Atlantic International University

North Miami, Florida

Summer 2007

Course Title: Managerial Economics & Quantitative Techniques

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Phase II - 2007

CONTENTS

1. DEVELOPMENT OF MARKET

2. COMPANY PROFILE

3. PRODUCT PROFILE

4. PRODUCTION & SALES

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6. DEMAND FORCASTING

7. PROSPECTS

8. PROBLEMS

MODULE II - Part I - DEMAND ANALYSIS & ELASTICITY OF DEMAND

- Demand is the willingness to buy a commodity and ability to buy it.

- Point of equilibrium P_x = Mix

- Demand is always referred with time & price.

Demand of commodity can be defined as quantity of the commodity at a particular price during a given point of time.

* Demand and price are <u>inversely</u> related. Other than price demand for a commodity depends upon a host of other factors like:

    i.)   income of consumer

    ii.)   prices of related commodities

    iii.)   taste & preferences

    iv.)   expectations regarding future price

    v.)   geographical location

    vi.)   composition of population etc.

These are the determinants of demand.

    ↑   ↓   ↓   ↑

* Price Demand ; Price   Demand

i.) <u>Income of consumers</u>

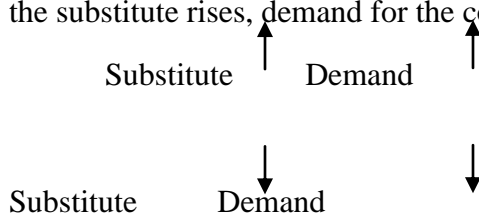Income and Demand are <u>Directly</u> related.

    ↑   ↑
   Income Demand

Income ↓ Demand ↓

People's purchasing power increases or decreases as case may be.

ii.) Prices of related commodities

a.)   If substitutes of a particular commodity are available in the market and the price of the substitute rises, demand for the commodity rises.
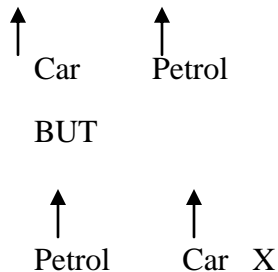
Substitute ↑   Demand ↑   ↑

Substitute   Demand ↓   ↓

b.)   If complements are available

Complements ↓   Demand ↑

BUT

Complements does not always work. For example :

↑ Car   ↑ Petrol

BUT

↑ Petrol   ↑ Car X

iii.) Changes in taste & preferences

If something is in fashion, demand for the product is high. If not in fashion, demand may be low.

iv.) <u>People's expectation regarding future prices</u>

If expectation of future prices is high, then more demand is there at present and vice versa.

* Other than above mentioned determinants, quantity demanded is also dependant upon population, composition of population, geographical conditions etc.

For example :

i.) Population   Demand

ii.) More the male population, greater the demand for Male products

iii.) Blankets : Price of Blankets doesn't affect Mumbai but Canada is affected.

<u>Demand Curve</u>

Demand Curve is <u>downward sloping</u>. The factors responsible for downward sloping demand curve is as follows :

i.) <u>Law of Diminishing Return</u>

According to this law every additional unit consumed would give less and less satisfaction to the consumer. So the amount of money the consumer is willing to pay for additional unit of a commodity becomes lesser and lesser. So consumer will purchase additional commodity only when the price is lower. Therefore, more quantity is brought at a lower price.

ii.) <u>Income Effect</u>

As the price of the commodity falls, the consumer's real income increases. His purchasing power increases. He is in a position to buy more of the given commodity.

iii.) <u>Change in the number of consumers</u>

As the commodity becomes cheaper, many more people who couldn't afford it earlier will be in a position to buy the commodity. As a result, number of consumers will increase. Hence, the demand for a commodity goes up when it's price goes down.

iv.)   <u>Substitution Effect</u>

When the price of a commodity goes up and the substitutes are cheaper, then the people will go for commodities which are cheaper. Thus demand for commodity will go down.

v.)   <u>Diverse use of a commodity</u>

Many commodities can be used for several purposes. When the price is high, it's use is restricted to a few applications. When it becomes cheaper, people can afford to use it in other ways as well. As a result, demand for a commodity goes up as price falls.

<u>The Law of Demand</u>

The Law of Demand expressing the inverse relationship between quantities demanded and price is valid in most of the situations. But there are some exceptional situations under which there may be a direct relationship between price and quantity demanded.

One of the exceptions is associated with THORESTEIN VEBLER.

According to him, if consumer measures utility of a commodity only by its price & nothing else, then they tend to buy more of a commodity at a higher price and less of it at lower price. These goods are known as VEBLER'S GOODS. These goods loose their appeal when price falls. Therefore, the laws of demand do not apply to these goods, which are status symbols.

Another exception is associated with ROBERT GIFFEN. He observed that when the price of bread was rising in Britain, British workers brought more of bread. They substituted bread for meat, because meat was very expensive and unaffordable. Such goods which are the basic requirements are known as GIFFEN'S GOODS. For example, potatoes, bajra etc.,

which are generally consumed by the poor families and a large part of consumer's income is spent on these goods. Price effect is negligible.

i. e. P.E. = S.E.$^{+ve}$ <   I. E. $^{-ve}$

But normally,

P.E. =   S.E$^{.+ve}$ > I.E.$^{-ve}$

Where,

S.E. = Substitution Effect   &

I.E. = Income Effect   may be –ve, +ve.

Laws of Demand do not hold good in the times of EMERGENCIES such as Flood, Famine, war etc. This is because of a fear of shortages of goods in future increase the demand. People become panicky and buy more amount of goods even at higher prices.

Laws of Demand does not hold true during the PROSPERITY PHASE and the DEPRESSION PHASE. During prosperity, while the prices rise, the demand for the goods also keeps rising, because the income of the people is also rising, during this phase.

On the other hand, during depression, while the prices fall, the demand of the goods and services also falls, because during Depression employment and incomes in the Economy are low. Thought he prices are affordable, people are not in a position to buy goods and services. More over since the prices are falling, people expect a further fall in prices in future and therefore, postpone their buying.

So the low of demand does not hold true during phases of prosperity and depression phases of the Business cycle.
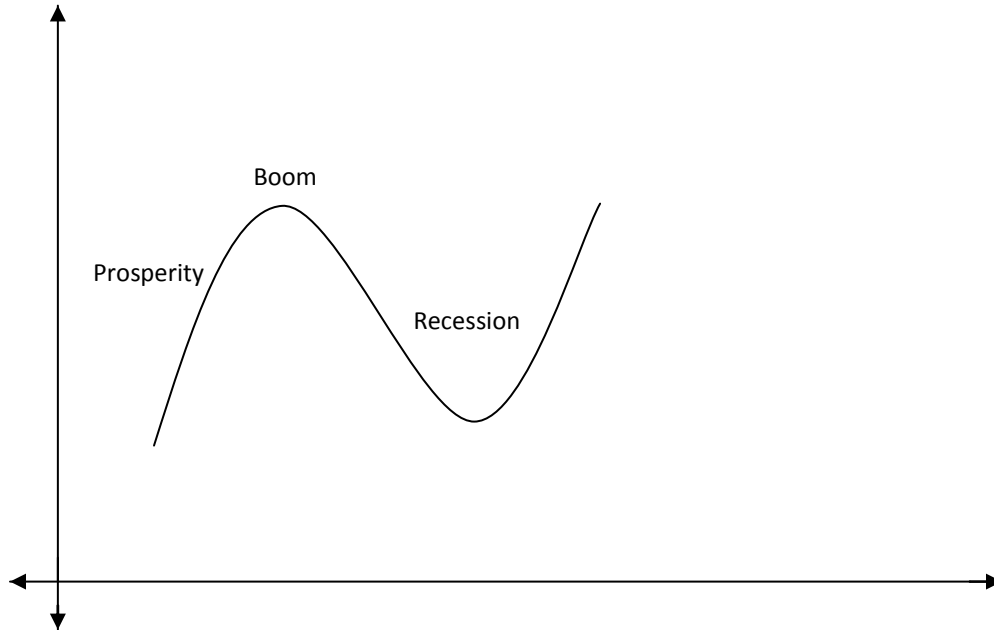
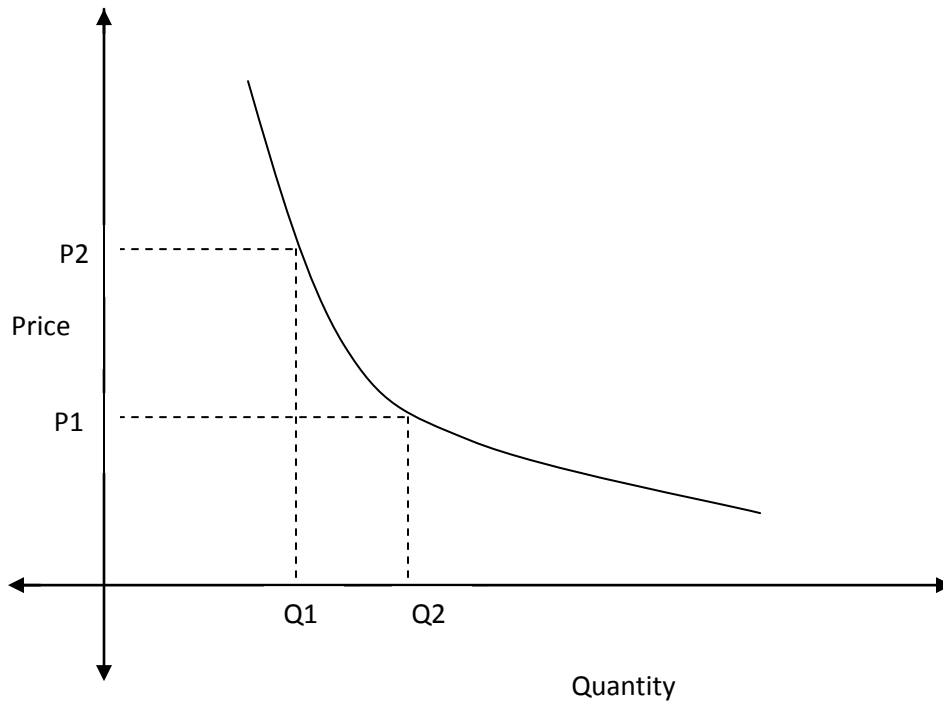## EXTENSION & CONTRACTION OF DEMAND

It refers to increase in quantity demanded or decrease in quantity demanded with respect to change in price only.

Other determinants remaining constant, an EXTENSION of demand due to a fall in price, there is an increase in demand and vice versa. If the price of a commodity increases and demand decreases, it is known as CONTRACTION.
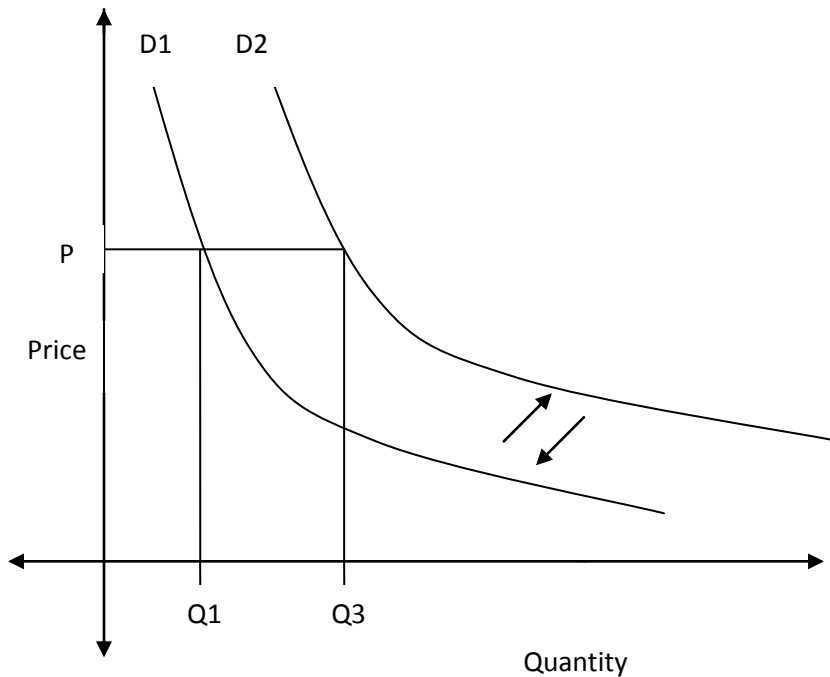
INCREASE & DECREASE IN DEMAND

When there is a change in quantity demanded due to factors other than price, it is known as INCREASE or DECREASE of demand.

In case of Increase in demand, the quantity demanded increases at same price i. e. at the same price the consumers are prepared to but more and more. Therefore, the demand curve shifts towards the right.

A fall in quantity demanded due to any other factor than price is known as Decrease in demand. i. e. at the same price less quantity is demanded. In case of decrease in demand the demand curve shifts to the left.

CLASSIFICATION OF DEMAND

Autonomous & Induced demand

Autonomous Demand is that demand which is not tied up with demand for other goods & services. It is independent of the use of other goods.

For example : Consumer Goods.

Derived or induced Demand is that demand which is dependent on the demand for some other product. It is known also known as derived demand.

For example : Producer Goods. He demand for inputs depends on the demand for the finished goods.

Industry or Company Demand

Demand faced by an individual firm is known as company demand. But demand faced by several companies producing same commodity (Substance) i. e. industry is known as Industry Demand. Company demand is a small percentage of the Industry Demand.

Individual / Market Demand

Demand for certain products can be studied not only in its totality but also by breaking it up in two different segments on the basis of product, use, distribution channel, age, income etc.

Division of demand into different segments gives rise to the concept of Market Segment Demand.

Problems of pricing, distribution etc. fall in the purview of analysis of market segment.

Demand for the entire market in totality is known as Market Demand.

Study of Sales Forecasting, demand forecasting etc. relate to the total market.

Demand for Durable & Non-durable Goods

Durable Goods are those goods which are used over a period of time. They need Present as well as future demand. They can be consumer or producer goods.

Non-durable goods are those goods which deteriorate in quality with passage of time and become non-useable after the initial usage. e.g. Fruits etc. There are perishable or non-durable consumer goods. Goods like coal, electricity etc. are non-durable producer goods.

LONG TERM & SHORT TERM DEMAND

Short term demand refers to existing demand which is dependent on seasonal pattern and cyclical pattern.

In short term existing buyers will raise the demand of the product, if price comes down.

Short term demand is a temporary demand.

Long term demand does not depend on seasonal or cyclical situation. Long term demand trends are useful to Business firms for investments, inventories and product planning.

ELASTICITY OF DEMAND

Elasticity of demand refers to the degree of change in quantity demanded or the degree of responsiveness of the quantity to a change in any one of the determinants of demand, the other determinants remaining constant.

Elasticity of demand may be of following types :

1)   Price Elasticity

2)   Income Elasticity

3)   Cross Elasticity

4)   Promotional Elasticity

Measurement of Price Elasticity

1)   Percentage Method

According to the percentage method, there is a proportionate change in quantity demanded to a proportionate change in price.

$$e_p = \dfrac{\dfrac{\wedge Q}{q}}{\dfrac{\wedge P}{p}} = \dfrac{\wedge Q}{\wedge P} \times \dfrac{p}{q}$$

$$e_p = \dfrac{\wedge Q}{\wedge P} \times \dfrac{p}{q}$$

The value of Price Elasticity varies from 0 to infinity (0-infinity)

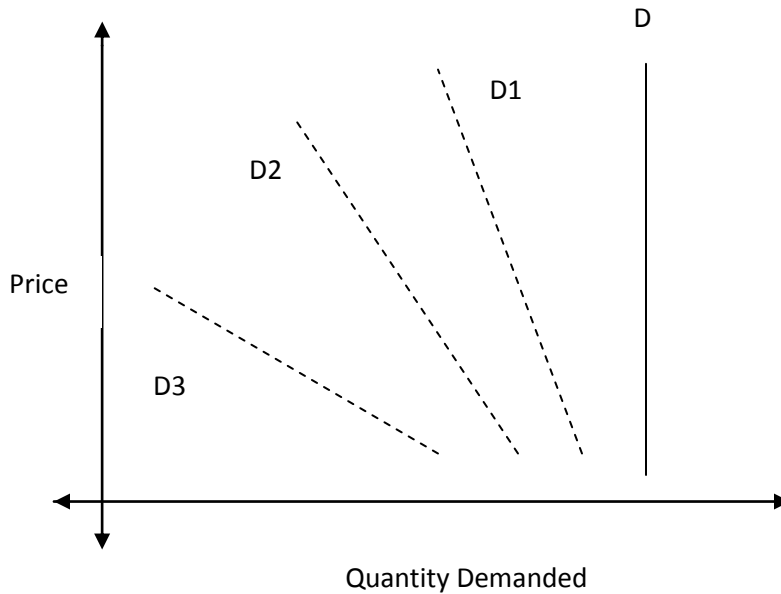i.) Elasticity will be less than 1, if % change in quantity demanded is less than the % change in price.

ii.) Elasticity will be > 1, if the % change in demand is > than the change in price.

i.e. $e_p > 1$; $\dfrac{\wedge Q}{q} > \dfrac{\wedge P}{p}$

iii.) Elasticity will be infinity, when a small change in price will bring about a very large change in demand.

i.e. e_p = Oo

2)   Total Outlay Method

Total outlay refer to the total expenditure of the product. By knowing the change in total expenditure due to a change in the price, we can find out the elasticity of the demand. By this method we don't get the exact value of elasticity. We can only say whether

$e_p = 1$ or $e_p > 1$ or $e_p < 1$

$e_p = 1$: Total expenditure on commodity does not change due to change in price.

e. g. P = Rs. 5; Q = 100 units
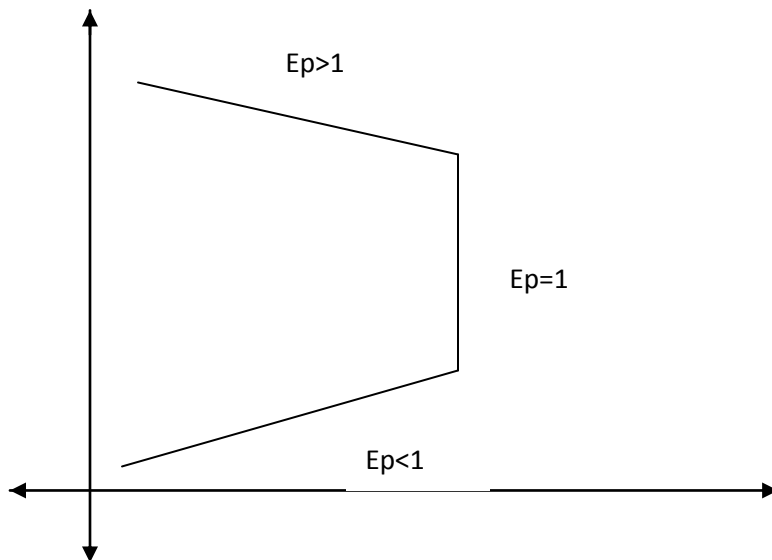
P ↓Rs. 4; Q   ↑125 units

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$e_p > 1$: If a fall in price leads to an increase in total layout or a rise in price leads

to a decrease in total outlay.

e. g. P = Rs. 5; Q = 100 units ————→ 500 units

P = Rs. 4; Q = 140 units ———— 560 units

$e_p < 1$: If total outlay declines with a fall in price and rises with a rise in price.

e.g. P = Rs. 5; Q = 100 units ———— 500 units

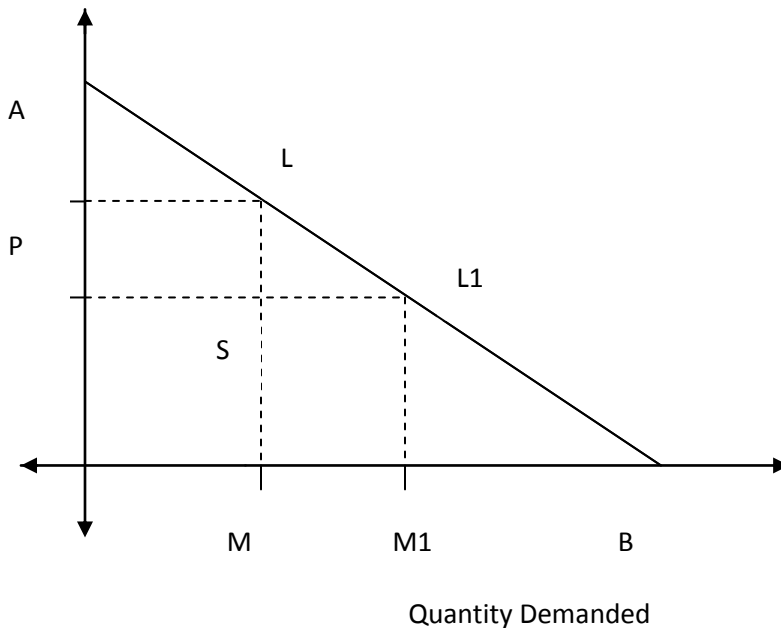P ↓Rs. 4; Q ↓120 units ———— 480 units

Ep>1

Ep=1

Ep<1

3) <u>Geometric Method</u>

On a straight line demand curve value of elasticity can be measured by the ratio of cover segment upon upper segment.

e_p = Lower segment

Upper segment

Quantity Demanded

$e_p = \dfrac{M M_1}{P P_1} \times \dfrac{O P}{O M}$ ———————(1) (From % method)

Therefore : $M M_1 = S L_1$; $O P = M L$; $P P_1 = S L$

Substituting: $e_p = \dfrac{S L_1}{S L} \times \dfrac{M L}{O M}$ (From % method of equation 1)

Therefore : $\triangle LSL_1 \equiv\equiv\equiv \triangle LMB$ (<LSL_1 & <$LMB = 90^0$; <SL_1L & <MBL are

(corresponding angles – by AAA test)

Therefore : $e_p = \underline{M B} \times \underline{M L}$

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$$M L \quad O M$$

$$\wedge\,AOB \;\;==== \;\; \wedge\,LMB$$

$$e_p \;=\; \underline{M\,B} \quad = \quad \underline{L\,M} \quad = \quad \underline{L\,B}$$
$$ P\,L \qquad\qquad A\,P \qquad\quad A\,C$$

$$= \; \underline{L\,B} \;\; = \;\; \underline{\text{Lower segment}}$$
$$ A\,L \qquad\quad \text{Upper segment} \quad (\text{Hence proved})$$

If the demand curve is a curve and not a straight line, draw the tangent to the point & calculate.
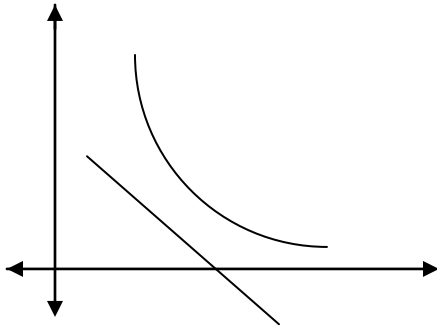
4)   <u>Arc Method</u>

The point method can for elasticity can be used only for marginal changes. Generally, the change in price is not very small. In that case, we have to measure elasticity over the substantial range of the demand curve.

Arc Elasticity (e_p) = $\dfrac{\dfrac{\char94 Q}{\dfrac{(Q_1 + Q_2)}{2}}}{\dfrac{\char94 P}{\dfrac{(P_1 + P_2)}{2}}}$

$$\mathbf{e}_p = \frac{\char94 Q}{\char94 P} \quad x \quad \frac{P_1 + P_2}{Q_1 + Q_2}$$

DETERMINANTS OF ELASTICITY OF DEMAND

Elasticity of demand depends on nature of commodity. If the commodity is a necessity, a change in price will not lead to a change in demand for that product. Similarly, goods with the status symbol also have an inelastic demand. These goods are high priced goods and only the richer section of society can afford these goods. Even with a change in price, demand does not change much for goods which are luxurious in nature.

Availability of substitutes

If substitutes are available in the market, demand for commodities will be relatively elastic. If substitutes are not available, demand will be inelastic in nature.

Price of product

If the price of a product is very low, demand is inelastic in nature. A rise in price or a fall in price is not going to change the demand for the product.

Position of the product in the consumer's budget

If the amount of money spent on the product is a small percentage of the consumer's income, the demand of the product will be inelastic in nature.

Postponement of demand

If the demand for a product can be postponed to a future date, demand will be relatively inelastic. If demand can be postponed, the people will be willing to pay a higher price. Therefore, the demand will be inelastic in nature.

Number of users

If the commodity can be used for a large number of purposes, its demand will go up with a fall in price. Therefore, the demand for the product will be elastic in nature, on the other hand single use goods will have an inelastic demand.

IMPORTANCE OF KNOWLEDGE OF ELASTICITY OF DEMAND

Government decision making

Knowledge of elasticity is of great importance in framing important policies of the government like tax policies, trade policies, agricultural pricing policy etc.

i.)   Tax policy

Government imposes various taxes for raising revenue. While imposing taxes and fixing tax rates, the knowledge of elasticity becomes very important. While imposing taxes , the government has to keep in mind the nature of elasticity of demand. For goods which have an elastic demand, high tax rates can not be fixed. Fixing the taxes or increasing would imply a rise in price of the product. If the demand for a product is elastic, with rise in price, quantity demanded will come down. For goods having inelastic demand, a rise in tax will fetch more revenue to the government.

ii.)   International trade policy

Knowledge of elasticity is of great importance in international trade, if the goods exported have an inelastic demand. Domestic country is at a favorable position to as it can quote a high price for its exports. If Imports have an elastic demand, it is favorable for a domestic country. The success of devaluation also depends on elasticity of demand. Devaluation refers to lowering value of domestic currency against a foreign currency. Devaluation makes Exports cheaper and imports costlier. However, it will be successful only when exports are elastic in nature and imports are also elastic in nature. Government frames international trade policies according to the elasticity of demand.

iii.)   Agricultural policies

Government fixes up the minimum price of agricultural products in order to prevent a fall in the price of the agricultural produce during a good harvest. When the harvest is good and productivity is high, there is a great supply of food grains in the market. But the demand for food grains and the agricultural products is inelastic in nature. Therefore, prices of

agricultural products fall because of excess of supply. This is a loss to farming community. Therefore, minimum support prices are fixed by the government to prevent price of crops from falling to a very low level.

In order to fix the price, knowledge of elasticity becomes very important. Certain products are necessities and yet there is a shortage of these products in the market. To prevent rise in price of such necessities the government fixes a price ceiling.

It helps government to identify certain services as public utility services. Certain services have an inelastic demand because it is a necessity and at the same time there is a scarcity of such services. In order to prevent growth of mono[poly and exploitation of the consumer, these services are taken over by the government and declared as public utility and provided to the public at a highly subsidized rate.

iv.)   Business decision-making

Pricing policy is an important part of the business decisions. The prices that are fixed should cover the cost of production and fetch profits for the producer. The producer will always try to maximize his profits. A higher price will fetch a higher profit but it will not always be possible for the producer to charge a higher price. In case of goods having an elastic demand, a rise in price will lead to a fall in quantity demanded bringing down the profits of the producer. So, the producer will not be successful in charging a high price and making more profits.

Knowledge of elasticity and trade unions

When the workers bargain for the higher wages, whether they will be successful or not depends on the nature of elasticity of the product which they help to produce. Higher wages will increase the cost of production. The cost of production is reflected in the price of the product. Thus the price of the product will rise. If the demand of the product is elastic in nature, the quantity demanded will fall with a rise in price. As a result many workers will loose their jobs. So for products having elastic demand, the workers demand for higher wages will not be successful.

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