B.Tech II Year

BUSINESS ECONOMICS AND FINANCIAL ANALYSIS

Code: 9ZC01

(COMMON TO ALL BRANCHES)

UNIT I

INTRODUCTION TO BUSINESS ECONOMICS

UNIT 1 - TOPICS

- Definition of Business Economics
- Nature and Scope of Business Economics
- Demand Analysis: Demand Determinants
- Law of Demand and its exceptions
- Elasticity of Demand
- Types of Elasticity of Demand
- Demand Forecasting – Statistical and Non-Statistical techniques.

WHY BUSINESS ECONOMICS?

Managers in their day to day activities, are always confronted with the several issues such as:

- How much quantity is to be produced

- At what price

- Make or buy decision

- What will be the likely demand…etc

Business Economics provides basic insight into seeking solutions for managerial problems. **Business Economics is also referred as Managerial Economics**

WHAT IS ECONOMICS?

- Economics is the social science that analyzes the production, distribution and consumption of goods and services.

- Economics is study of human activity both at individual and national level.

- Adam Smith, the father of Economics defined Economics as **"The study of the nature & uses of national wealth".**

BRANCHES OF ECONOMICS:

There are two branches in Economics

➢ Micro Economics

➢ Macro Economics

• The study of individual firm is Micro Economics and is also called theory of firm.

• The study of total level of economic activity in a country is called Macro Economics.

MICRO ECONOMICS

Microeconomics is the branch of economics that considers the behaviour of decision takers within the economy, such as individuals, households and firms.

Microeconomics contrasts with the study of macroeconomics, which considers the economy as a whole.

MACRO ECONOMICS

Macroeconomics is a branch of economics that studies how an overall economy—the market or other systems that operate on a large scale—behaves.

Macroeconomics studies economy-wide phenomena such as inflation, price levels, rate of economic growth, national income, gross domestic product (GDP), and changes in unemployment.

DEFINITION OF MANAGERIAL ECONOMICS

- "The integration of economic theory with the business practice for the purpose of facilitating decision making & foreword planning by management".

Spencer & Siegel man

- Managerial economics refers to application of principles of Economics to solve the managerial problems such as Minimizing the cost or Maximizing profit.

MANAGERIAL ECONOMICS

- Managerial economics directs the utilization of scarce resources in a goal oriented manner.

- Seeks to understand & analyze the problems of business decision making.

- Facilitates foreword planning.

- Examines how an organization can achieve its objectives in most effectively.

- Focuses on Minimizing the cost & Maximizing the profit.
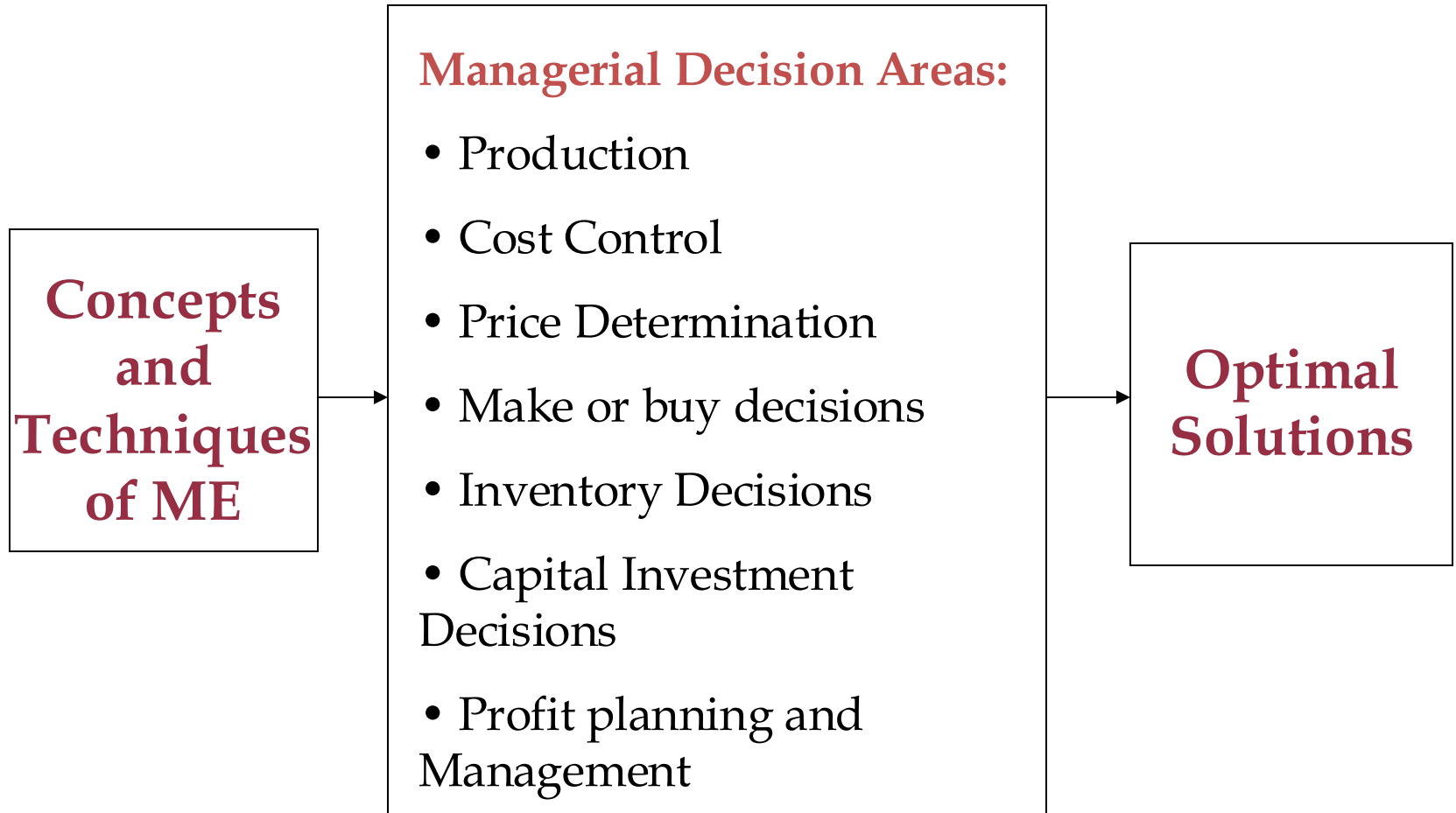
NATURE OF MANAGERIAL ECONOMICS

1. Micro-economic in character.
2. Operates against the backdrop of Macro Economics.
3. It is pragmatic.
4. Prescriptive Actions.
5. Applied in nature.
6. Offers scope to evaluate each alternative.
7. Interdisciplinary (Economics, OR, Mathematics, Statistics, Accountancy, Psychology, OB etc.)

SCOPE OF MANAGERIAL ECONOMICS

The scope of managerial economics refers to its area of study. Subject matter of Managerial Economics consists of applying economic principles & concepts towards adjusting various uncertainties faced by the business firms, such as

- Demand uncertainty
- Cost uncertainty
- Price uncertainty
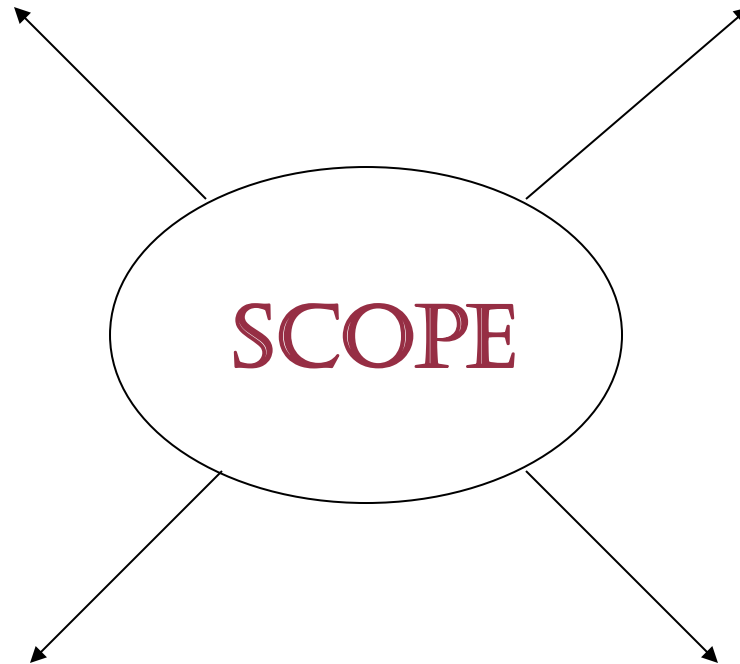- profit uncertainty
- Production uncertainty

SCOPE OF MANAGERIAL ECONOMICS

Concepts and Techniques of ME

→

Managerial Decision Areas:

- Production

- Cost Control

- Price Determination

- Make or buy decisions

- Inventory Decisions

- Capital Investment Decisions

- Profit planning and Management

→

Optimal Solutions

SCOPE OF MANAGERIAL ECONOMICS

CONSUMPTION

PRODUCTION

SCOPE

DISTRIBUTION

EXCHANGE

What is Demand?

Demand for a commodity refers to the quantity of the commodity which an individual consumer or a household is willing to purchase per unit of time at a particular price.

It implies:
  a) Desire to buy
  b) Willingness to buy
  c) Purchasing power

DEMAND DETERMINANTS

GENERAL FACTORS

- → Price of the product
- → Income of the consumer
- → Tastes and Preferences
- → Price of related goods

ADDITIONAL FACTORS RELATED TO LUXURY GOODS AND DURABLES

- → Expectations of future prices
- → Expectations of future income

ADDITIONAL FACTORS RELATED TO MARKET DEMAND

- → Population
- → Social, Economic, Demographic distribution of consumers
- → Advertisements
- → Others

DEMAND FUNCTION

A mathematical expression of the relationship between quantity demanded of the commodity and its determinants is known as Demand Function.

$$Q_d = f (P, I, T, P_R, E_P, E_I, P, D_C, A, O)$$

DEMAND SCHEDULE

- It shows functional relationship between the quantity demanded of a product & its price.

- Demand schedule shows different quantities of a commodity demanded at various prices at a given time.

Price of Apple (In. Rs.)	Quantity Demanded
10	1
8	2
6	3
4	4
1	5

LAW OF DEMAND

Law of demand shows the relation between price and quantity demanded of a commodity in the market.

In the words of Marshall, *"the amount of demand increases with a fall in price and diminishes with a rise in price"*.

- The law of demand may be explained with the help of the following demand schedule.

Demand Schedule:

Price of Apple (In. Rs.)	Quantity Demanded
10	1
8	2
6	3
4	4
2	5

- When the price falls from Rs. 10 to 8 quantity demand increases from 1 to 2. In the same way as price falls, quantity demand increases on the basis of the demand schedule we can draw the demand curve.

- The demand curve DD shows the inverse relation between price and quantity demand of apple. It is downward sloping.

DEMAND CURVE
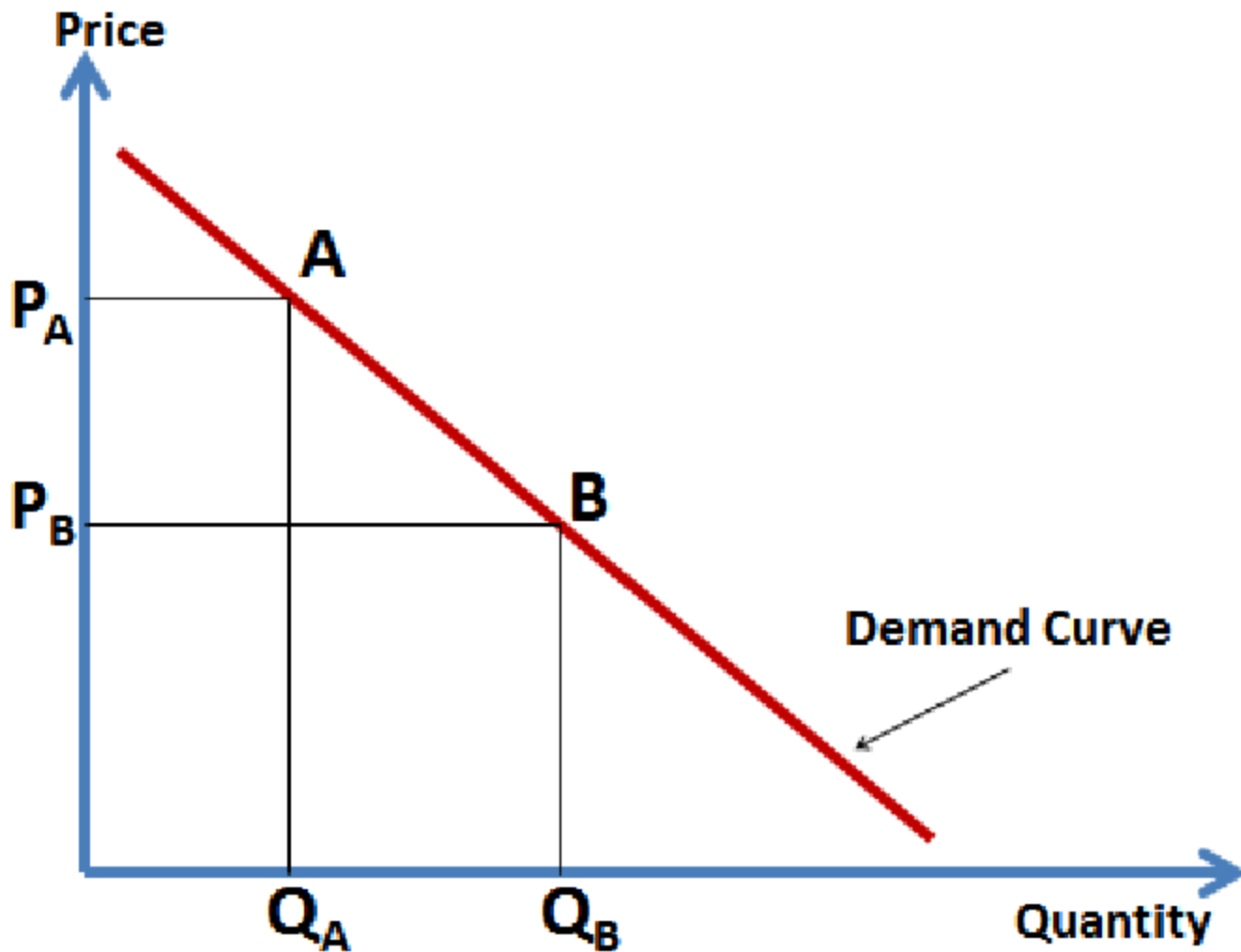
ASSUMPTIONS UNDERLYING LAW OF DEMAND

Law of demand is based on certain assumptions:

- There is no change in consumers taste and preferences.
- Income should remain constant.
- Price of other goods should not change.
- There should be no substitute for the commodity.
- The commodity should not confer at any distinction.
- The demand for the commodity should be continuous.
- People should not expect any change in the price of the commodity.

EXCEPTIONS TO LAW OF DEMAND

1. Veblen Goods or Luxury Goods

2. Ignorance

3. Speculative Effect

4. Fear of Shortage

5. Necessaries

6. Giffen Paradox

VEBLEN GOODS OR LUXURY GOODS

'Veblan' has explained the exceptional demand curve through his doctrine of conspicuous consumption. Rich people buy certain good because it gives social distinction or prestige for example diamonds are bought by the richer class for the prestige it possess.

It the price of diamonds falls poor also will buy is hence they will not give prestige. Therefore, rich people may stop buying this commodity.

IGNORANCE

Sometimes, the quality of the commodity is Judge by its price. Consumers think that the product is superior if the price is high. As such they buy more at a higher price.

SPECULATIVE EFFECT

- If the price of the commodity is increasing the consumers will buy more of it because of the fear that it increase still further, Thus, an increase in price may not be accomplished by a decrease in demand.

FEAR OF SHORTAGE

- During the times of emergency of war People may expect shortage of a commodity. At that time, they may buy more at a higher price to keep stocks for the future.

NECESSARIES

- In the case of necessaries like rice, vegetables etc. people buy more even at a higher price.

GIFFEN PARADOX

The Giffen good or inferior good is an exception to the law of demand. When the price of an inferior good falls, the poor will buy less and vice versa. For example, when the price of maize falls, the poor are willing to spend more on superior goods than on maize if the price of maize increases, he has to increase the quantity of money spent on it.

Otherwise he will have to face starvation. Thus a fall in price is followed by reduction in quantity demanded and vice versa. "Giffen" first explained this and therefore it is called as Giffen's paradox.

ELASTICITY OF DEMAND

The law of demand explains the direction of change in the quantity demanded, due to the changes in the price in case of normal goods.

Law of demand explains only the direction but not magnitude of change i.e., Law of demand does not explain how much quantity demanded will change, in response to change in the price, the concept of ELASTICITY OF DEMAND explains this.

- The concept of Elasticity of Demand is very important to the Economic theory as it explains the extent to which the demand changes when the price changes.

- Elasticity of Demand in general it refers to Price Elasticity of Demand.

- Elasticity of Demand is always negative (-) for normal goods. This is due to inverse relationship between price & demand.

PRICE ELASTICITY OF DEMAND – Definition:

- Degree to which quantity demanded responds to a change in price is known as Price Elasticity of Demand.

- In other words, the price elasticity of demand is the ratio of percentage change in quantity demanded, to percentage change in price.

Mathematically it can be expressed as follows:

- Price Elasticity of Demand (Ep) =

Percentage change in quantity demanded /Percentage change in price.

OR

- (Ep) = Proportionate change in quantity demanded / Proportionate change in price.

- Proportionate change in quantity demanded =change in demand / initial demand
- Proportionate change in price = change in price / initial price

TYPES OF ELASTICITY OF DEAMAND

The following are various types of elasticity of demand

1. Price Elasticity of Demand
2. Income Elasticity of Demand
3. Cross Elasticity of Demand
4. Advertisement Elasticity of Demand

- **Price Elasticity of Demand:** It refers to the responsiveness of quantity demanded to changes in prices.

Measurement -Price Elasticity of Demand (Ep):

(Ep) = Proportionate change in quantity demanded **/** Proportionate change in price.

- **Income Elasticity of Demand:** It refers to the responsiveness of quantity demanded to changes in the incomes of the consumers.

Measurement - Income Elasticity of Demand (Ei):

(Ei) = Proportionate change in quantity demanded **/** Proportionate change in income

- **Cross Elasticity of Demand:** It refers to the responsiveness of quantity demanded to changes in the prices of the related goods, say which may be substitute goods.

Measurement - Cross Elasticity Of Demand (Ec):

(Ec) = Proportionate change in quantity demanded **/** Proportionate change in prices of related goods.

- **Advertisement Elasticity of Demand:** It refers to the responsiveness of quantity demanded to changes in the advertisement efforts & expenditure.

Measurement -Advertisement Elasticity of Demand (Ea):

(Ea) = Proportionate change in quantity demanded **/**
Proportionate change in advertisement efforts
or cost.

TYPES OF PRICE ELASTICITY OF DEMAND

- Based on numerical values price elasticity of demand can be of five (5) types.

1) Perfectly elastic demand (Ep = ∞)

2) Perfectly inelastic demand (Ep = 0)

3) Unit elastic demand (Ep = 1)

4) Relatively elastic (Ep = > 1)

5) Relatively inelastic (Ep = < 1)

PERFECTLY ELASTIC DEMAND

- Perfectly elastic demand is also called as infinitely elastic demand.

- It means small change in price leads to an infinite expansion in demand.

- Even if the price remain same the quantity demanded increases.

- Perfectly elastic demand curve is horizontal straight line to X axis

Perfectly elastic demand curve
is horizontal straight line to X
axis.

Even if the price remain same
the quantity demanded
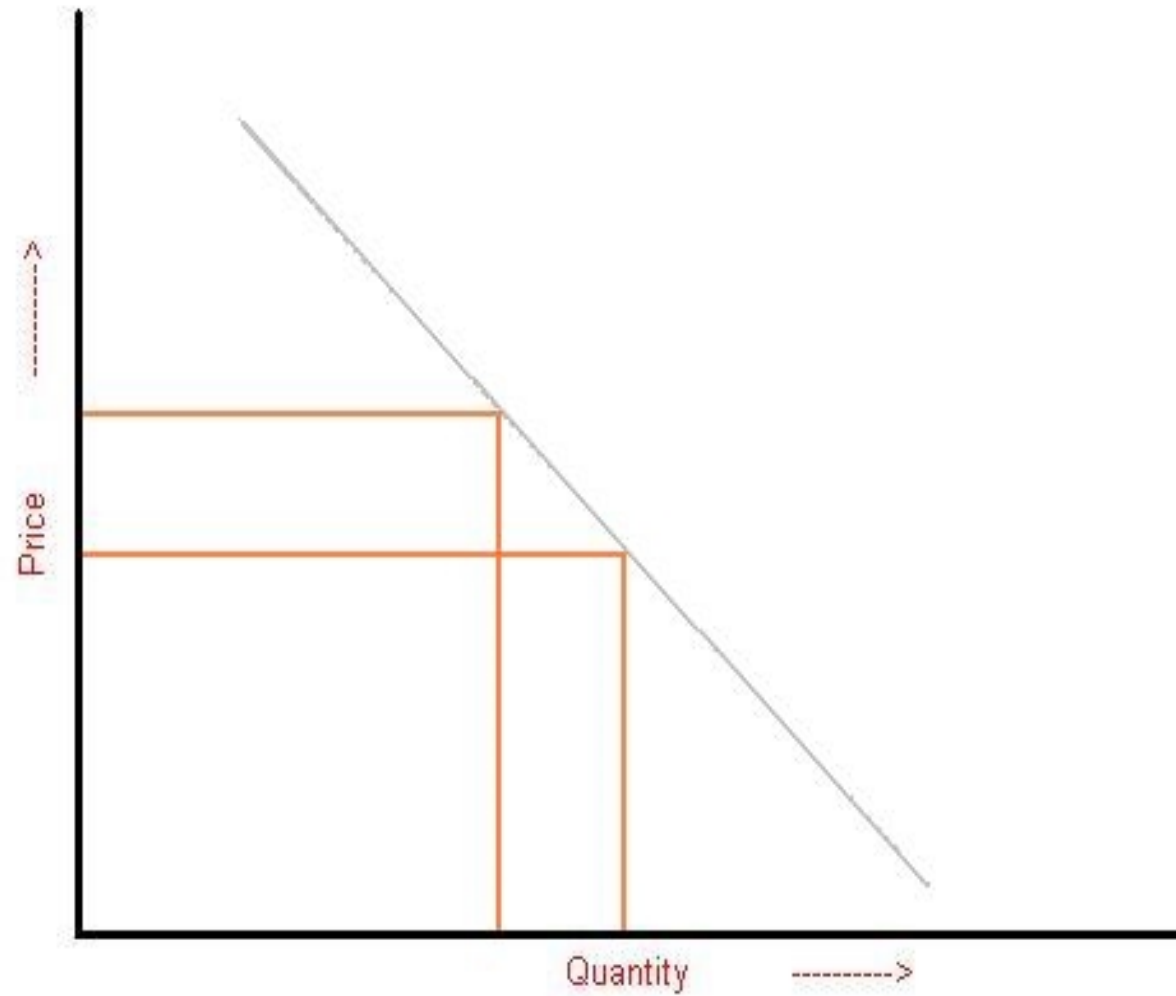increases.
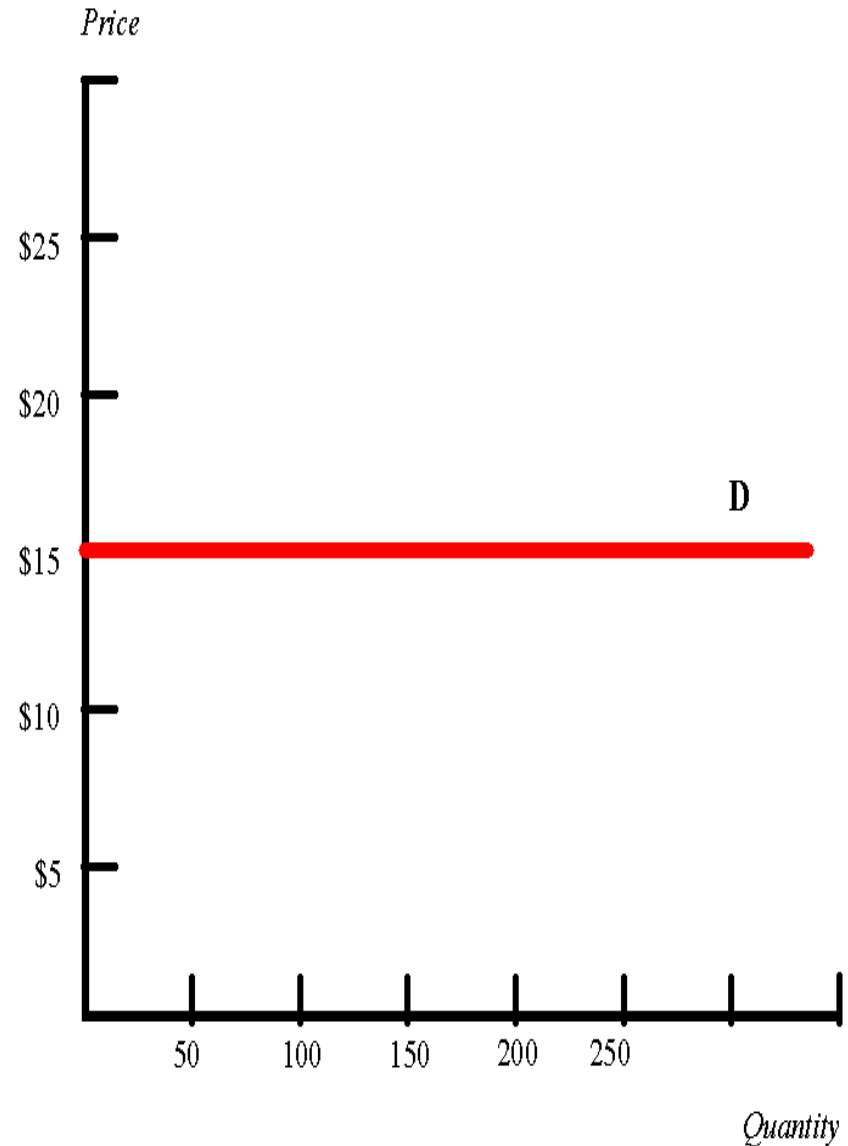
PERFECTLY INELASTIC DEMAND

- In perfectly inelastic demand even with a great fall or rise in the price the quantity demanded of the product does not change.

- perfectly inelastic demand curve is vertical straight line parallel to Y axis

- perfectly inelastic demand curve is vertical straight line parallel to Y axis

- What ever may be the change in the price high or low the quantity demanded is the same.
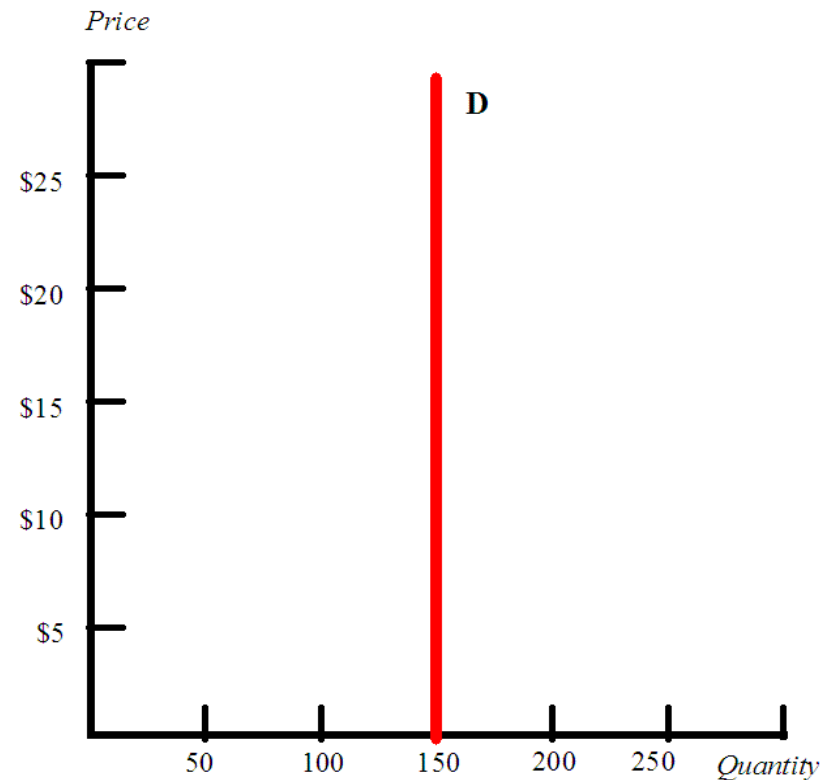
UNIT ELASTIC DEMAND

- Proportionate change in price leads to a proportionate change in quantity demand is called unit elastic demand.

- If demand increases by 1% for a 1% fall in the price, the elasticity of demand is equal to 1.

- When the change in demand is equal to change in price is called unit elasticity demand.

UNIT ELASTICITY

RELATIVELY ELASTIC

- It means Proportionate change in price leads to more than proportionate change in quantity demanded is called Relative elastic demand.

- If demand increases by more than 1% for a 1% fall in the price, the elasticity of demand is said to be Relative elastic demand.

RELATIVELY ELASTIC DEMAND

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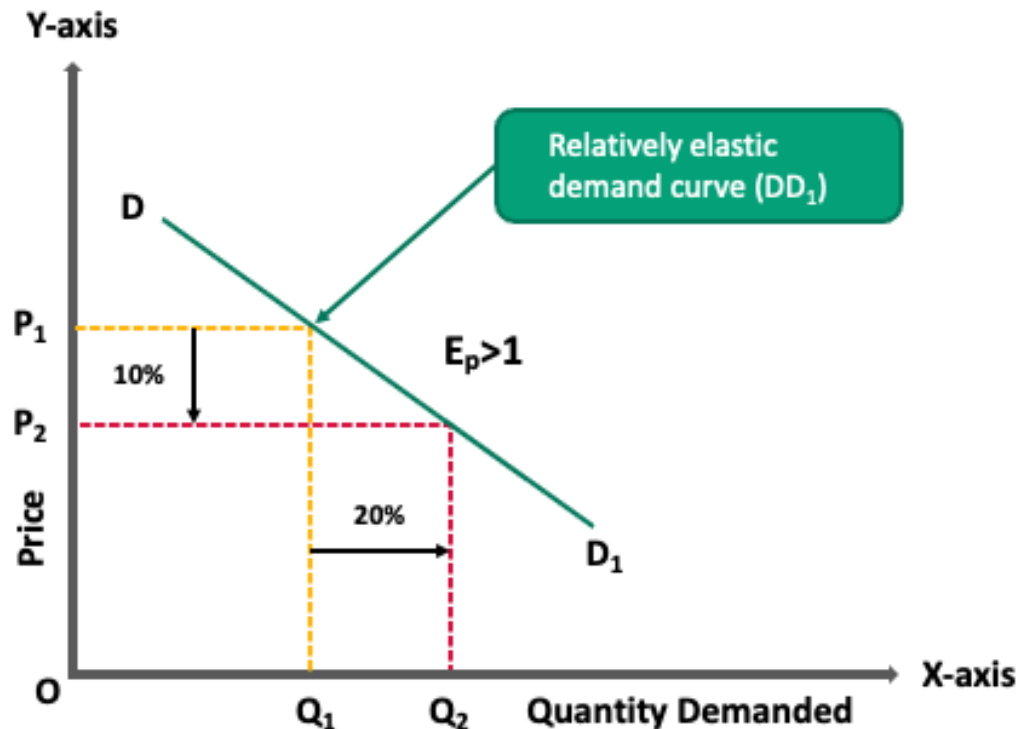
Note:- *Change in percentage of quantity demanded is more then the percentage of change in its price.*

RELATIVELY INELASTIC

- It means Proportionate change in price leads to less than proportionate change in quantity demanded is called Relative inelastic demand.

- If demand increases by less than 1% for a 1% fall in the price, the elasticity of demand is said to be Relative inelastic demand.
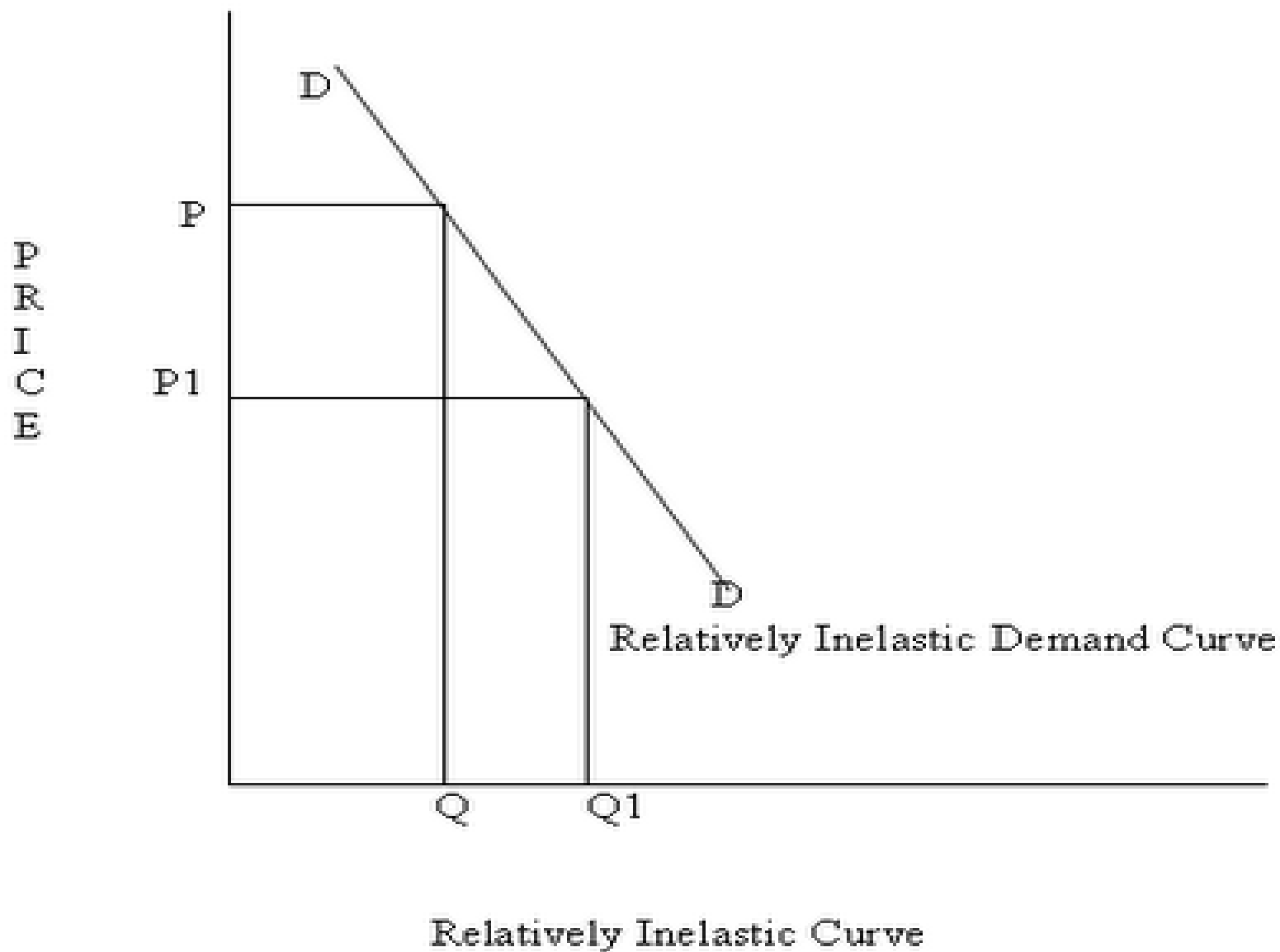
Relatively Inelastic Demand Curve

Relatively Inelastic Curve

IMPORTANCE OF ELASTICITY OF DEMAND

1. The concept of elasticity of demand is very useful to the Producers and the Policy makers.
2. It is used to fix prices of goods.
3. To fix prices (rewards) of Factors of production.
4. To forecast demand. (income elasticity man be used to forecast demand for the product)
5. To plan the level of output & price.

DEMAND FORECASTING METHODS

WHY TO FORECAST DEMAND?

1. To assess the likely demand.
2. To plan the production accordingly.
3. To plan the inputs (factors of productions) Manpower (labour), Raw material, and Capital.

DEMAND FORECASTING
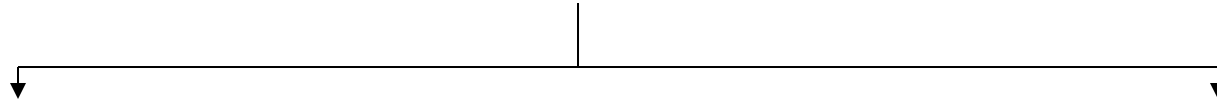
NON – STATISTICAL METHODS

STATISTICAL METHODS

→ Complete Enumeration Survey

→ Sample Method

→ Sales force Opinion Method

→ Expert Opinion Method → Delphi Technique / GD

→ Test Marketing

→ Controlled Experiments

→ Judgemental Approach

Survey Techniques

Survey of buyer intentions: in this method information is drawn from the buyer to estimate demand.

- In this method each potential buyer is asked how much does he plan to buy, of the given product at a given point of time under particular condition.

- This is the most effective method because the buyer is the ultimate decision maker, & we are collecting the information from the potential buyer.

- Survey can be conducted by considering either whole population or by selecting a small group of potential buyers.

- If survey is conducted by considering the whole population it is called **Census** method. census method is also called as **Total Enumeration** method.

- If survey is conducted by considering the small group of potential buyers who can represent the whole population, it is called **Sample** method.

<u>Sales force opinion method</u>: Sales people are in constant touch with the large number of buyers of a particular market.

- Sales force constitute valid source of information about the likely sales of a product.

- Sales force is capable of assessing the likely reaction of the customers of their territories quickly, given the companies marketing strategy.

Expert opinion method: An expert is good at forecasting and analyzing the future trends for a given product or service at a given level of technology.

- Apart from salesmen, consumers & distributors, outside experts may also used for forecasting. In the United States of America, the automobile companies get sales estimates directly from their dealers. Firms in advanced countries make use of outside experts for estimating future demand.

Delphi Method: A variant of the survey method is Delphi method. It is a sophisticated method to arrive at a consensus. Under this method, a panel is selected to give suggestions to solve the problems in hand. Both internal and external experts can be the members of the panel. Panel members one kept apart from each other and express their views in an anonymous manner.

There is also a coordinator who acts as an intermediary among the panelists. He prepares the questionnaire and sends it to the panelist. At the end of each round, he prepares a summary report. On the basis of the summary report the panel members have to give suggestions.

Test marketing: In test marketing the entire product and marketing program is carried for the first time in a small number of well chosen and authentic sales environment.

- The primary objective of test marketing is to know whether the customer will accept the product in the present form or not

Controlled experiments: Major determinants of demand are manipulated to suit to the customers with different tastes and preferences

- In this method the product is introduced with different packages, different prices, in different markets to assess which combination appeals to the customer most

Judgmental Approach: When none of statistical and other methods are directly related to the given product/service the management has no alternative other than using its own judgment in forecasting the demand.

DEMAND FORECASTING

NON – STATISTICAL METHODS

STATISTICAL METHODS

Mechanical Extrapolation / Trend Projection Methods

Barometric Techniques

Correlation and Regression Methods

Trend projection methods:

A well-established firm will have accumulated data. These data is analyzed to determine the nature of existing trend. Then, this trend is projected in to the future and the results are used as the basis for forecast.

Mechanical Extrapolation / Trend Projection Methods

→ **Fitting Trend Line by Observation**

→ **Time Series Analysis using Least Squares Method**

→ **Moving Average Method**

Time Series Analysis using Least Squares Method

Sales = a + b (year number)
i.e., S = a + b . T

Where, a and b are constants determined using

$$\Sigma S = Na + b \, \Sigma t$$

$$\Sigma \, St = a \, \Sigma \, t + b \, \Sigma \, t^2$$

Where, N = No. of years for which data is available

MOVING AVERAGE METHOD

This method considers that the average of past events determine the future events. The average keeps on moving depending up on the number of years selected.

EXPONENTIAL SMOOTHING

This method determines values by computing exponentially weighted system. The weights assigned to each value reflect the degree of importance of that value.

Smoothened Value = w (current observed value) +

(1-w) (previous smoothened value)

BAROMETRIC TECHNIQUES

- It is based on the presumption that relationship can exist among various economic time series. Under this technique one set of data is used to predict another set.

- In other words to forecast demand for a product , some other relevant indicator, which is known as BAROMETER is used to forecast the future demand.

  E.g.   To forecast demand for cement the relevant indicator number of new construction projects, are taken into consideration for forecasting demand.

There are three kinds of relationships.

1. Leading series
2. Coincident series
3. Lagging series

CORRELATION

- Correlation describes the degree of association between two variables such as sales and advertisement expenditure.

- When two variables tend to change together then they are said to be correlated.

- The extent to which they are correlated is measured by correlation coefficient.

- For example if sales have gone up as a result of increase in advertisement expenditure we can say that sales and advertisement are positively correlated.

REGRESSION

A statistical measure that attempts to determine the strength of the relationship between one dependent variable (usually denoted by Y) and a series of other changing variables (known as independent variables).

The two basic types of regression are linear regression and multiple regression. Linear regression uses one independent variable to explain and/or predict the outcome of Y, while multiple regression uses two or more independent variables to predict the outcome.

END