BUSINESS ECONOMICS - I

Introduction to Economics

INTRODUCTION:

WHAT IS BUSINESS ECONOMICS?

LET US UNDERSTAND THESE TWO TERMS BUSINESS + ECONOMICS.

BUSINESSES PROVIDE GOODS AND SERVICES FOR CONSUMERS.

ECONOMICS IS THE STUDY OF THE PRODUCTION, DISTRIBUTION, AND CONSUMPTION OF GOODS AND SERVICES.

- ECONOMICS IS THE STUDY OF HOW PEOPLE ALLOCATE THEIR RESOURCES TO PRODUCE AND CONSUME GOODS AND SERVICES FOR THEIR UNLIMITED WANTS WITH THE OBJECTIVE OF MAXIMISING THE GAIN.
- ECONOMICS PLAYS A VERY IMPORTANT ROLE IN THE INDIVIDUAL'S LIFE AND IN THE PROGRESS OF THE COUNTRY.
- ALL THE HUMAN BEINGS HAVE UNLIMITED WANTS. THEIR SOURCE OF INCOME IS LIMITED, SO WITH THE LIMITED RESOURCES HOW THEY CAN MAXIMISE THE GAIN AND MAXIMUM LEVEL UTILISATION; THAT IS ECONOMICS.

TEN PRINCIPLES OF ECONOMICS

HOW PEOPLE MAKE DECISIONS:

1. PEOPLE FACE TRADES OFF.
2. THE COST OF SOMETHING IS WHAT YOU GIVE UP TO GET IT.
3. RATIONAL PEOPLE THINK AT THE MARGIN.
4. PEOPLE RESPOND TO INCENTIVES.

HOW PEOPLE INTERACT:

5. TRADE CAN MAKE EVERYONE BETTER OFF.
6. MARKETS ARE USUALLY A GOOD WAY TO ORGANISE ECONOMIC ACTIVITY.
7. GOVERNMENTS CAN SOMETIMES IMPROVE MARKET OUTCOMES.

HOW THE ECONOMY AS A WHOLE WORKS:

8. A COUNTRY'S STANDARD OF LIVING DEPENDS ON ITS ABILITY TO PRODUCE GOODS AND SERVICES.
9. PRICES RISE WHEN THE GOVERNMENT PRINTS TOO MUCH MONEY.
10. SOCIETY FACES A SHORT-RUN TRADE-OFF BETWEEN INFLATION AND UNEMPLOYMENT.

TOOLS OF ECONOMICS ANALYSIS

BASIC CONCEPTS IN BUSINESS ECONOMICS:

- VARIABLES
- FUNCTIONS
- EQUATIONS
- GRAPHS

VARIABLES:

A VARIABLE IS A MAGNITUDE OF INTEREST WHICH CAN BE DEFINED AND MEASURED. (MAGNITUDE MEANS VERY LARGE IN SIZE)

A SIMPLE TECHNICAL TERM IS USED TO DESCRIBE AND SYMBOLISE A RELATIONSHIP BETWEEN VARIABLES IS CALLED A FUNCTION.

EXAMPLE : Qdx = f(Px).

Where Qdx = Quantity demanded of x ; f = functional relationship ; Px = Price of x

FUNCTIONS :

FUNCTION EXPLAINS THE RELATIONSHIP BETWEEN TWO ECONOMIC VARIABLES.

EXAMPLE: DEMAND FUNCTION: THE QUANTITY DEMANDED OF A COMMODITY IS DEPENDENT ON ITS PRICE, SYMBOLICALLY IT MAY BE DENOTED AS,

D = f (P)

WHERE D = QUANTITY DEMANDED

f = FUNCTIONAL RELATIONSHIP

P = PRICE

EQUATIONS:

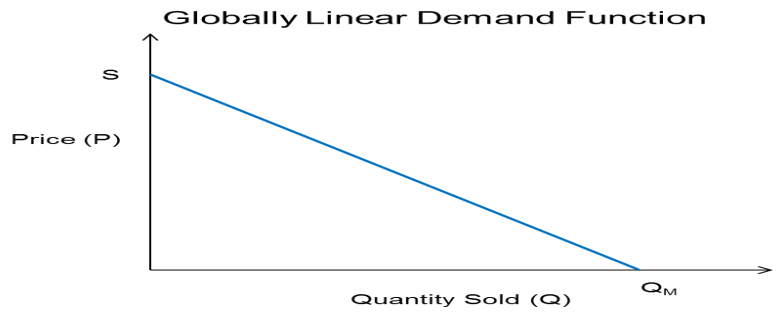
EQUATIONS REFER TO A STATEMENT OF EQUALITY TWO EXPRESSIONS OR TWO ECONOMIC VARIABLES. THE SYMBOL ' = ' IS USED IN THE EQUATION.

FOR EXAMPLE ; D = f (P)

GRAPHS:

A FUNCTION CAN BE REPRESENTED BY MEANS OF A GRAPH:

I . LINEAR FUNCTION



ii. QUADRATIC FUNCTION:

IN QUADRATIC FUNCTION ONE OR MORE OF THE INDEPENDENT VARIABLES ARE SQUARED.

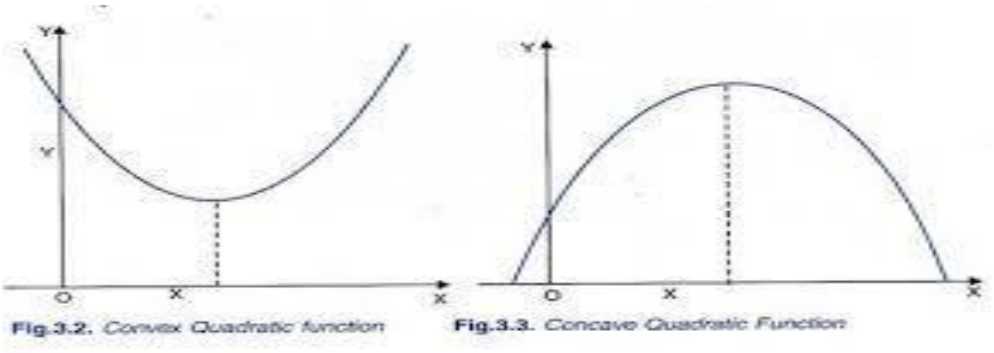
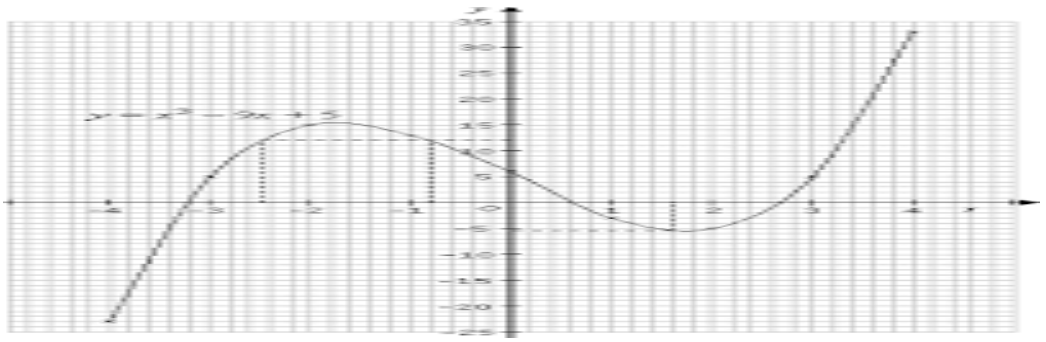


Fig.3.2. *Convex Quadratic function* Fig.3.3. *Concave Quadratic Function*

iii) CUBIC FUNCTION:

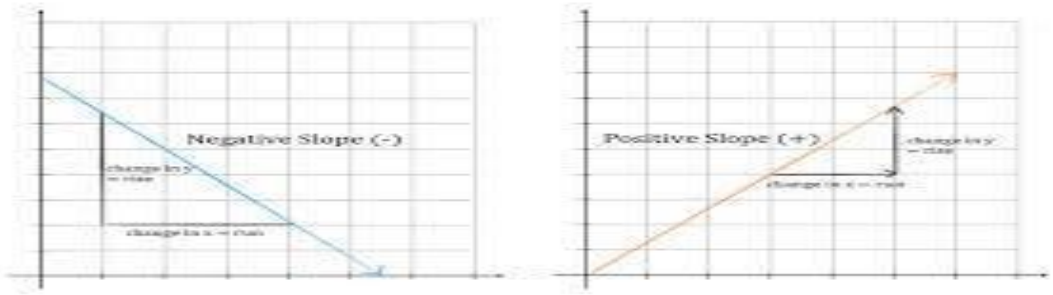
A cubic function is the power function in which there is a third-degree term relating to an independent variable.



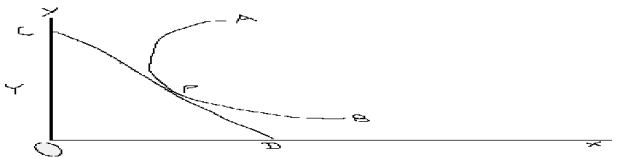
SLOPES:

SLOPE REFERS TO CHANGE IN ONE VARIABLE DUE TO A CHANGE IN ANOTHER VARIABLE.

SLOPE = CHANGE IN Y / CHANGE IN X (LINEAR CURVE)

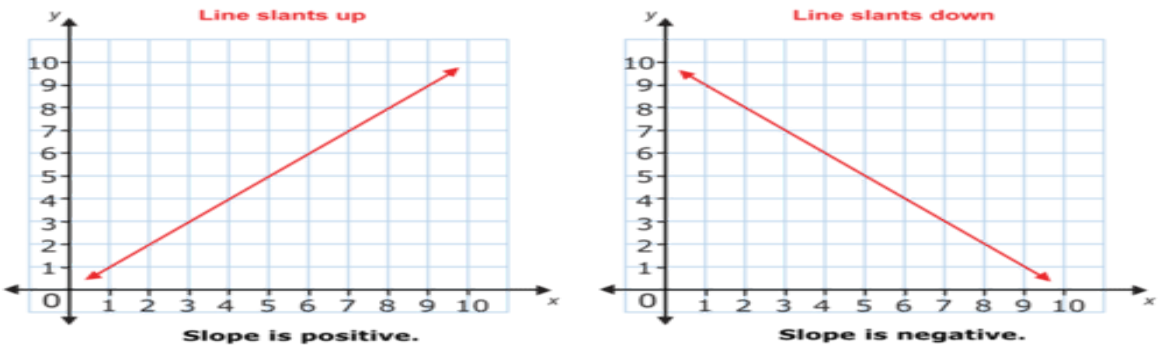


SLOPE = CHANGE IN Y / CHANGE IN X (NON-LINEAR CURVE)

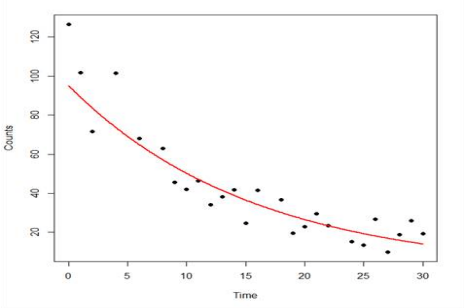


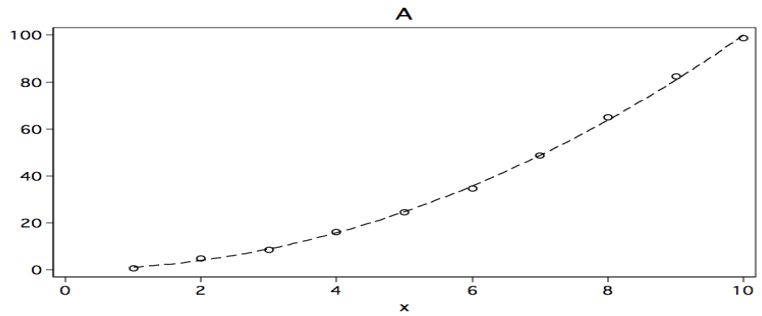
CURVES AND LINES:

THE FUNCTIONAL RELATIONSHIP BETWEEN THE VARIABLES MAY BE LINEAR (POSITIVE SLOPE AND NEGATIVE SLOPE)



THE FUNCTIONAL RELATIONSHIP BETWEEN THE VARIABLES MAY BE NON-LINEAR





BASIC ECONOMIC TOOLS IN BUSINESS ECONOMICS

TOTAL, AVERAGE AND MARGINAL RELATIONS:

TOTALS:

TOTAL IS THE SUM OF THE DEPENDENT VARIABLE.

TOTAL PRODUCT : (TP)

TP IS THE TOTAL AMOUNT OF GOODS PRODUCED BY USING A CERTAIN AMOUNT OF INPUTS.

TP CAN BE INCREASED BY EMPLOYING MORE AND MORE VARIABLE FACTORS.

TP = AP x QVF WHERE ,

TP = TOTAL PRODUCT , AP = AVERAGE PRODUCT ,QVF = QUANTITY OF A VARIABLE FACTOR.

TOTAL COST : (TC)

TC IS THE TOTAL EXPENDITURE MADE BY THE FIRM TO PRODUCE A GIVEN QUANTITY OF OUTPUT.

THE TOTAL COST OF THE FIRM IS THE FUNCTION OF OUTPUT (Q) .

TC = f (Q)

TC IS THE SUM OF TOTAL FIXED COST (TFC) AND TOTAL VARIABLE COST (TVC).

TC = TFC + TVC

TOTAL REVENUE : (TR)

TR IS THE TOTAL AMOUNT OF MONEY THAT THE FIRM RECEIVES FROM THE SALES OF ALL UNITS OF PRODUCT.

TR = P x Q

WHERE (P=PRICE PER UNIT, Q = QUANTITY SOLD)

AVERAGES:

AVERAGES IS THE PER UNIT VALUE.

AVERAGES PRODUCT (AP): AVERAGE PRODUCT IS THE TOTAL PRODUCT PER UNIT OF
VARIABLE FACTOR.

AP = TP / QVF WHERE QVF = QUANTITY OF A VARIABLE FACTOR.

AVERAGE COST (AC):

AVERAGE COST IS THE TOTAL COST PER UNIT OF OUTPUT.

AC = TC / Q

WHERE AC = AVERAGE COST , TC = TOTAL COST , Q = UNIT OF OUTPUT

AVERAGE REVENUE (AR) : AVERAGE REVENUE REFERS TO THE PRICE PER UNIT OF COMMODITY SOLD.

AR = TR / Q i.e. AR = P

WHERE AR = AVERAGE REVENUE, TR = TOTAL REVENUE, Q = QUANTITY

MARGINALS:

MARGINALS IS THE CHANGE IN THE DEPENDANT VARIABLE CAUSED BY ONE UNIT OF CHANGE IN AN INDEPENDENT VARIABLE.

MARGINAL PRODUCT (MP): MP IS AN ADDITION MADE TO THE TOTAL PRODUCT BY EMPLOYING ONE OR MORE UNITS OF VARIABLE FACTOR.

MP = DTP / DQVF OR MPn = TPn - TPn-1

MP = MARGINAL PRODUCT ; DTP = CHANGE IN TOTAL PRODUCT ;

DQVF = CHANGE IN QUANTITY OF VARIABLE FACTOR.

MARGINAL COST : (MC)

MC IS AN ADDITION MADE TO THE TOTAL COST BY PRODUCING AN ADDITIONAL UNIT OF OUTPUT.

MC = DTC / DQ ; OR MCn = TCn – TCn-1

MC = MARGINAL COST ; DTC = CHANGE IN TOTAL COST ; DQ = CHANGE IN

QUANTITY.

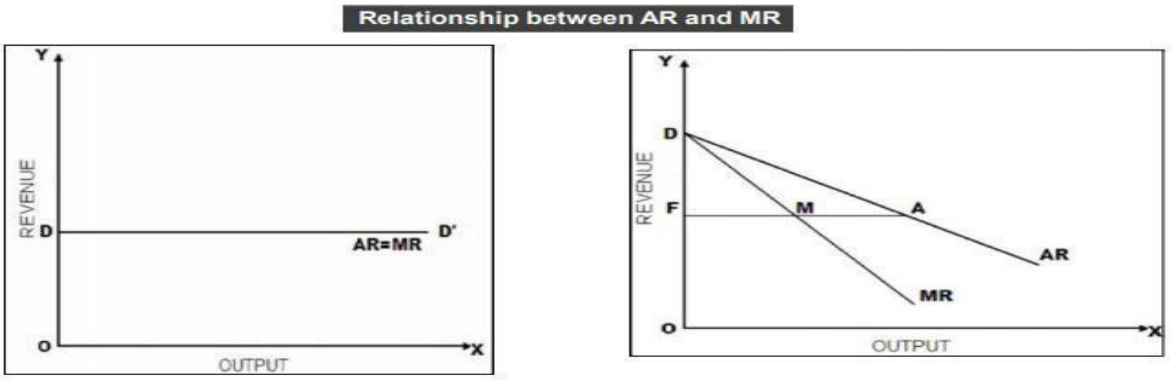
MARGINAL REVENUE : (MR)

MR IS THE EXTRA REVENUE RECEIVED BY THE FIRM BY SELLING ONE MORE UNIT OF A COMMODITY.

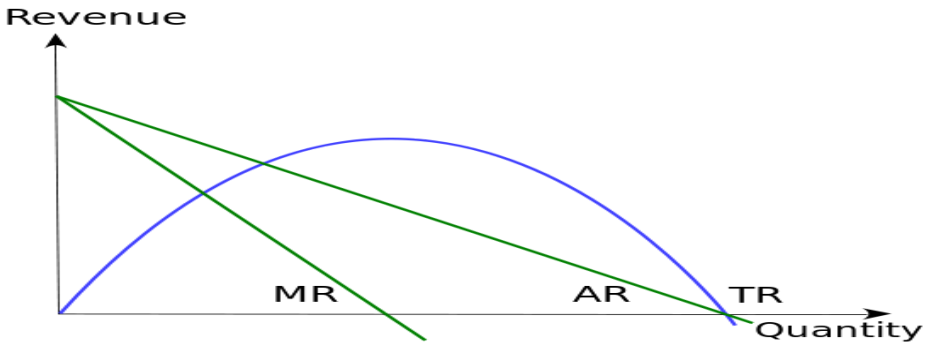
MR = DTR / DQ; OR MRn = TRn – TRn-1

MR = MARGINAL REVENUE; DTR = CHANGE IN TOTAL REVENUE; DQ = CHANGE IN QUANTITY

THE TOTAL, AVERAGE AND MARGINAL REVENUE RELATION UNDER PERFECT COMPETITION CAN BE EXPLAINED WITH THE HELP OF A DIAGRAM:



THE TOTAL, AVERAGE AND MARGINAL REVENUE RELATION UNDER MONOPOLY CAN BE EXPLAINED WITH THE HELP OF A DIAGRAM :



CURRENT AFFAIRS

- PUBLIC SECTOR BANKS REPORT FRAUD WORTH OVER RS.19,964 CRORES IN THE 1ST QUARTER OF F.Y. 2020-2021 SAYS RBI.
- PUNJAB NATIONAL BANK HAD THE MOST NUMBER OF FRAUD CASES AT 240 AMOUNTING TO RS. 270.65 CRORE.
- BANK OF INDIA TOOK THE BIGGEST HIT OF RS.5124.87 CRORE.
- TOTAL 2867 CASES OF FRAUD WERE REPORTED DURING APR.2020 – JUNE.2020 QTR.
- THE COUNTRY'S LARGEST LENDER BANK (SBI) SAW THE HIGHEST NUMBER OF FRAUD CASES COMPARED TO ITS PAST RECORD.
- SBI REPORTED 2050 FRAUD CASES INVOLVING RS.2325.88 CRORE DURING THIS QTR.
- CANARA BANK REPORTED 33 CASES INVOLVING RS 3885.69 CRORE.
- THE DATA MAY CHANGE SUBJECT TO RECTIFICATION / UPDATIONS MADE SUBSEQUENT TO FIRST REPORTING BY THE BANK (IN RESPECT OF INDIVIDUAL FRAUD) AS PER THE REPLY OF RBI.
- THIS REALLY IS A SERIOUS ISSUE AND NEEDS TO BE CONTROLLED BY THE GOVERNMENT ASAP, AS IT BREAKS THE GROWTH OF THE ECONOMY.

PRODUCTION POSSIBILITY CURVE

WHAT IS THE PRODUCTION POSSIBILITY CURVE?

PRODUCTION POSSIBILITY CURVE (PPC) IS A GRAPH THAT SHOWS ALL THE DIFFERENT COMBINATIONS OF OUTPUT THAT CAN BE PRODUCED BY UTILISING CURRENT RESOURCES AND TECHNOLOGY.

EACH POINT ON THE CURVE SHOWS HOW MUCH OF EACH GOOD WILL BE PRODUCED WHEN RESOURCES SHIFT FROM MAKING MORE OF ONE GOOD AND LESS OF THE OTHER.

THE CURVE MEASURES THE TRADE-OFF BETWEEN PRODUCING ONE GOOD VERSUS ANOTHER.

FOR EXAMPLE, SAY AN ECONOMY CAN PRODUCE 30,00,000 QUINTALS OF WHEAT AND 50,00,000 QUINTALS OF COTTON.

ASSUMPTIONS:

- ONLY TWO GOODS X (CONSUMER GOODS) AND Y (CAPITAL GOODS) ARE PRODUCED IN DIFFERENT PROPORTIONS IN THE ECONOMY.
- THE SAME RESOURCES CAN BE USED TO PRODUCE EITHER OR BOTH OF THE TWO GOODS AND CAN BE SHIFTED FREELY BETWEEN THEM.
- THE SUPPLY FACTORS ARE FIXED. BUT THEY CAN BE RE-ALLOCATED FOR THE PRODUCTION OF TWO GOODS WITHIN LIMITS.
- THE PRODUCTION TECHNIQUES ARE GIVEN AND REMAIN CONSTANT.
- THE ECONOMY'S RESOURCES ARE FULLY EMPLOYED AND TECHNICALLY EFFICIENT.
- THE TIME PERIOD IS SHORT.

GRAPHICAL REPRESENTATION OF SCHEDULE OF PRODUCTION POSSIBILITY CURVE

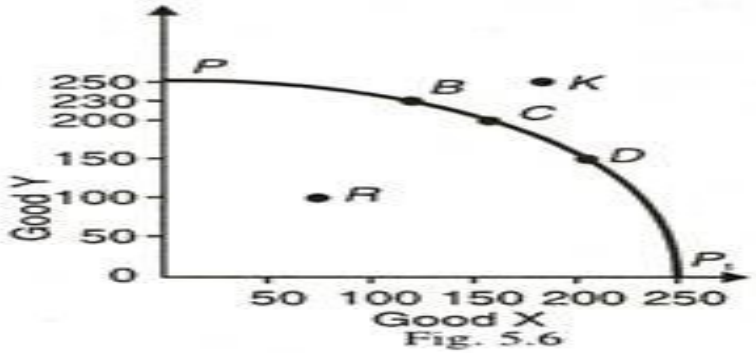
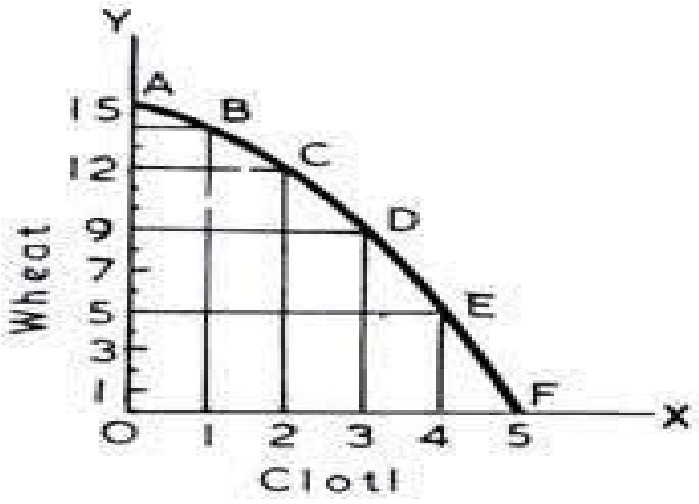


Fig. 5.6

Table 1

Production Possibilities (1)	Cloth in million metres) (2)	Wheat (in million quintals) (3)	Marginal opportunities cost of cloth (in wheat) (4)
A	0	15	—
B	1	14	1
C	2	12	2
D	3	9	3
E	4	5	4
F	5	0	5



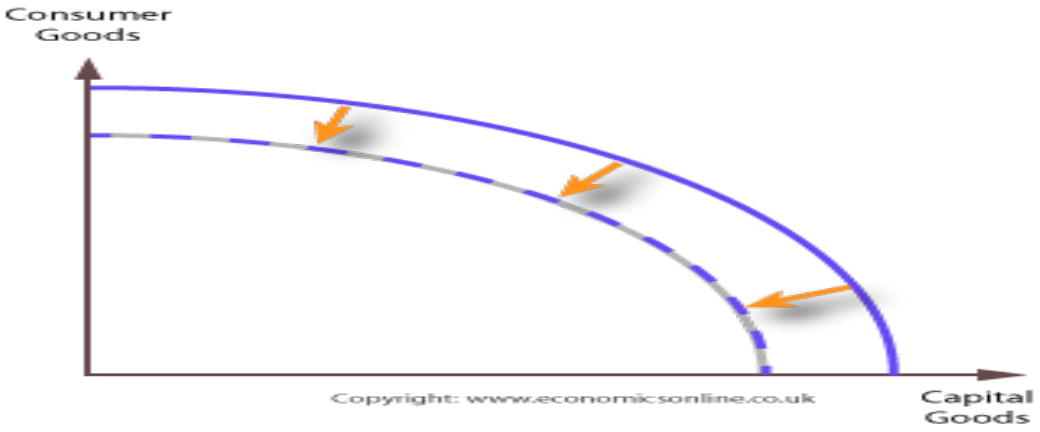
Production Possibility Curve
Fig. 21.2

SHIFTING OF PRODUCTION POSSIBILITY CURVE:

SHIFTS IN PRODUCTION POSSIBILITY CURVE ARE CAUSED BY THINGS THAT CHANGE THE OUTPUT OF AN ECONOMY.

ADVANCES IN TECHNOLOGY, CHANGES IN RESOURCES, MORE TRAINING AND EDUCATION, AND CHANGES IN THE LABOUR FORCE ARE THE MAIN REASON FOR SHIFTS IN THE PRODUCTION POSSIBILITY CURVE (PPC).

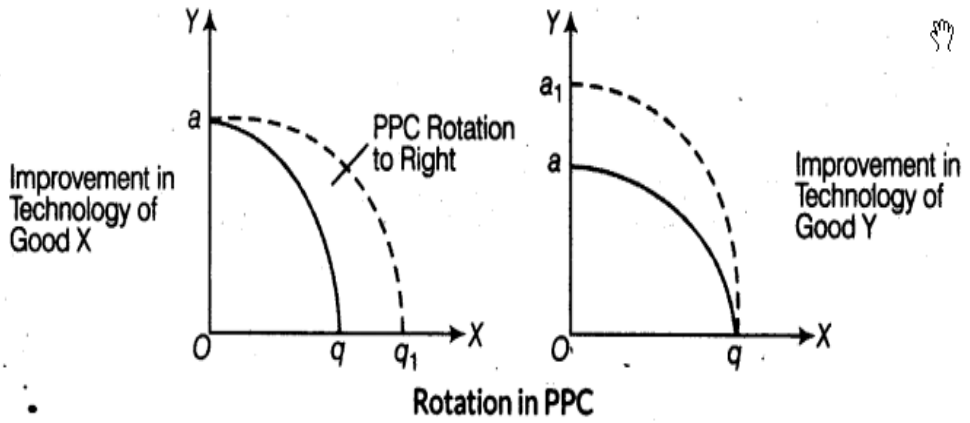
SHIFTING OF PRODUCTION POSSIBILITY CURVE:



<u>ROTATION OF PRODUCTION POSSIBILITY CURVE:</u>

- PPC SHIFTS AND ROTATES WHEN RESOURCES AND TECHNOLOGY CHANGE.
- IF RESOURCES AND TECHNOLOGY IMPROVE PPC SHIFTS RIGHTWARDS.
- IF RESOURCES AND TECHNOLOGY DECREASE THEN PPC SHIFTS LEFTWARDS.
- ROTATION TAKES PLACE WHEN RESOURCES AND TECHNOLOGY CHANGE AND AFFECT ONLY ONE COMMODITY.

ROTATION OF PRODUCTION POSSIBILITY CURVE:



Rotation in PPC

Demand & Supply Analysis
&
Theory of Consumer's Choice

DEMAND AND SUPPLY ANALYSIS

INTRODUCTION:

DEMAND AND SUPPLY IS ONE OF THE MOST FUNDAMENTAL CONCEPTS OF ECONOMICS AND IT IS A BACKBONE OF A MARKET ECONOMY.

DEMAND REPRESENTS HOW MUCH QUANTITY OF A PRODUCT IS DESIRED BY THE BUYERS.

SUPPLY REPRESENTS HOW MUCH THE MARKET CAN OFFER.

DEMAND: MEANING AND DEFINITION

IN ECONOMICS DEMAND MEANS DESIRE FOR A COMMODITY-BACKED BY THE ABILITY AND WILLINGNESS TO PAY FOR IT.

DEMAND = DESIRE + ABILITY TO PAY + WILLINGNESS TO PAY

DEMAND IS A FUNCTION OF PRICE, ASSUMING ALL OTHER FACTORS REMAIN CONSTANT.

D = f(P)

DEMAND VARIES INVERSELY WITH ITS PRICE.

INDIVIDUAL DEMAND REFERS TO THE DEMAND FOR A COMMODITY BY AN INDIVIDUAL BUYER, AT A SPECIFIED PRICE AND TIME IN THE MARKET.

AN INDIVIDUAL DEMAND SCHEDULE IS A TABULAR STATEMENT SHOWING DIFFERENT AMOUNTS OF A COMMODITY THAT AN INDIVIDUAL CONSUMER IS WILLING TO BUY.

IT INDICATES AN INVERSE RELATIONSHIP BETWEEN PRICE AND QUANTITY DEMANDED WHILE OTHER FACTORS LIKE INCOME, PRICES OF RELATED GOODS REMAIN CONSTANT.

LAW OF DEMAND

LAW OF DEMAND INTRODUCED BY ALFRED MARSHALL IN ECONOMICS EXPLAINS THE INVERSE RELATIONSHIP BETWEEN PRICE AND QUANTITY DEMANDED.

STATEMENT OF LAW: THE QUANTITY DEMANDED OF A COMMODITY VARIES INVERSELY WITH ITS PRICE.

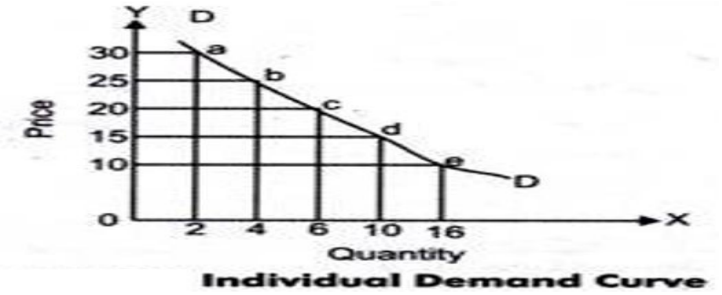
If PRICE FALLS DEMAND RISES AND IF PRICE RISES DEMAND FALLS.

ASSUMPTIONS:

- THE INCOME OF THE CONSUMER SHOULD REMAIN THE SAME.
- PRICES OF OTHER COMMODITIES SHOULD REMAIN THE SAME.
- THERE IS NO CHANGE IN TASTE, HABITS, PREFERENCES OF THE CONSUMER.
- THE SIZE AND COMPOSITION OF THE POPULATION SHOULD BE UNCHANGED.
- THERE IS NO CHANGE IN CLIMATE AND WEATHER CONDITIONS.
- THE TAX STRUCTURE SHOULD REMAIN UNCHANGED.
- THERE SHOULD BE NO CHANGE IN THE QUANTITY OF MONEY IN CIRCULATION.
- THE STATE OF TECHNOLOGY SHOULD REMAIN CONSTANT.
- THERE IS NO CHANGE IN MARKET EXPECTATION.
- THERE IS NO CHANGE IN CREDIT FACILITY TO THE CONSUMER.

MARKET DEMAND AND SUPPLY

INDIVIDUAL DEMAND CURVE



Individual Demand Curve

DETERMINANTS OF DEMAND

DEMAND FOR A COMMODITY DEPEND ON A NUMBER OF FACTORS. THE MAIN DETERMINANTS OF DEMAND ARE AS FOLLOWS:

1. PRICE OF COMMODITY X (Px).
2. PRICE OF RELATED COMMODITIES (Pr)
3. INCOME (Y)
4. TASTE, HABITS, AND PREFERENCE (T)
5. SIZE OF POPULATION (P)
6. ADVERTISEMENT (A)
7. CONSUMER'S EXPECTATIONS (E)
8. FASHIONS (F)
9. CLIMATIC OR WEATHER CONDITIONS (W)
10. CUSTOMS (C)
11. OTHER FACTORS (O)

ELASTICITY OF DEMAND AND MEASUREMENT

CONCEPT OF ELASTICITY OF DEMAND

THE LAW OF DEMAND EXPLAINED THE INVERSE RELATIONSHIP BETWEEN THE PRICE OF A GOOD AND ITS QUANTITY DEMANDED.

THE LAW OF DEMAND FAILS TO EXPLAIN THE EXTENT OF CHANGES IN THE QUANTITY OF A GOOD DEMANDED AFTER ITS PRICE CHANGES.

THE TERM "ELASTICITY" IS USED BY THE ECONOMISTS TO MEASURE THIS RESPONSIVENESS OR THE EXTENT OF VARIATION.

THUS, THE EXTENT OF VARIATION IN DEMAND IS EXPRESSED AS THE ELASTICITY OF DEMAND.

ELASTICITY OF DEMAND REFERS TO THE DEGREE OF RESPONSIVENESS (ACCEPTANCE) OF QUANTITY DEMANDED OF A COMMODITY TO A CHANGE IN

ANY ONE OF THE FACTORS AFFECTING DEMAND BY KEEPING OTHER FACTORS CONSTANT. (FACTORS SUCH AS PRICE OF A COMMODITY, INCOME, TASTE ETC.)

Ed =

$$\frac{\text{PERCENTAGE CHANGE IN QUANTITY DEMANDED}}{\text{PERCENTAGE CHANGE IN ANY FACTORS AFFECTING DEMANDED}}$$

ALFRED MARSHALL WAS THE FIRST ECONOMIST TO INTRODUCE THE CONCEPT OF ELASTICITY IN ECONOMIC THEORY.

TYPES OF ELASTICITY OF DEMAND

THE IMPORTANT TYPES OF ELASTICITY OF DEMAND ARE:

1. PRICE ELASTICITY OF DEMAND
2. INCOME ELASTICITY OF DEMAND
3. CROSS ELASTICITY OF DEMAND
4. PROMOTIONAL ELASTICITY OF DEMAND.

PRICE ELASTICITY OF DEMAND IS THE DEGREE OF RESPONSIVENESS OF QUANTITY DEMANDED OF A COMMODITY TO A CHANGE IN ITS PRICE ASSUMING THAT OTHER DEMAND DETERMINANTS REMAIN CONSTANT.

PRICE ELASTICITY OF DEMAND IS DEFINED AS "THE RATIO OF PERCENTAGE CHANGE IN QUANTITY DEMANDED OF A COMMODITY TO A PERCENTAGE CHANGE IN PRICE.

PRICE ELASTICITY OF DEMAND IS:

$$Ep = \frac{\text{PERCENTAGE CHANGE IN QUANTITY DEMAND}}{\text{PERCENTAGE CHANGE IN PRICE}}$$

THIS FORMULA CAN BE REWRITTEN AS:

$$Ep = \frac{DQ / Q}{DP / P}$$

$$Ep = \frac{DQ}{Q} \times \frac{P}{DP}$$

TERMS USED IN THE EQUATION MENTIONED IN THE PREVIOUS SLIDE:

Ep = PRICE ELASTICITY OF DEMAND

DQ = CHANGE IN QUANTITY DEMANDED

DP = CHANGE IN PRICE

P = ORIGINAL PRICE

Q = ORIGINAL QUANTITY DEMANDED

THE FORMULA SHOWN IN THE PREVIOUS SLIDE RELATES TO POINT-PRICE ELASTICITY OF DEMAND.

IT MEASURE ELASTICITY AT A POINT ON A DEMAND CURVE.

DEGREE OF PRICE ELASTICITY OF DEMAND

1. PERFECTLY ELASTIC DEMAND (Ep = infinity)
2. PERFECTLY INELASTIC DEMAND (Ep = 0)
3. RELATIVELY ELASTIC DEMAND (Ep > 1)
4. RELATIVELY INELASTIC DEMAND (Ep < 1)
5. UNITARY ELASTIC DEMAND (Ep = 1)

PERFECTLY ELASTIC DEMAND (Ep = infinity)

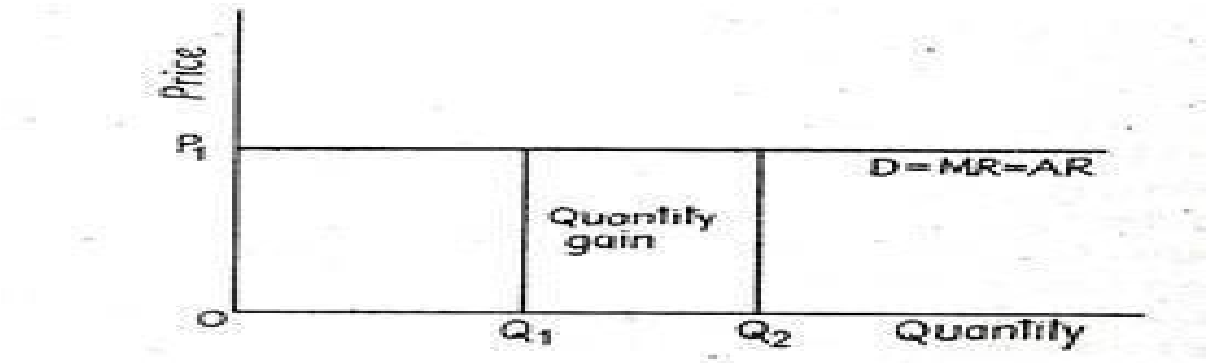


Figure 10.7
Perfectly elastic demand curve

PERFECTLY INELASTIC DEMAND (Ep = 0)

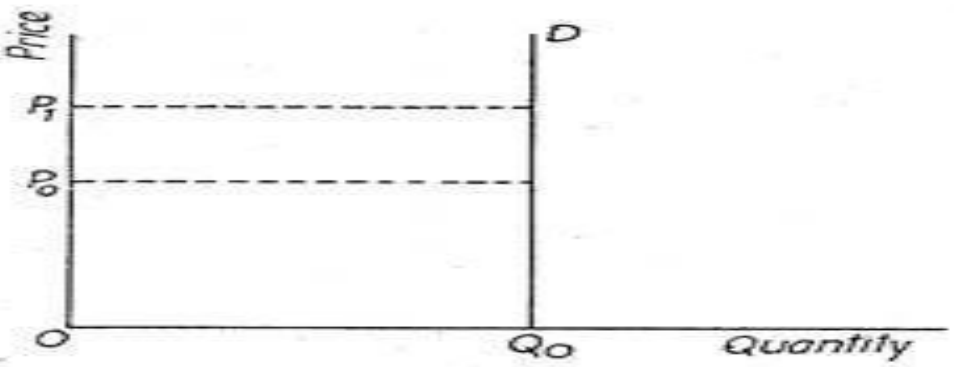
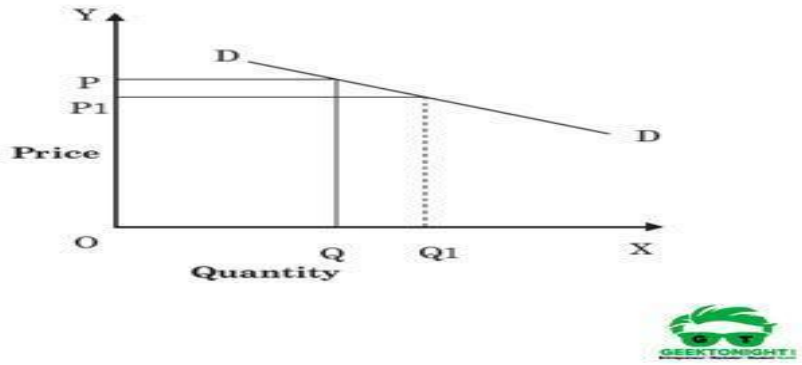


Figure 10.10
Perfectly inelastic demand curve

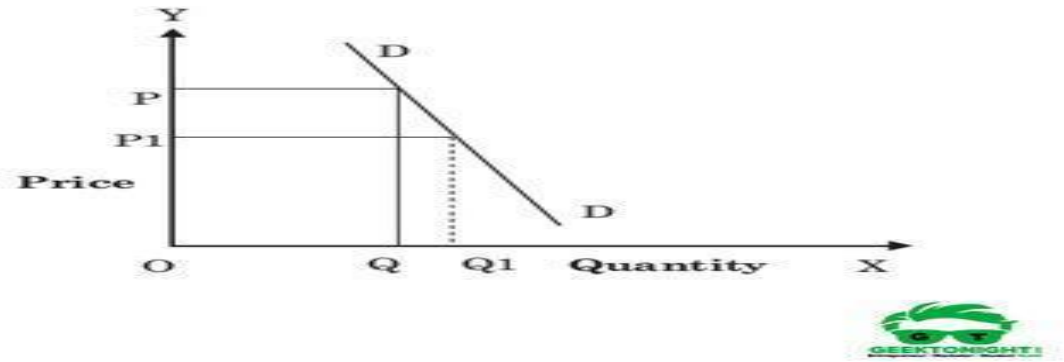
RELATIVELY ELASTIC DEMAND (Ep > 1)

FIGURE: RELATIVELY ELASTIC DEMAND

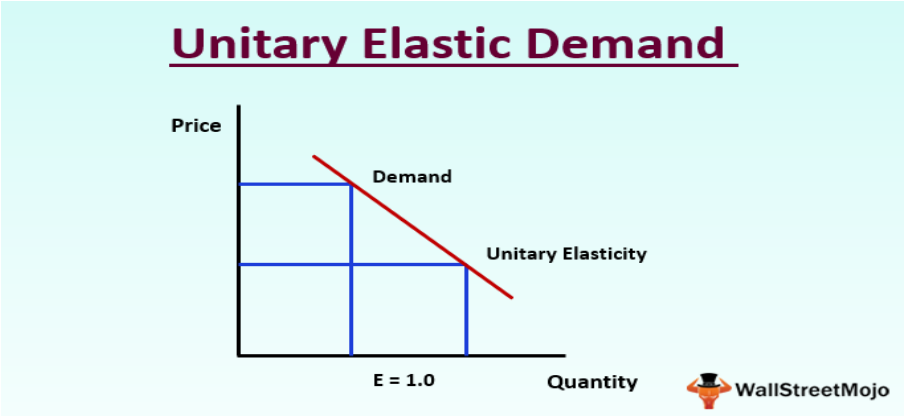


RELATIVELY INELASTIC DEMAND (Ep < 1)

FIGURE: RELATIVELY INELASTIC DEMAND



UNITARY ELASTIC DEMAND (Ep = 1)



INCOME ELASTICITY OF DEMAND IS DEFINED AS THE RATIO OF PERCENTAGE CHANGE IN THE QUANTITY DEMANDED OF A COMMODITY TO A PERCENTAGE CHANGE IN THE INCOME OF A CONSUMER.

$$Ey = \frac{\text{PERCENTAGE CHANGE IN QUANTITY DEMANDED}}{\text{PERCENTAGE CHANGE IN INCOME}}$$

THIS FORMULA CAN BE RE WRITTEN AS:

$$Ey = \frac{DQ / Q}{DY / Y}$$

$$Ey = \frac{DQ}{Q} \times \frac{Y}{DY}$$

TERMS USED IN THE EQUATION MENTIONED IN THE PREVIOUS SLIDE:

Ey = INCOME ELASTICITY OF DEMAND

DQ = CHANGE IN QUANTITY DEMANDED

DY = CHANGE IN INCOME

Y = ORIGINAL INCOME

Q = ORIGINAL QUANTITY DEMANDED

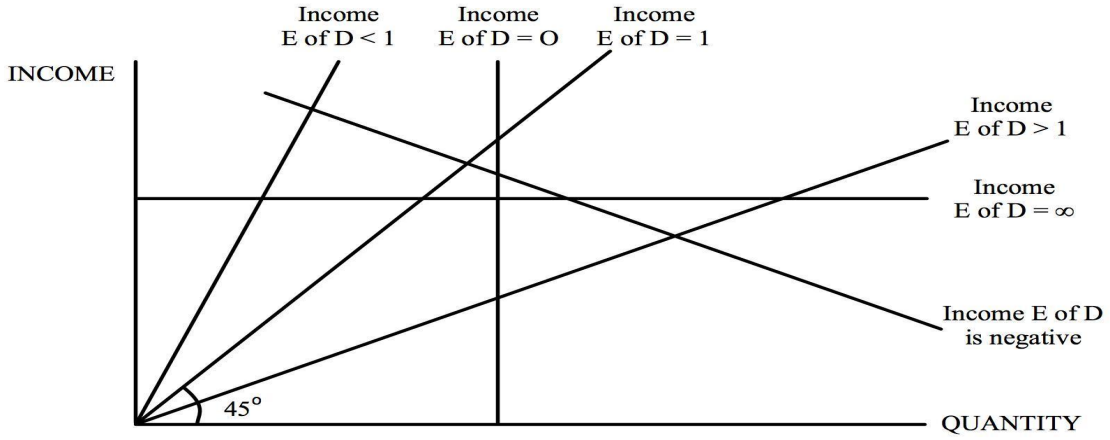
ALTERNATIVELY, Ey = %DQ / %DY

DEGREE OF INCOME ELASTICITY OF DEMAND

1. UNITARY INCOME ELASTICITY (Ey = 1)
2. INCOME ELASTICITY GREATER THAN UNITY (Ey > 1)
3. INCOME ELASTICITY LESS THAN UNITY (Ey < 1)
4. ZERO INCOME ELASTICITY (Ey = 0)
5. NEGATIVE INCOME ELASTICITY (Ey < 0)

Income Elasticity of Demand

Care: Look at the axes!



EXAMPLE OF INCOME ELASTICITY OF DEMAND:

FIND INCOME ELASTICITY OF DEMAND IF A CONSUMER INCOME RISES FROM RS.100 TO RS.200. THE QUANTITY PURCHASED BY HIM INCREASES FROM 25 UNITS TO 30 UNITS :

SOLUTION :

$$Ey = \frac{DQ}{DY} \times \frac{Y}{Q}$$

Y (OLD INCOME) = RS.100 Q (OLD QTY.) = 25 UNITS

Y1 (NEW INCOME) = RS.200 Q1(NEW QTY.) = 30 UNITS

DY = Y1 – Y = Rs.100 (200-100) DQ = Q1 – Q = 5 UNITS (30 -25) y =

Ey = 5/100 x 100 / 25

that is Ey = 0.2

HENCE INCOME ELASTICITY OF DEMAND = 0.2

CROSS ELASTICITY OF DEMAND IS DEFINED AS THE RATIO OF PERCENTAGE CHANGE IN THE QUANTITY DEMANDED OF X COMMODITY TO A PERCENTAGE CHANGE IN THE PRICE OF OTHER (Y) COMMODITY.

$$Exy = \frac{\text{PERCENTAGE CHANGE IN QUANTITY DEMANDED COMMODITY X}}{\text{PERCENTAGE CHANGE IN PRICE OF COMMODITY Y}}$$

THIS FORMULA CAN BE REWRITTEN AS:

$$Exy = \frac{DQx / Qx}{DPy / Py}$$

$$Exy = \frac{DQ}{Q} \times \frac{Py}{DPy}$$

TERMS USED IN THE EQUATION MENTIONED IN THE PREVIOUS SLIDE:

Exy = CROSS ELASTICITY OF DEMAND

DQx = CHANGE IN QUANTITY DEMANDED COMMODITY X

Dpy = CHANGE IN PRICE OF COMMODITY Y

Py = ORIGINAL PRICE OF COMMODITY Y

Qx = ORIGINAL DEMAND FOR COMMODITY X

CROSS ELASTICITY OF DEMAND MAY BE EITHER POSITIVE OR NEGATIVE OR ZERO.

POSITIVE CROSS ELASTICITY OF DEMAND:

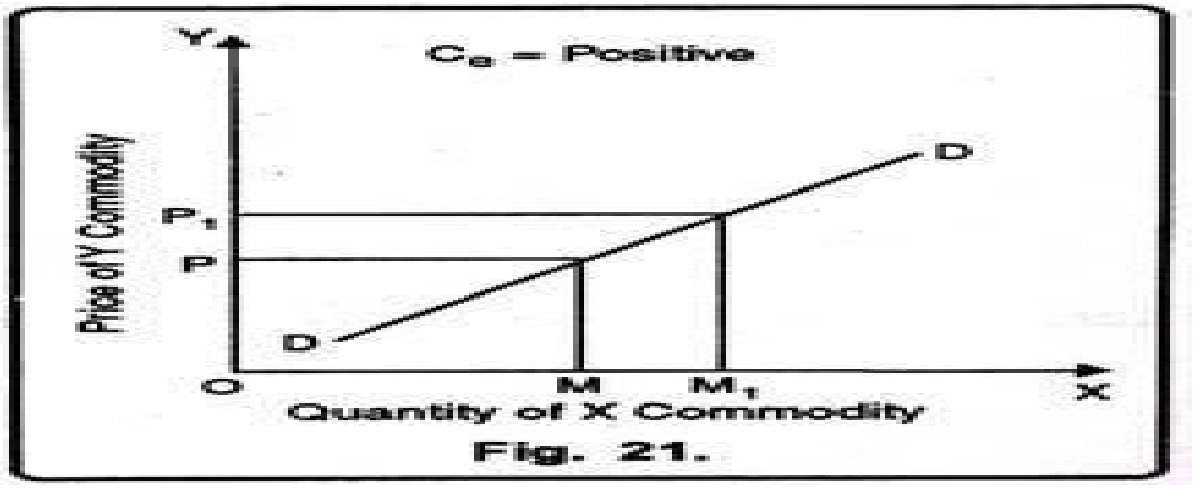


Fig. 21.

NEGATIVE CROSS ELASTICITY OF DEMAND:

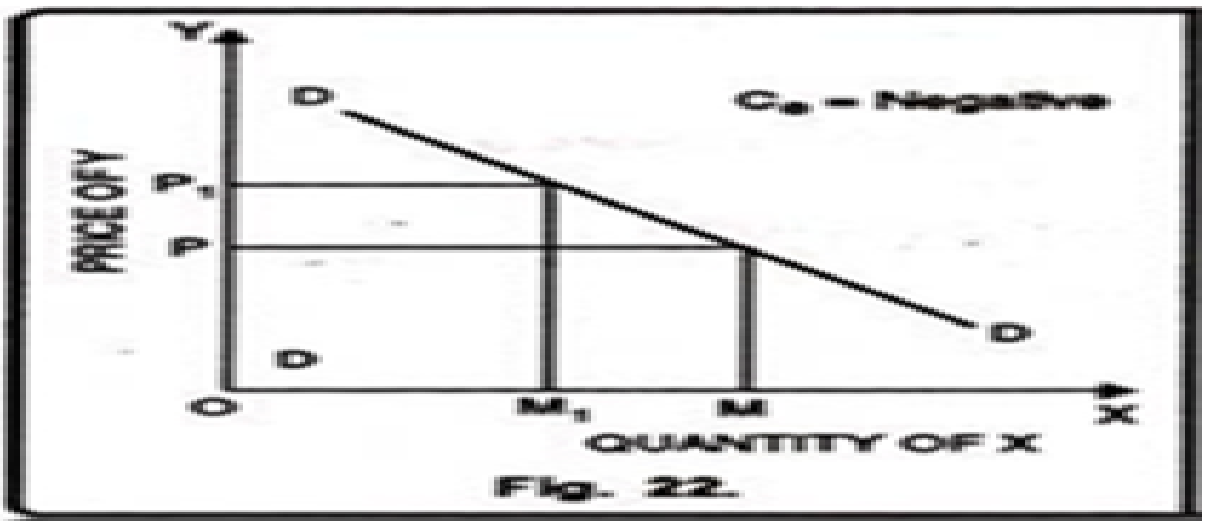


Fig. 22.

ZERO CROSS ELASTICITY OF DEMAND:

EXAMPLE OF CROSS ELASTICITY OF DEMAND:

FIND CROSS ELASTICITY OF DEMAND IF THE PRICE OF COFFEE RISES FROM RS 100 PER KG TO RS.200 PER KG AND DEMAND FOR TEA INCREASES FROM 10 KGS TO 30 KGS.

SOLUTION :

$$Exy = \frac{DQ}{DPy} \times \frac{Py}{Qx}$$

Py (OLD PRICE) = RS.100

Qx (OLD QUNTY.) = 10 Kgs.

DPy = Rs.100 (200-100) DQx = (30 - 10) = 20 Kgs.

Exy = 20/100 x 100 / 10

that is Exy = 2

HENCE CROSS ELASTICITY OF DEMAND = 2

PROMOTIONAL ELASTICITY OF DEMAND IS DEFINED AS THE RATIO OF PERCENTAGE CHANGE IN THE QUANTITY DEMANDED OF A COMMODITY TO A PERCENTAGE CHANGE IN THE ADVERTISEMENT EXPENDITURE.

$$Ea = \frac{\text{PERCENTAGE CHANGE IN DEMAND OR SALES}}{\text{PERCENTAGE CHANGE IN ADVERTISEMENT EXPENDITURE}}$$

THIS FORMULA CAN BE REWRITTEN AS:

$$Ea = \frac{DQ / Q}{DA / A}$$

$$Ea = \frac{DQ}{Q} \times \frac{A}{DA}$$

TERMS USED IN THE EQUATION MENTIONED IN THE PREVIOUS SLIDE:

Ea = ADVERTISEMENT OR PROMOTIONAL ELASTICITY OF DEMAND

Q = QUANTITY OF SALES

A = ADVERTISING EXPENDITURE

ADVERTISEMENT ELASTICITY OF DEMAND IS ALWAYS POSITIVE.

EXAMPLE OF PROMOTIONAL ELASTICITY OF DEMAND:

THE QUANTITY DEMANDED OF A COMMODITY INCREASES FROM 8000 UNITS TO 10000 UNITS DUE TO AN INCREASE IN ADVERTISEMENT EXPENDITURE FROM RS.6000 TO RS.12000. FIND OUT PROMOTIONAL ELASTICITY OF DEMAND.

SOLUTION :

$$Ea = \frac{DQ}{DA} \times \frac{A}{Qx}$$

A (OLD ADVT. EXPENDITURE) = RS.6000 Qx (OLD QTY.) = 8000 UNITS

DQx = NEW QUANTITY – OLD QUANTITY = 10000 – 8000 = 2000

DA = NEW ADVT. EXPENDITURE – OLD ADVT. EXPENDITURE = 12000 - 6000 = Rs. 6000

Ea = 2000/6000 x 6000 / 8000

that is Ea = 0.25

HENCE PROMOTIONAL ELASTICITY OF DEMAND = 0.25

MEASUREMENT OF ELASTICITY OF DEMAND

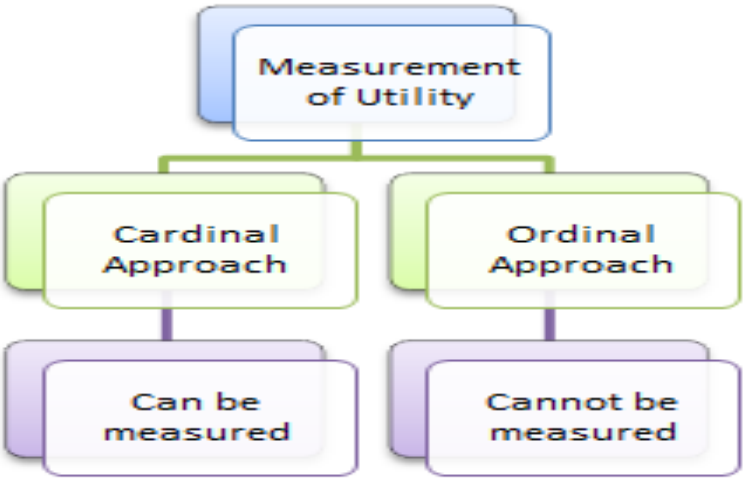
THERE ARE 4 METHODS OF MEASURING ELASTICITY OF DEMAND:

- PERCENTAGE OR RATIO METHOD
- TOTAL OUTLAY METHOD
- GEOMETRICAL OR POINT ELASTICITY METHOD
- Arc METHOD OR Arc PRICE ELASTICITY OF DEMAND

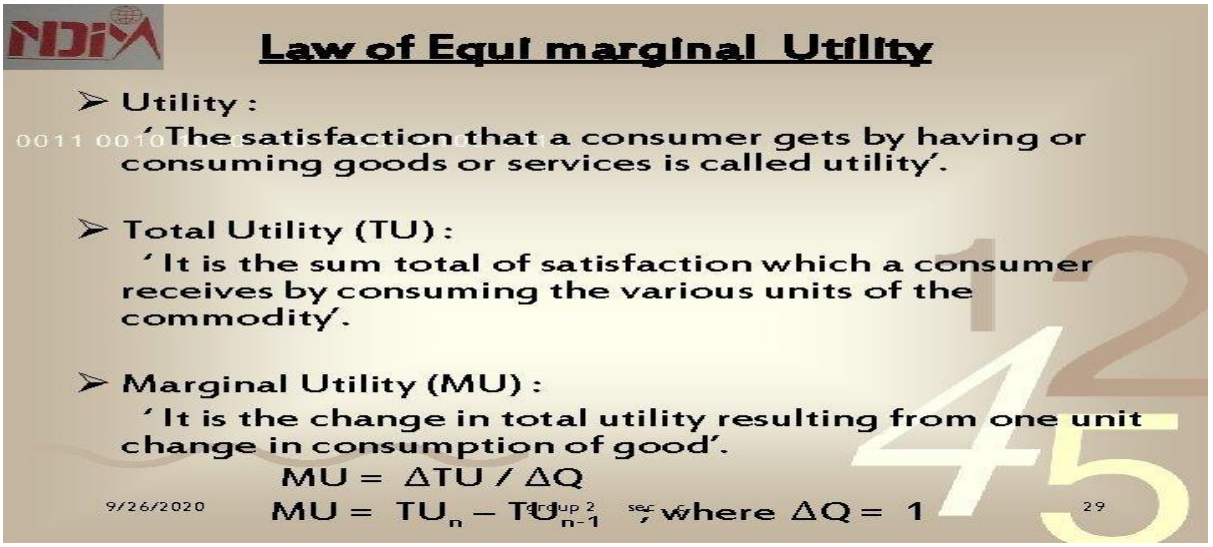
UTILITY CONCEPT

Meaning of Utility

- The simple meaning of 'utility' is 'usefulness'.
- In economics utility is the capacity of a commodity to satisfy human wants.
- Utility is the quality in goods to satisfy human wants.
- Thus, it is said that **"Wants satisfying capacity of goods or services is called Utility."**



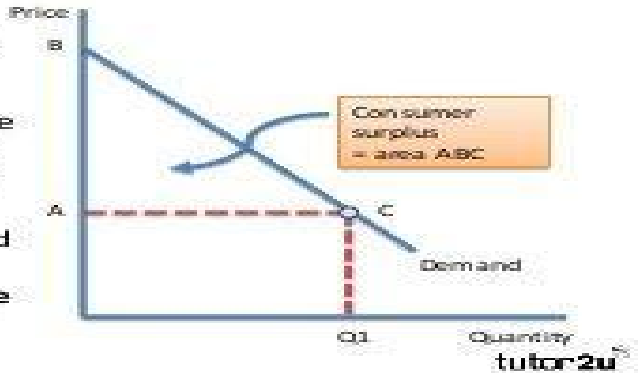
Summary: **Cardinal utility** gives a value of **utility** to different options. **Ordinal utility** just ranks in terms of preference. **Cardinal Utility** is the idea that economic welfare can be directly observable and be given a value. For example, people may be able to express the **utility** that consumption gives for certain goods.



What is Consumer Surplus?

Consumer surplus is a measure of the welfare that people gain from consuming goods and services

- **Consumer surplus** is the difference between the total amount that consumers are willing and able to pay for a good or service (shown by the demand curve) and the total amount they actually do pay (i.e. the market price).
- Consumer surplus is indicated by the area **under the demand curve and above the market price.**



DEFINITION

"THE **PARADOX** OF VALUE (ALSO KNOWN AS THE **DIAMOND–WATER PARADOX**) IS THE APPARENT CONTRADICTION THAT, ALTHOUGH **WATER** IS ON THE WHOLE MORE USEFUL, IN TERMS OF SURVIVAL, THAN **DIAMONDS**, **DIAMONDS** COMMAND A HIGHER PRICE IN THE MARKET"

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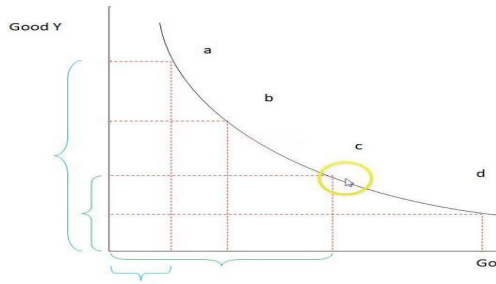
Ordinal Utility Approach

Ordinal Utility Approach:

The basic idea behind **ordinal utility approach** is that a consumer keeps number of pairs of two commodities in his mind which give him equal level of satisfaction. This means that the utility can be ranked qualitatively.

The ordinal utility approach differs from the cardinal utility approach (also called classical theory) in the sense that the satisfaction derived from various commodities cannot be measured objectively.

Indifference Curves



This curve displays the different combination choices available to the consumer, of two possible goods/ services they may consume.

However, every combination choice on the same curve, while yielding different quantities of either good, yields the same level of satisfaction (utility).

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Budget line :

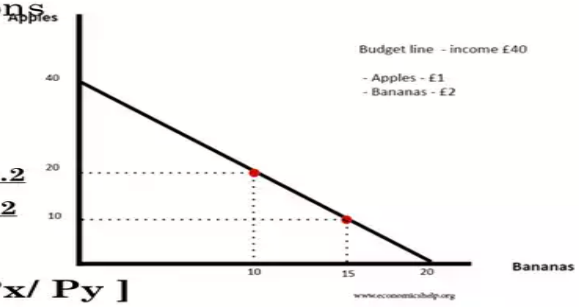
A budget line shows the combination of goods that can be afforded with your current income.

If an apple costs Rs.1 and a banana Rs.2, the above budget line shows all the combinations of the goods which can be bought with Rs.40.

For example:

20 apples Rs.1 and 10 bananas Rs.2

10 apples Rs.1 and 15 bananas Rs.2



[Slope of Budget line : Px/ Py]

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Consumer Equilibrium

- It refers to a situation in which a consumer with given income and given prices purchases such a combination of goods which gives him maximum satisfaction and he is not willing to make any change in it.

- Assumptions:
  1) The consumer has a given indifference map exhibiting his scale of preferences for various combinations of two goods, X and Y.
  2) Fixed amount of money to spend and has to spend whole of his money on two goods.
  3) Prices of goods are given and constant for him. He cannot influence those prices.
  4) Goods are homogeneous and divisible.

REVEALED PREFERENCE THEORY

The revealed preference approach has been propounded by the American Economists,

Prof. Paul A. Samuelson in his article "**Consumption Theory In Terms Of Revealed Preference**" in 1938. This theory relies on the market behaviour of the consumer to know about his preferences with regard to the various combinations for the two reactions and responses of the consumer.

THE YOUNG INDIAN ECONOMISTS

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LAW OF SUPPLY

It is observed in markets that when more price of commodities are offered to sellers. They increase the quantity supplied of these commodities and when the level of prices decreases, the sellers decrease the quantity supplied. This behaviour of seller is called law of supply.

Definition

"Other things remaining the same, if the price of a commodity increases its quantity supplied increases and if the price of a commodity decreases, quantity supplied also decreases".

There exists a direct and positive relationship between price and quantity supplied of a commodity. The functional relationship between quantity supplied and the price of a commodity can be expressed as:

$Q_s = f(P)$

Where Q_s = quantity supplied

P = price of commodity

Equilibrium in demand and supply.

- The dictionary definition of 'equilibrium' is 'a state of physical balance', or put more simply, 'a state of rest'.
- In microeconomics, supply and demand is an economic model of price determination in a market.
- It concludes that in a competitive market, the unit price for a particular good will vary until it settles at a point where the quantity demanded by consumers (at current price) will equal the quantity supplied by producers (at current price), resulting in an economic equilibrium for price and quantity.

Table-10: Demand and Supply Schedule for Talcum Powder

Prices (in ₹)	Demand (In thousands)	Supply (in thousands)	Market Position	Effect on Price
100	80,000	10,000	Shortage	Rise
200	55,000	28,000	Shortage	Rise
300	40,000	40,000	Equilibrium	Stable
400	28,000	50,000	Surplus	Fall
500	20,000	55,000	Surplus	Fall
600	15,000	60,000	Surplus	Fall

Theory of Production & Cost

Production Function:

It is the functional relationship between physical input and physical output. It shows how output responds to the different levels of input.

Production function refers to the functional relationship between physical rates of input & output of a firm, under the given technology per unit of time.

Q = f (I, L, K, O)

Where,

Q = Quantity of output (Commodity produced) per unit of time.
f = functional relationship.

Features:

1. **Flow Concept:** The production function is a flow concept. It relates to the flow of inputs & the flow of output of a commodity during a given period of time.
2. **Physical Concept:** Production function is expressed in physical terms and not in terms of monetary units such as dollars, rupees, etc.
3. **Technological Concept**.

Variable Proportion Production Function

It is one in which the factors of production (inputs) are not fixed, but it is variable to produce a given level of output. In this type of production function, the required quantity of output can be produced by the different quantities of combinations of factors of production. That output can be produced using more labour and less capital and vice versa.

There is continuous sustainability of labour and capital only over a certain range, beyond which capital and labour cannot substitute for each other.

Law Of Variable Proportion:

Initially called the Law of Diminishing returns Marshall. Marshall applied the law only to agriculture.

Joan Robinson, Stigler, and other modern economists called it the Law of Variable proportion which could be applied to all sectors of economics.

"As the proportion of one factor in a combination of factors is increased after a point the average and marginal product of that factor will diminish."

Assumptions:

1. Technology remains constant.
2. The law operates in the short run.
3. All units of variable inputs are homogeneous i.e. all the units have identical characteristics and equal efficiencies.
4. Only one factor is variable while the other factors should remain constant.

Short Run & Long Run Production Function

Long Run Production Function

Long run is a period of time in which all the factors of production are variable. In long run, there is no distinction between fixed and variable factors.

Long-Run Production Function is a relation between input and output for a given technology in which output can be varied by altering all factor inputs simultaneously.

$Q = f(L, K)$

Short Run Production Function

Short-run period of time in which all factors of production will not be changed i.e. some factors will remain fixed.

Some factors are fixed and some are variable.

The short-run production function is a relation between input and output for a given technology in which a given output can be varied by changing one factor (say labour) only, and all other factors remain fixed. Thus, the production function includes fixed and variable functions.

$Q = f(L, K)$

Total Product, Average Product, and Marginal Product

Total Product:
Total amount of goods produced by using a certain amount of inputs. The total product can be increased by employing more and more variable factors.

$TP = f(QVF)$

QVF = Quantity of the variable factor

Average Product:
It refers to the total product per unit of the variable factor. AP is obtained by dividing the total product of the quantity of a variable factor.

$$AP = \frac{TP}{QVF}$$

Marginal Product:
It is the change in output as one additional unit of input is added to production.

$$MP = \frac{\text{Change in Production Output}}{\text{Change in Input Labour}}$$

ISO-QUANT

It means “Equal Quantity”.

An Iso-Quant is also called an “Iso-Productive Curve.”

Iso-quant is similar to the concept of indifference curve.

An Iso-quant is the locus of all the combinations of two factors of production.

Ridge Lines/ Economic Region of Production

The ridge lines are the locus of points of an Iso-quant where the marginal product of factors is zero.

The region in which the marginal product of factors becomes either zero or negative is called the Uneconomic region of production.

The region in which marginal products of factors are positive is called the Economic region of production.

Break-Even Analysis

It examines the relationship among the total revenue, total costs, and total profits of the firm at various levels of output. It is a point where losses cease to occur while profit has not yet begun. It is a point of zero profit.

BEA has a considerable significance for economic research, business decision-making, company management, investment analysis, and public policy.

BEA is an important technique to trace the relationship between costs, revenue, and profits at different levels of output or sales.

Break-Even Point

It is the point where total revenue is equal to the total cost.

At the break-even point, the company makes neither profit nor loss.

BEP = TR - TC = 0

This point is important to determine the price of a product such that the company still gains net profit. The Break-even point defines when an investment will generate a positive return.

For business, reaching the break-even point is the first step towards profitability.

$$BEP = \frac{\text{Fixed costs}}{\text{Selling price - Variable Costs}}$$

Kinked Demand Curve -

The model was given by the famous economist Paul Sweezy in 1939.

It tries to explain the problem of price in this market.

It also indicates that Oligopoly firms would like to have a nonprice competition rather than price competition.

This is because if one of the firms increases the price, the other firms will not follow.

Hence the firm will not get any additional benefit for reducing the price.

Thus, Oligopoly firms would retain the same price and compete on the basis of factors like advertising quality, after-sales services, etc.

Price Leadership by a low-cost firm:

This model is based on the following assumptions:

- There are two firms - Firm A & Firm B.
  Firm A has a low cost of production then Firm B i.e. Firm A is the low-cost Firm and Firm B is the high-cost firm.
  That is Firm A is the price leader and Firm B is the follower:
- The product is homogeneous.
- Each firm has an equal share in the market.