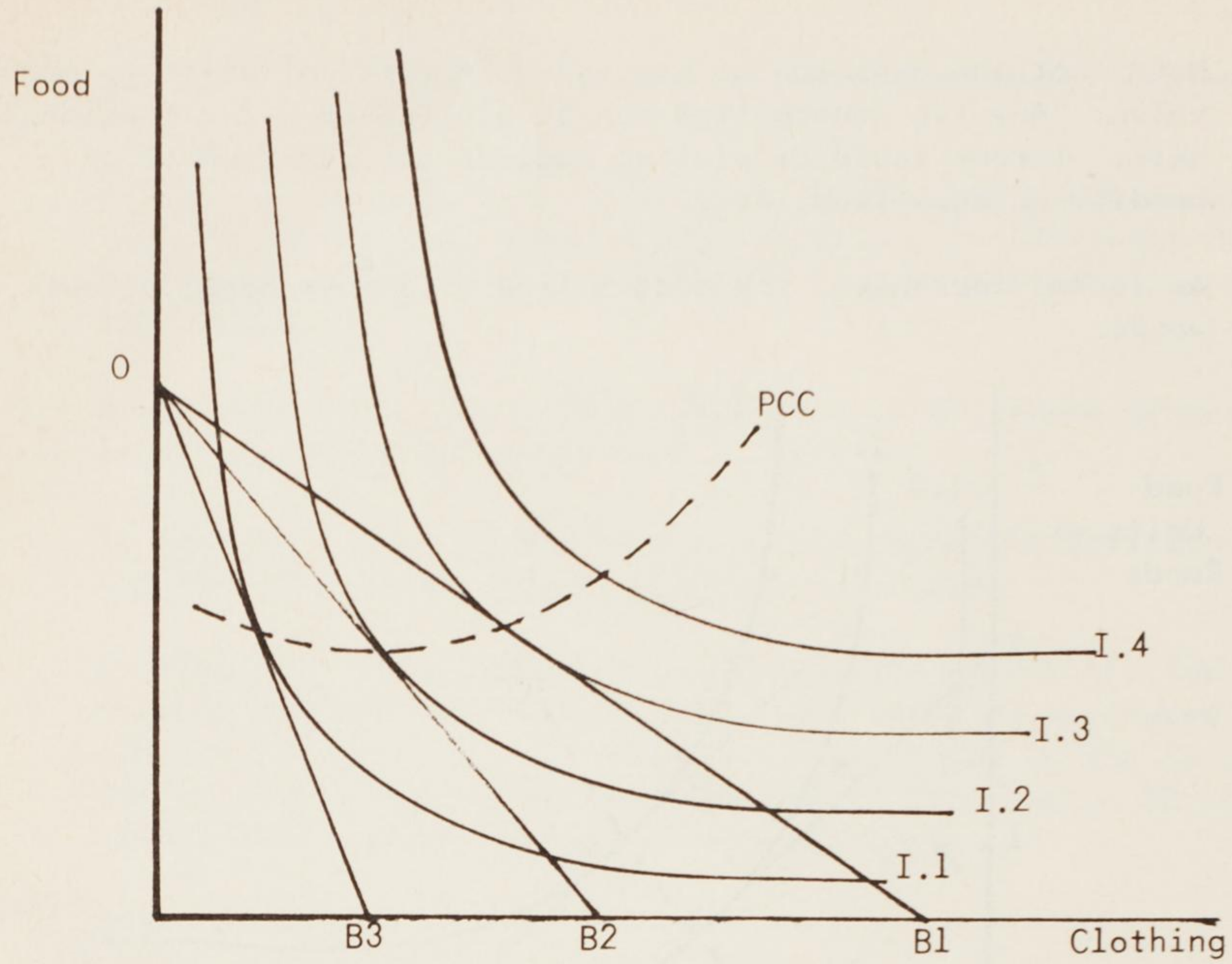
Given budget line OB, ID curve 5 is the highest obtainable and the consumer will spend his income on y units of Food and x of clothing.

Note that the axes can be expressed in terms of units or money value. Any two commodities can be plotted on a 2 dimensional axis. Income could be plotted against any one item of expenditure, eg., food, etc.

As income increases, the budget line will move parallel outwards.



If prices change, one commodity will become worth more in terms of the other and the budget line will alter in slope, eg., increase in price of clothes.

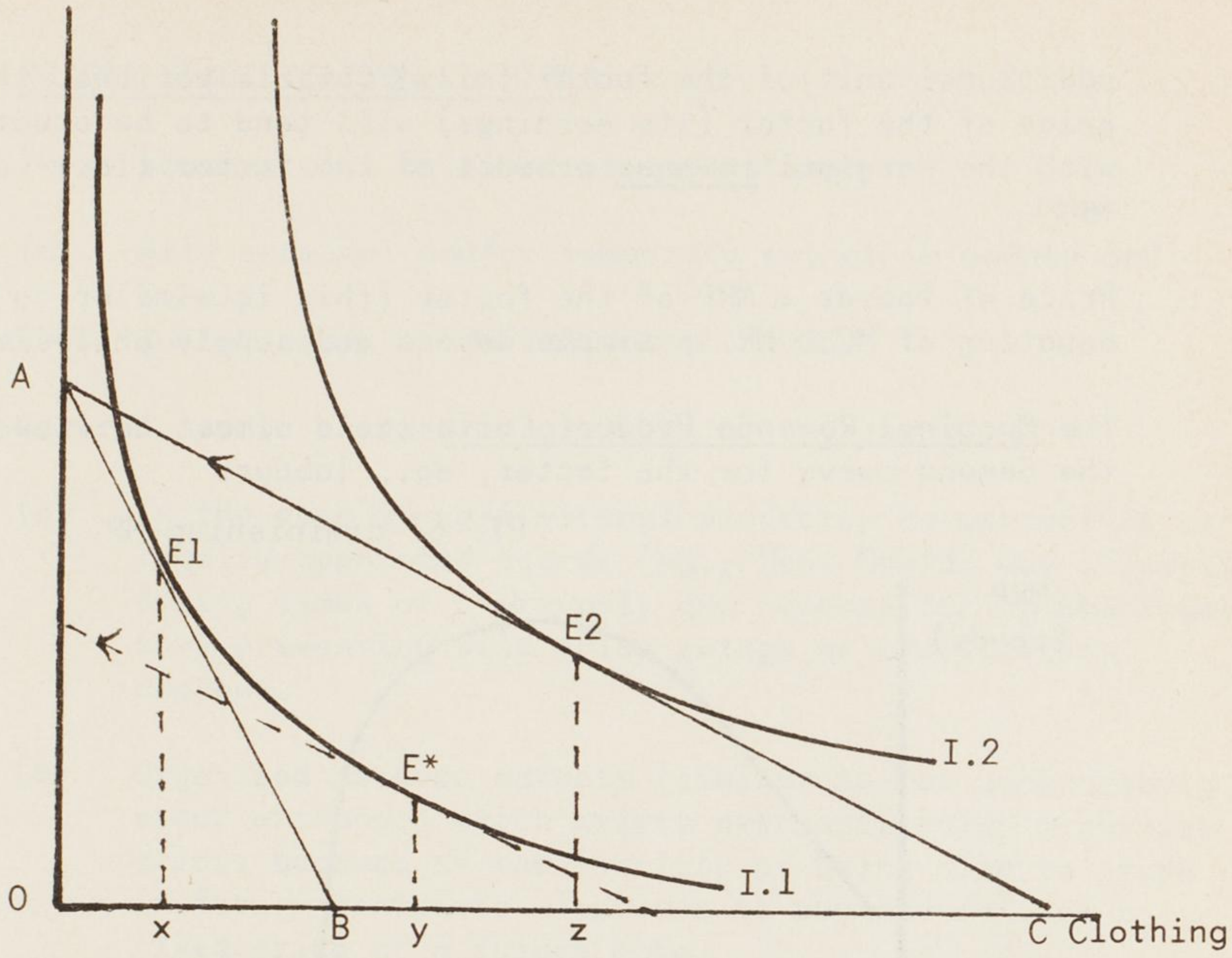


A line drawn through the points of tangency of the ID curves with the budget lines will be called the Income Consumption Curve in the case where income changes alter the level of satisfaction attained by the consumer (ie., alters the point of tangency).

Similarly, the Price Consumption Curve traces the points of tangency if the price of a commodity alters.

A decrease in price effectively increases real income as the consumer's purchasing power has increased. In determining his new position, ie., the ID curve on which he lies and the combination of goods he consumes, the income effect and the substitution effect of the change in price must be considered.

From his original position, the consumer will tend firstly to substitute more of the now cheaper goods for the more expensive ones. He will then tend to consume more of both (income effect).



For example, if the price of clothing fell dramatically, the budget line would shift from AB to AC. E1 ⟶ E* is the substitution effect; E* ⟶ E2 is the income effect.

B. MARGINAL PRODUCTIVITY AND FACTOR EARNINGS:

The demand for a factor of production is dictated by:-

(a) the demand for the product that the factor produces;
(b) the technical conditions of production.

The technical conditions are:-

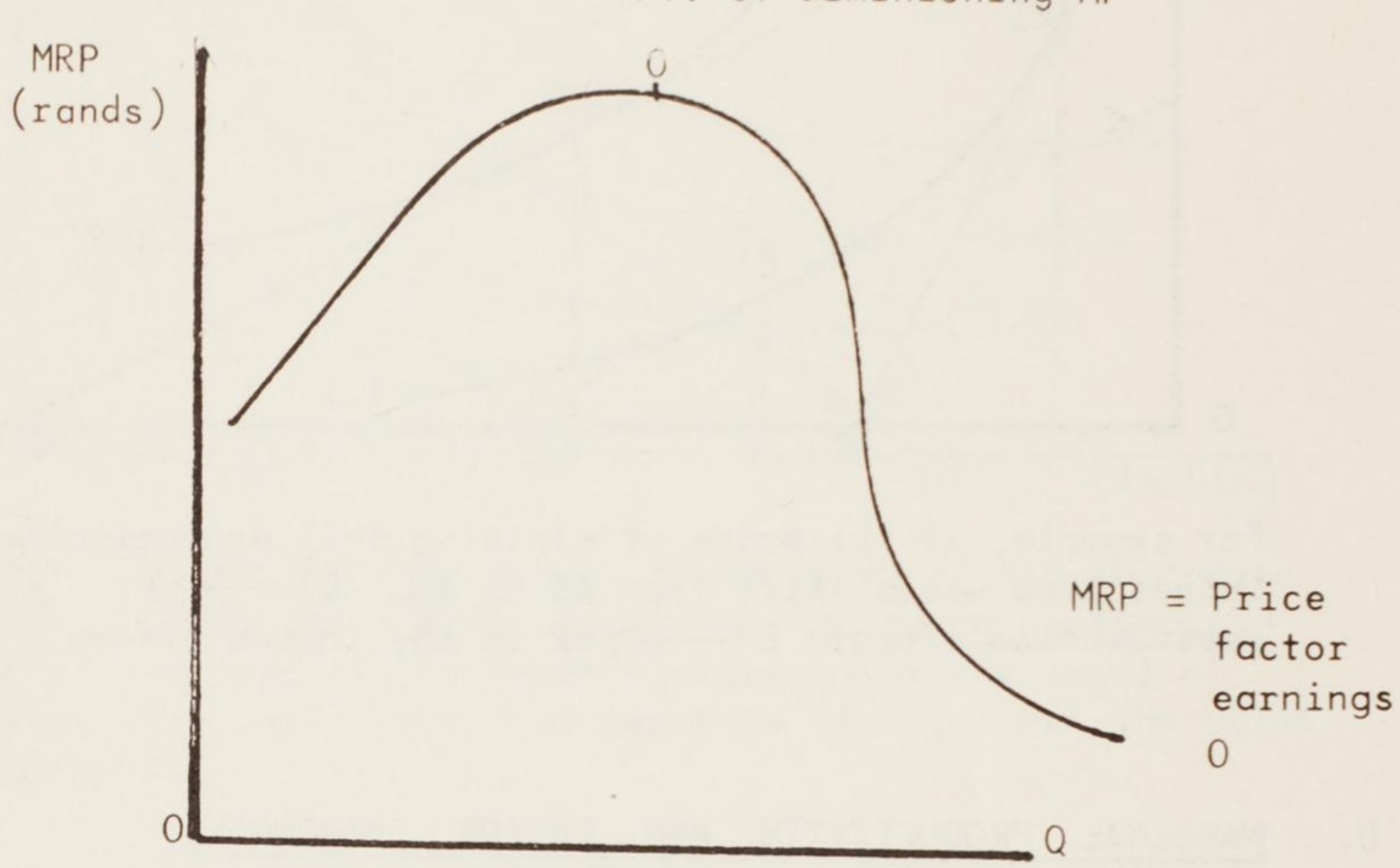
(a) the marginal productivity of the factor;
(b) the ease with which one factor may be substituted for another; and the
(c) importance of the factor in the total cost of production.

As more of a factor is used, its marginal physical product falls, (ie., the additional production attributable to one

additional unit of the factor falls). Ceteris paribus, the price of the factor (its earnings) will tend to be equated with the marginal revenue product of the factor (ie., value of MPP).

Price of factor = MRP of the factor (this is similar to the equating of MC = MR in simple demand and supply analysis).

The Marginal Revenue Product Curve could almost be viewed as the demand curve for the factor, eg., labour.



For a number of reasons, this relationship will not hold exactly:-

(1) The rachet-effect - wages tend to be inflexible downwards.

(2) Demand for a factor is a derived demand - there must be an increase in the demand for the product itself or an ability to substitute easily one factor (eg., capital) for another (eg., labour).

C. PRICE STABILIZATION SCHEMES:

These schemes will be aimed at combatting:-

(a) Wild seasonal and/or temporary swings in demand and supply;
(b) Inflationary or deflationary trends.

Control may be exerted in a number of ways:-

(a) In the case of agricultural products, co-operatives or legally-appointed boards (eg., Meat Board) may stockpile during times of oversupply and release during shortages, thus preventing wild price swings as availability changes.

(b) Organised produce markets (similar to our Johannesburg stock exchange) which exists overseas, helps stabilise prices because of the facility of being able to trade in future contracts - options to buy and sell at a fixed price at a future date.

(c) A full-employment situation is likely to breed inflation if increased demand for goods leads to increased prices & leads to demands for higher wages and salaries. The idea has been to force manufacturers to absorb increased costs themselves and not pass them on, thereby halting the spiral. However, price-fixing agreements have not proved sound or very workable.

(d) Systems of import duties, tariffs and permit control can prevent price swings caused by imports of temporarily cheap goods from overseas - particularly anti-dumping duties.

(e) The problem of countering rising prices caused by inflation, is one facing most governments of the world.

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LIKELY EXAMINATION QUESTIONS:

1. Indifference curve analysis is similar to marginal utility analysis in that both deal with consumer satisfaction. Discuss.

2. "The consumer can optimise his satisfaction subject to his level of income". Discuss using ID curves and budget (income) line to illustrate the optimal point.

3. Changing prices change a consumer's real income. Illustrate their effect on satisfaction achievable by using ID curves and budget line.

4. Explain briefly (with the aid of a diagram) substitution and income effects.

5. (a) What variables govern the demand for factors of production?
   (b) Explain why MRP of a factor is equal to price of the factor.

6. Discuss Price Stabilization schemes.

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ANSWERS:

All are adequately dealt with in the Lecture.

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ECONOMICS.

TEST LB9.

(Time allowed : 3 hours)

NOTE:
1. Credit will be given for neatness and method.
2. All questions carry equal marks.
3. Leave sufficient space at the head of your answer paper for your tutor's comments.
4. Answer ALL questions.

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1. What effect is a rise in the price of coffee likely to have on the price of tea?

2. "An increase in the demand for wheat raises its price. An increase in the demand for motor-cars causes them to become cheaper". Explain.

3. "The importance of cost as a measure and regulator of value varies with the length of period contemplated". Explain and criticise this view of the value problem.

4. What effect on the aggregate income of a monopolistic group of producers will follow an agreement to raise the price of their products?

5. "A free pricing system tends, subject to some qualifications, to guide economic activity into those channels which consumers, given the prevailing distribution of incomes, most prefer. The pricing system also enables a rational choice to be made between alternative methods of production". Elucidate the meaning of this statement.

6. Describe a perfectly competitive market. Explain with the aid

of a graph how the market price and the amount offered will be determined in the case of an individual firm in such a market.

7. Describe briefly with the aid of graphs the characteristics of:-

(i) total utility,
(ii) average utility, and
(iii) marginal utility.

How can knowledge of marginal utility be used by the consumer?

8. What is meant by elasticity of demand? With the aid of figures and graphs describe a demand curve which:-

(i) is elastic,
(ii) is inelastic, and
(iii) has an elasticity of unity.

Also give supply curves:-

(iv) of perfect elasticity, and
(v) perfect inelasticity of supply.

How do (iv) and (v) compare with demand curves for similar elasticities?

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Please fill in:-

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