Law of Demand

Concept of Demand

Demand for a commodity refers to the desire to buy a commodity backed with sufficient purchasing power and the willingness to spend.

For Example: You desire to have a Car, but you do not have enough money to buy it. Then, this desire will remain just a wishful thinking, it will not be called demand.

If inspite of having enough money, you do not want to spend it on Car, demand does not emerge.

The desire become demand only when you are ready to spend money to buy Car.

Concept of Demand

In Economics, demand refers to effective demand, which implies three things:

a) Desire,
b) Means to purchase, and
c) On willingness to use those means for that purchase

Features of Demand

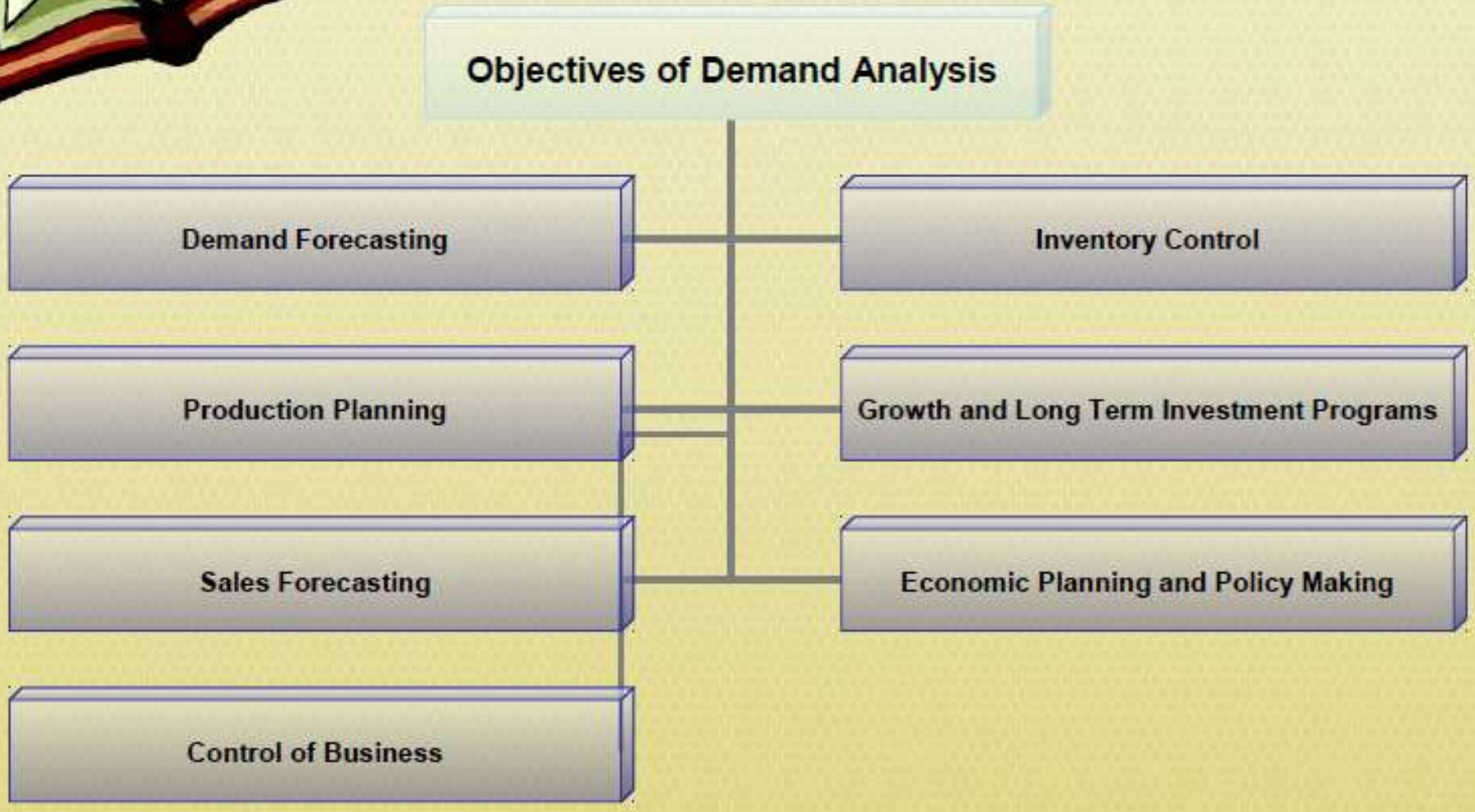
1) **Desires and Demand:** Demand is the amount of commodity for which a consumer has willingness and ability to buy.

2) **Demand and Price:** Demand is always at a price. Unless price is stated, the commodity has no meaning. The consumer must know both the price and the commodity.

3) **Point of Time:** The amount demanded must refer to some period of time. Such as 10 kg of rice per week. The amount demanded and price must refer to a particular date.

4) **Utility:** Demand depend upon utility of the commodity. A consumer is rational and demands only those commodities which provide utility.

Objectives of Demand Analysis



Objectives of Demand Analysis

1) **Demand Forecasting:** Forecasting of demand is the art of predicting demand for a product or a service at some future date on the basis of certain present and past behaviour patterns of some related events.

2) **Production Planning:** Demand analysis is prerequisite for the production planning of a business firm. Expansion of output of the firm should be based on the estimates of likely demand, otherwise there may be overproduction and consequent losses may have to be faced.

3) **Sales Forecasting:** Sales forecasting is based on the demand analysis.

4) **Control of Business:** For controlling the business, it is essential to have a well conceived budgeting of costs and profits that is based on the estimation of annual demand/sales and prices.

Objectives of Demand

5) **Inventory Control**: A satisfactory control of business inventories requires satisfactory estimates of the future requirements which can be traced through demand analysis.

6) **Growth and Long Term Investment Programs**: Demand analysis is necessary for determining the growth rate of the firm and long-term investment planning.

7) **Economic Planning and Policy Making:** Demand analysis at macro level for the nation as a whole is of great help, the government can determine its imoprt and export policies in view of the long-term demand forecasting and estimation for various goods in the country,

Demand & Quantity Demanded

The term Demand refers to various quantities of commodity that the consumer is ready to buy at different possible prices of a commodity.

The term Quantity Demanded refers to a specific quantity to be purchased against a specific price of a commodity.

Example: A Consumers' Demand is 2 ice creams if the price per ice cream is Rs.15, and 4 ice cream if the price per ice cream is Rs.10.

Quantity Demanded is 4 ice creams if price happens to be Rs. 10 per ice cream.

Demand Schedule & Demand Curve

Demand Schedule is that schedule which expresses the relation between different quantities of the commodity demanded at different price.

According to Samuelson, "The table relating to price and quantity demanded is called the demand schedule.

Demand Curve is simply a graphic representation of demand schedule.

According to Leftwitch, "The Demand Curve represents the maximum quantities per unit of time that consumer will take at various prices.

Demand Schedule and Demand Curve are of two types

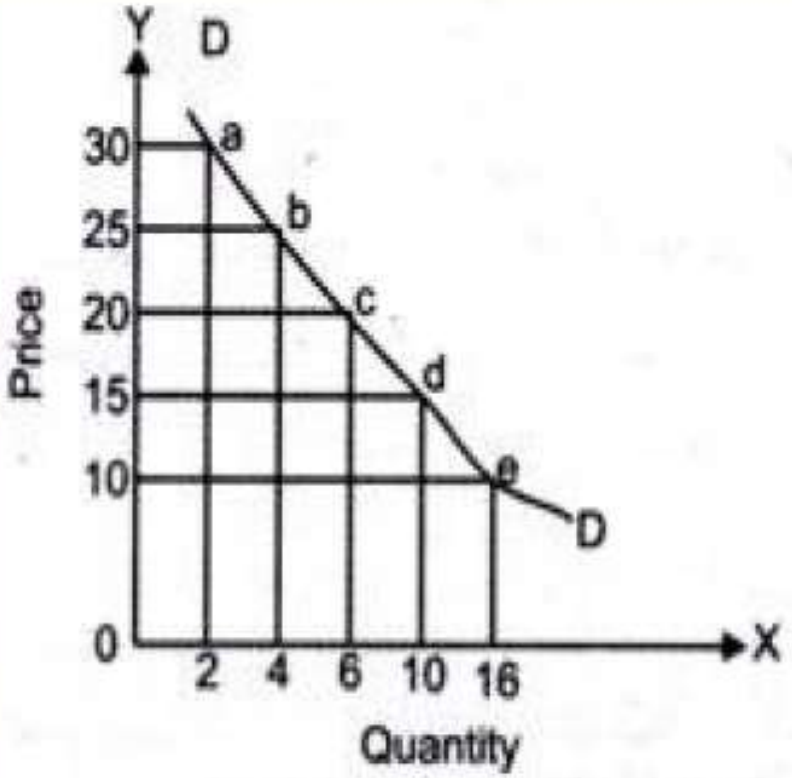
1) Individual Demand Schedule & Individual Demand Curve

2) Market Demand Schedule & Market Demand Curve

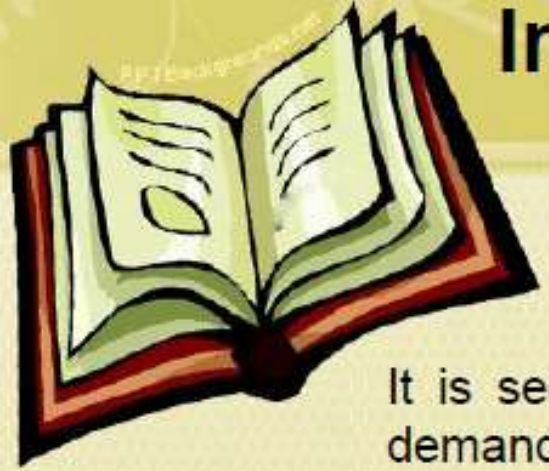
Individual Demand Schedule & Individual Demand Curve

Refers to a tabular representation of quantity of products demanded by an individual at different prices and time.

Table-1: Individual Demand Schedule	
Price of A (per kg in ₹)	Quantity Demanded (per week in kgs)
10	15
15	10
20	8
25	4
30	2



Individual Demand Curve



Individual Demand Schedule & Individual Demand Curve

It is seen that as the price of the commodity increases, quantity demanded tends to decrease.

And when price falls, the quantity demanded increases.

In Figure points a, b, c, d, and e demonstrates the relationship between price and quantity demanded at different price levels. By joining these points, we have obtained a curve, DD, which is termed as the individual demand curve.

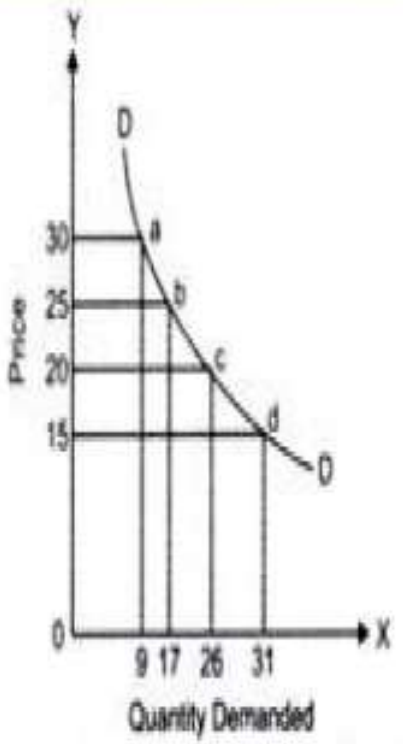
The slope of an individual demand curve is downward from left to right that indicates the inverse relationship of demand with price.

Market Demand Schedule & Market Demand Curve

In every market, there are several consumers of a commodity. Market demand schedule shows total demand of all the consumers in the market at different prices of the commodity.

Table-5: Determination of Market Demand

Price of P (per unit in ₹)	Individual Demand (per day)				Market Demand (per day)
	Ram	Shyam	Sharad	Ghanshyam	
30	2	3	1	3	9
25	4	5	4	4	17
20	6	8	6	6	26
15	7	9	7	8	31

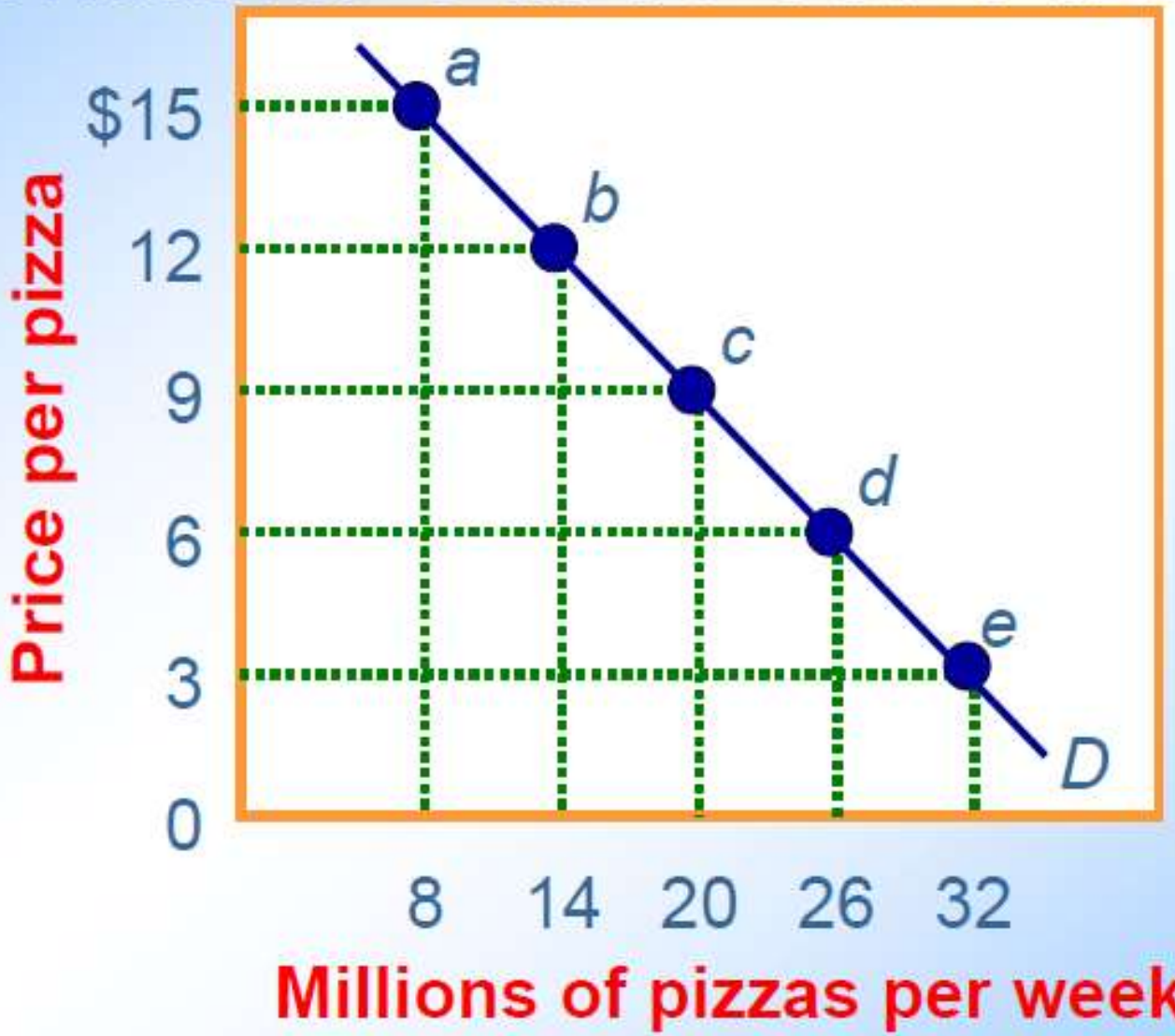


Market Demand Curve for Product P

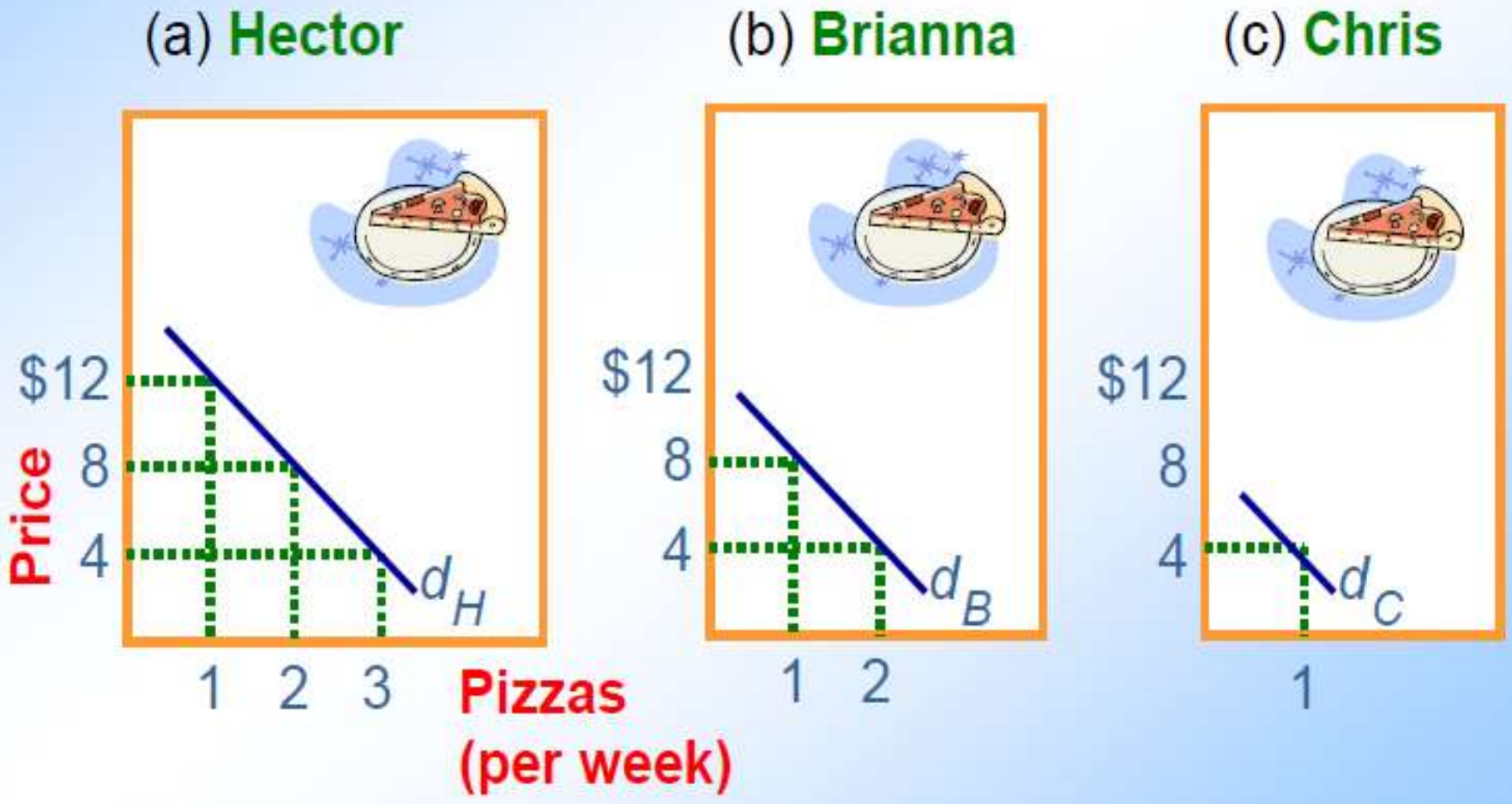
Demand Schedule

	Price per Pizza	Quantity Demanded per Week (millions)
a	$15	8
b	12	14
c	9	20
d	6	26
e	3	32

Demand Curve for Pizza

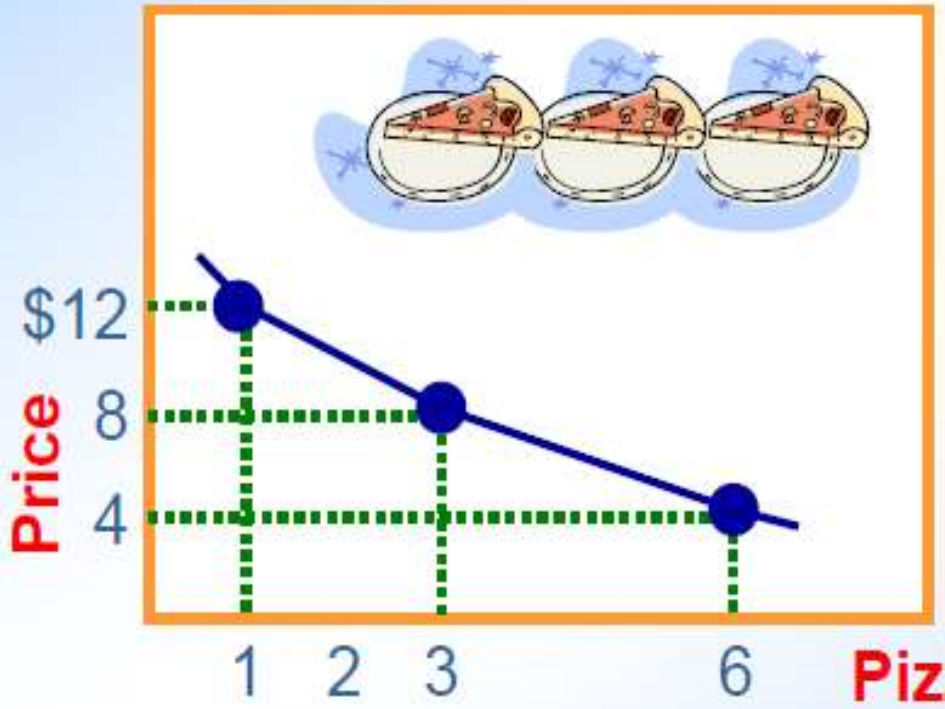


Individual Demand for Pizzas



Market Demand for Pizzas

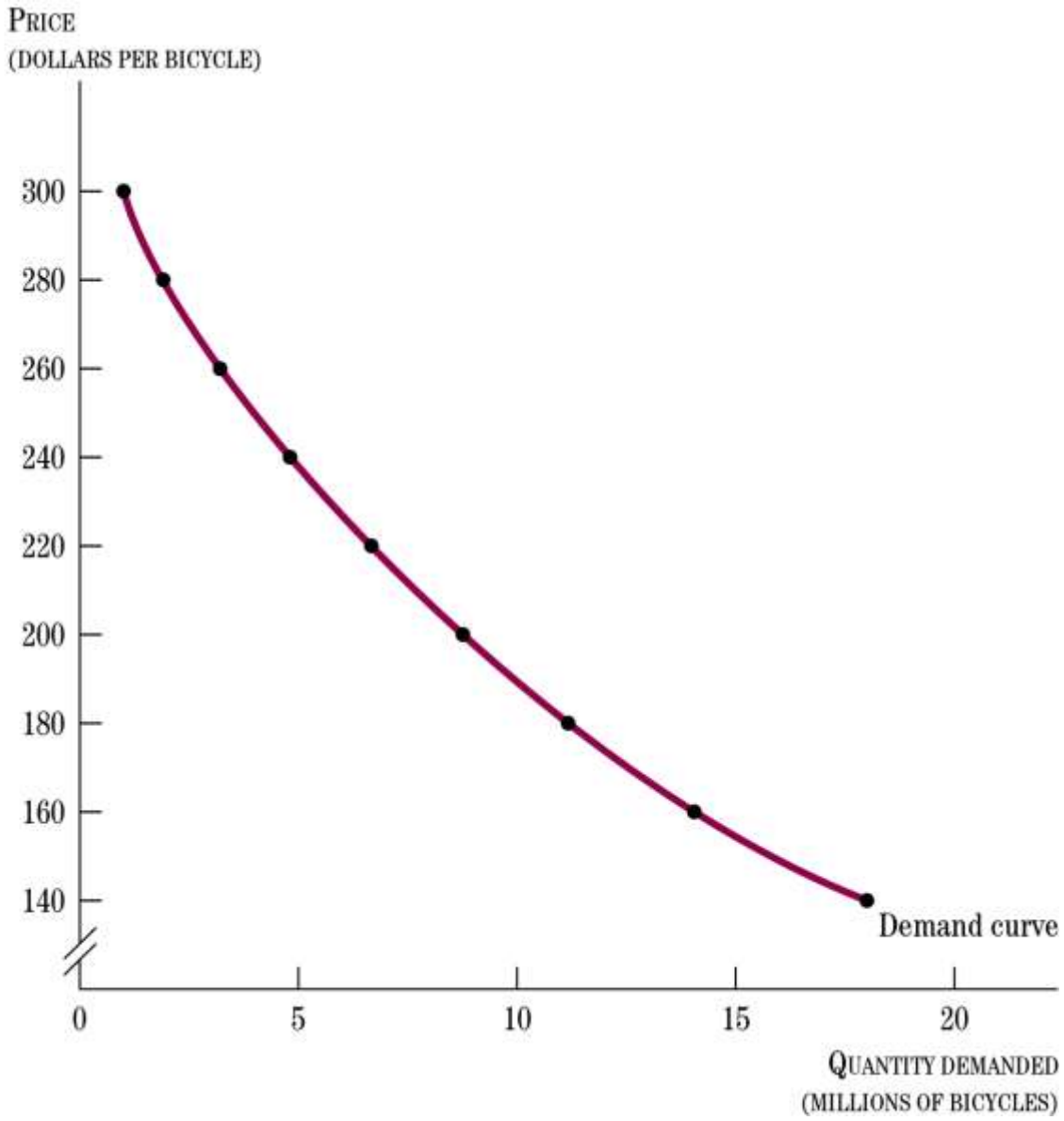
(d) **Market demand for pizzas**



$$d_H + d_B + d_C = D$$

The Demand Curve

Price	Quantity Demanded
$140	18
$160	14
$180	11
$200	9
$220	7
$240	5
$260	3
$280	2
$300	1



Demand Function or Determinants of Demand

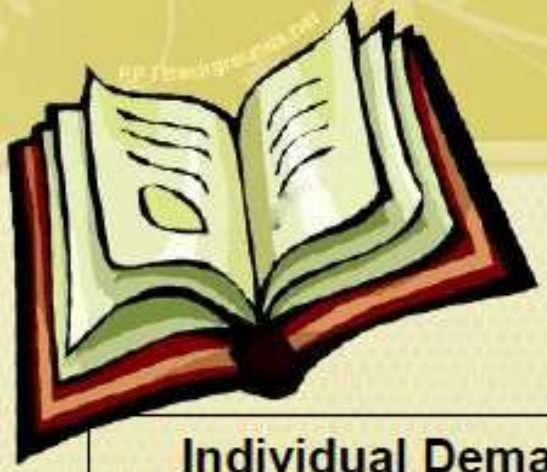
Demand Function shows the relationship between demand for a commodity and its various determinants.

It shows how demand for a commodity is related to, say price of the commodity or income of the consumer or other determinants.

There are two types of Demand Function:

a) Individual Demand Function

b) Market Demand Function



Demand Function

Individual Demand Function

Individual Demand function shows how demand for a commodity, by an individual consumer in the market, is related to its various determinants. It is Expressed as:

$D_x = f(P_x, P_r, Y, T, E)$

Market Demand Function

Market Demand Function shows how market demand for a commodity (or aggregate demand for a commodity in the market) is related to its various determinants.

$Mkt.\ D_x = f(P_x, P_r, Y, T, E, N, Y_d)$

Here, D_x: Quantity Demanded of commodity X

P_x : Price of the Commodity X

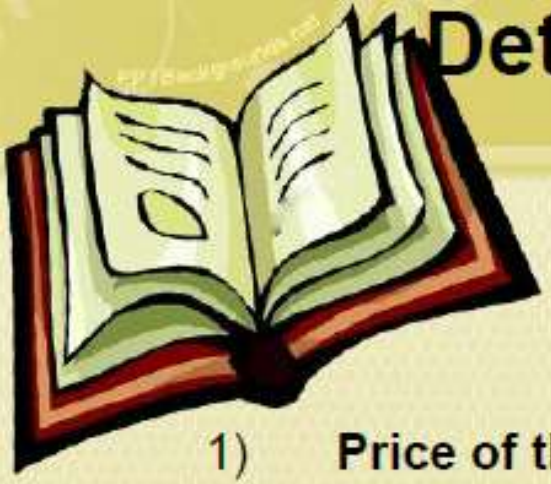
Y : Consumer's Income

T : Consumer's Taste & Preferences

E: Consumer's Expectations

N : Population Size

Y_d : Distribution of Income



Determinants of Demand / Factors Affecting Demand

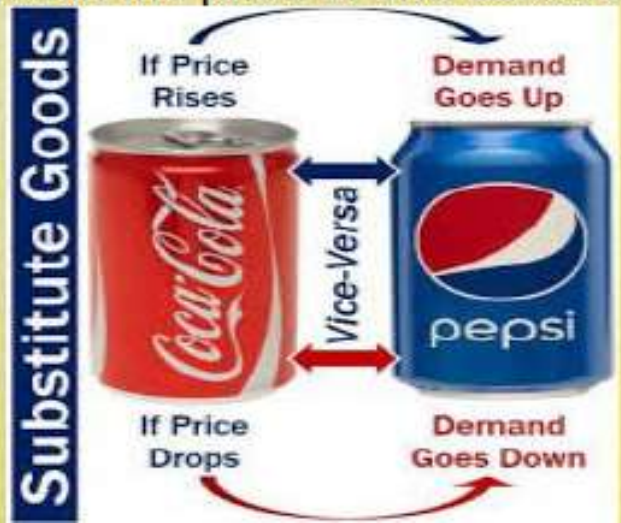
1) **Price of the Commodity:** The law of demand states that other things being constant the demand of the commodity is inversly related to its price. It implies that rise in price of commodity brings about a fall in its purchase and vice versa.

Determinants of Demand / Factors Affecting Demand

2) **Price of Related Goods:** Demand for a commodity is also influenced by change in price of related goods. These are of two types:

a) Substitute Goods: These are he goods which can be substituted for each other, such as tea and coffee, or ball pen and ink pen.

In case of such goods, increase in the price of one causes increase in the demand for the other and decrease in the price of one causes decrease in the demand for the other.



Determinants of Demand / Factors Affecting Demand

b) Complementary Goods: Complementary goods are those which complete the demand for each other, and therefore, demanded together.

For Example Pen and ink, Car and Petrol.

In case of complementary goods, a fall in the price of one causes increases in the demand for the other and rise in the price of one causes decrease in the demand for others.

Determinants of Demand / Factors Affecting Demand

3) **Income of the Consumer:** The ability to buy a commodity depends upon the income of the consumer. When the income of the consumer increases, they buy more and when the income falls they buy less.

4) **Expectations:** If the consumer expects that price in future will rise, he will buy more quantity in present, at the existing price.

likewise, if he hopes that price in future will fall, he will buy less quantity in present, or may even postpone his demand.

Determinants of Demand / Factors Affecting Demand

5) **Taste and Preferences:** Taste and preferences include fashion, custom etc. Taste and preferences can be influenced by advertisement, change in fashion, climate, new inventions, etc.

Other thing being equal, demand for those goods increases for which consumer develop tastes and preferences.

Contrary to it, if a consumer has no taste or preference for a product, its demand will decrease.

Bell bottom To Pencil cut

Determinants of Demand / Factors Affecting Demand

6) **Population Size:** Demand increases with the increase in population and decreases with decrease in population.

Composition of population (male, female ratio) also affects the demand. E.g. Female population increases, demand for goods meant for women will go up.

7) **Distribution of Income:** if income is equally distributed, there will be more demand. If income is not equally distributed, there will be less demand.

In case of unequal distribution, most will not have enough money to buy things.

Law of Demand

The Law of Demand States that, other things being constant (Ceteris Peribus), the demand for a good extends with a decrease in price and contracts with an increase in price.

In other words, there is an **inverse relationship** between quantity demanded of a commodity and its price.

The term other thing being constant implies that income of the consumer, his taste and preferences and price of other related goods remains constant.

Assumptions Law of Demand

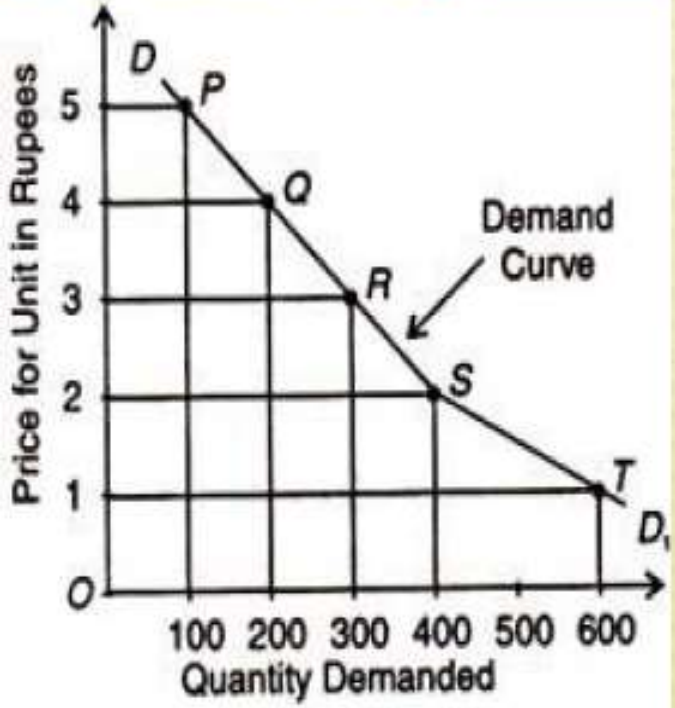
1) Tastes and Preferences of the consumers remain constant.

2) There is no change in the income of the consumer.

3) Prices of the related goods do not change.

4) Consumers do not expect any change in the price of the commodity in near future.

Explanation



Demand Schedule

Price (Rs)	Quantity Demanded
5	100 Units
4	200 Units
3	300 Units
2	400 Units
1	600 Units

- The table shows that when the price of say, orange, is Rs. 5 per unit, 100 units are de-manded. If the price falls to Rs.4, the demand increases to 200 units.
- Similarly, when the price declines to Re.1, the demand increases to 600 units. On the contrary, as the price increases from Re. 1, the demand continues to decline from 600 units.
- In the figure, point P of the demand curve DD_1 shows demand for 100 units at the Rs. 5. As the price falls to Rs. 4, Rs. 3, Rs. 2 and Re. 1, the demand rises to 200, 300, 400 and 600 units respectively.
- This is clear from points Q, R, S, and T. Thus, the demand curve DD_1 shows increase in demand of orange when its price falls. This indicates the inverse relation between price and demand.

Why More of a Good is Purchased When its Price Falls?

Or

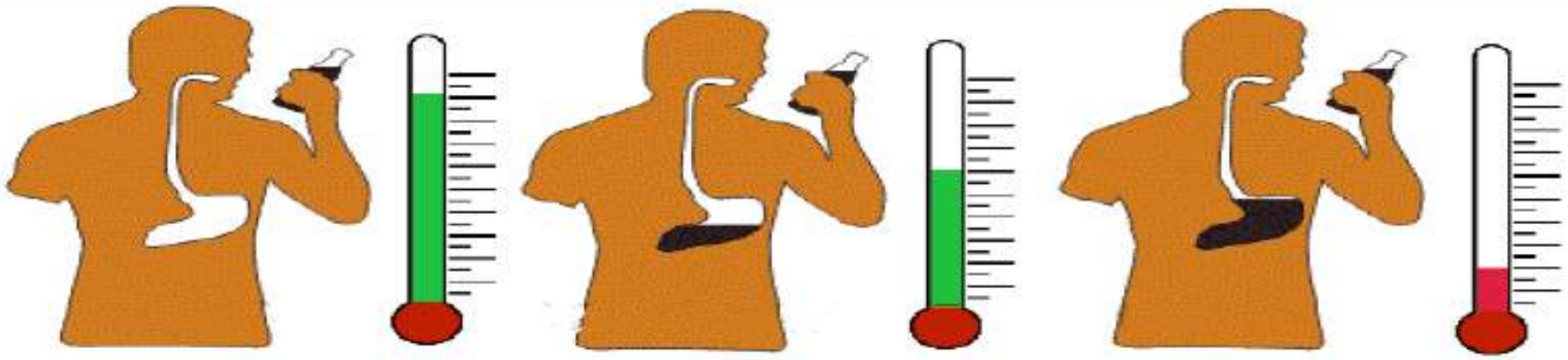
Why Does Demand Curve Slope Downwards?

1) Law of Diminishing Marginal Utility:

According to this law, as consumption of a commodity increases, the utility from each successive unit goes on diminishing to a consumer.

Accordingly, for every additional unit to be purchased, the consumer is willing to pay less and less price.

Thus, more is purchased only when price of the commodity falls.



2) Income Effect:

Income effect refers to change in quantity demanded when real income of the buyer changes as a result of change in price of the commodity.

Change in the price of a commodity causes change in real income of the consumer.

With a fall in price, real income increases. Accordingly, demand for the commodity expands.

3) Substitution Effect:

Substitution effect refers to substitution of one commodity for the other when it becomes relatively cheaper.

Thus, when price of commodity X falls, it becomes cheaper in relation to commodity Y. Accordingly, X is substituted for Y.

4) Size of Consumer Group:

When price of a commodity falls, it attracts new buyers who now can afford to buy it.

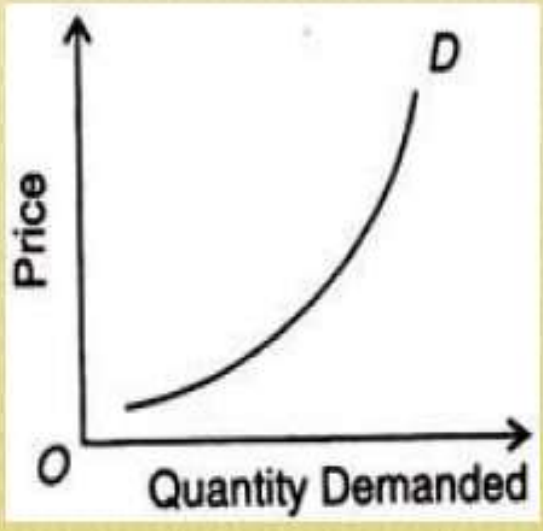
5) Different Uses:

Many goods have alternative uses. Milk, for example, is used for making curd, cheese and butter. If price of milk reduces its uses will expand. Accordingly, demand for milk expands.

Exception to the Law of Demand

In certain cases, the demand curve slopes up from left to right, i.e., it has a positive slope.

Under certain circumstances, consumers buy more when the price of a commodity rises, and less when price falls. Many causes are attributed to an upward sloping demand curve.



Exception to the Law of Demand

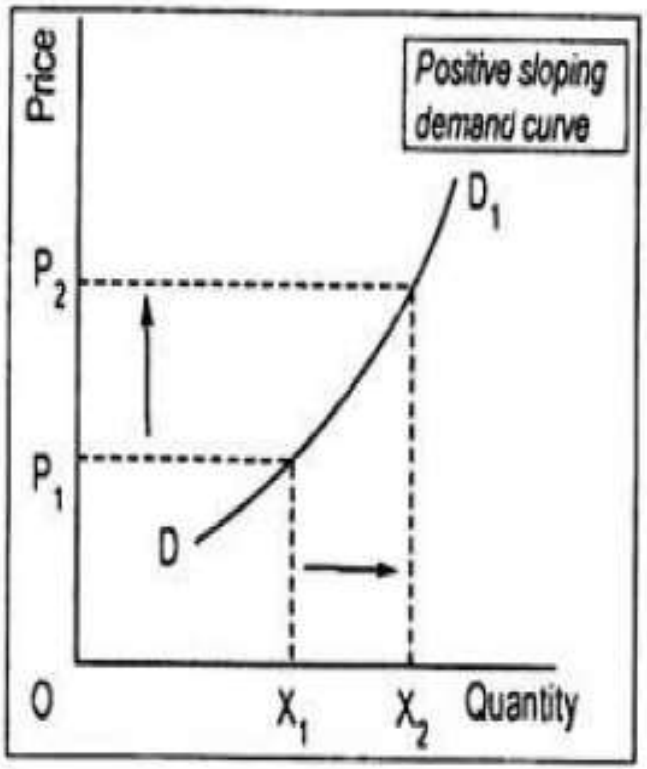


Fig. 2.3: Exceptional Demand Curve

Articles of Distinction: This exception was first of all discussed by **Veblen**.

According to him, articles of distinction have more demand only if their prices are sufficiently high.

Diamond, jewellery, etc; have more demand because their prices are abnormally high. It is so because distinction is bestowed in diamond, jewellery etc., by the society because of their being costly.

If their prices fall, they will no longer be considered as articles of distinction and so their demand will decrease.

Exception to the Law of Demand

2) **The Giffen Goods:**

A study of poor farmers of Ireland by **Sir Giffen** in the 19th century revealed that the major portion of their income was spent on potatoes and only a small amount was spent on meat.

Potatoes were cheap but meat was costly. When the price of potatoes tend to increase consumption of meat was curtailed to economies their expenditure and as a result of this they saved money and spent more on potato to meet their food deficiency.

In this way quantity purchase rises even when prices of potatoes rises.

For Example, Suppose the minimum monthly consumption of food grains by a poor household is 20 Kg Bajra (Inferior good) and 10 Kg Rice (superior good). The selling price of Bajra is Rs 5 per kg, and the rice is Rs 10 per kg, and the household spends its total income of Rs 200 on the purchase of these items. Suppose, the price of Bajra rose to Rs 6 per kg then the household will be forced to reduce the consumption of rice by 5 Kg and increase the quantity of Bajra to 25 Kg in order to meet the minimum monthly requirement of food grains of 30 kg.

Exception to the Law of Demand

3) **Highly Essential Good:**

In case of certain highly essential items such as life- saving drugs, people buy a fixed quantity at all possible price. Heart patients will buy the same quantity of 'medicine' whether price is high or low. Their response to price change is almost nil.

In cases of such commodities, the demand curve is likely to be a vertical straight line . At a price OP_1, the heart patient consumer demands OD amount of 'medicine'. In spite of its price rise to OP_2, the consumer buys the same quantity of it.

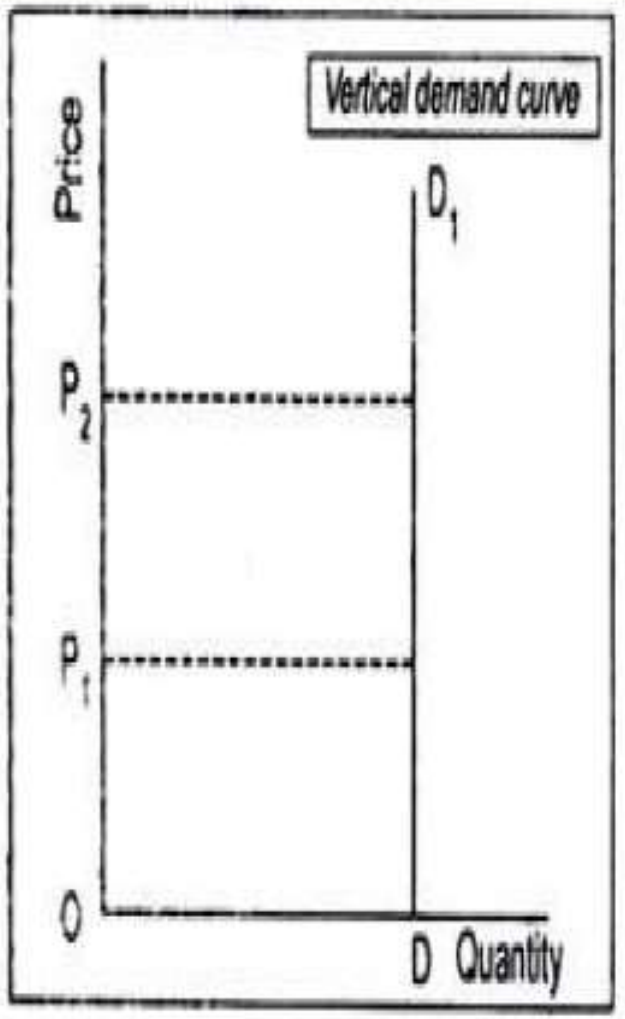


Fig. 2.4: Exceptional Demand Curve

Exception to the Law of Demand

4) **Emergencies:** During emergencies such as war, natural calamity- flood, drought, earthquake, etc., the law of demand becomes ineffective. In such situations, people often fear the shortage of the essentials and hence demand more goods and services even at higher prices.

5) **Bandwagon Effect**: This is the most common type of exception to the law of demand wherein the consumer tries to purchase those commodities which are bought by his friends, relatives or neighbors. Here, the person tries to emulate the buying behavior and patterns of the group to which he belongs irrespective of the price of the commodity

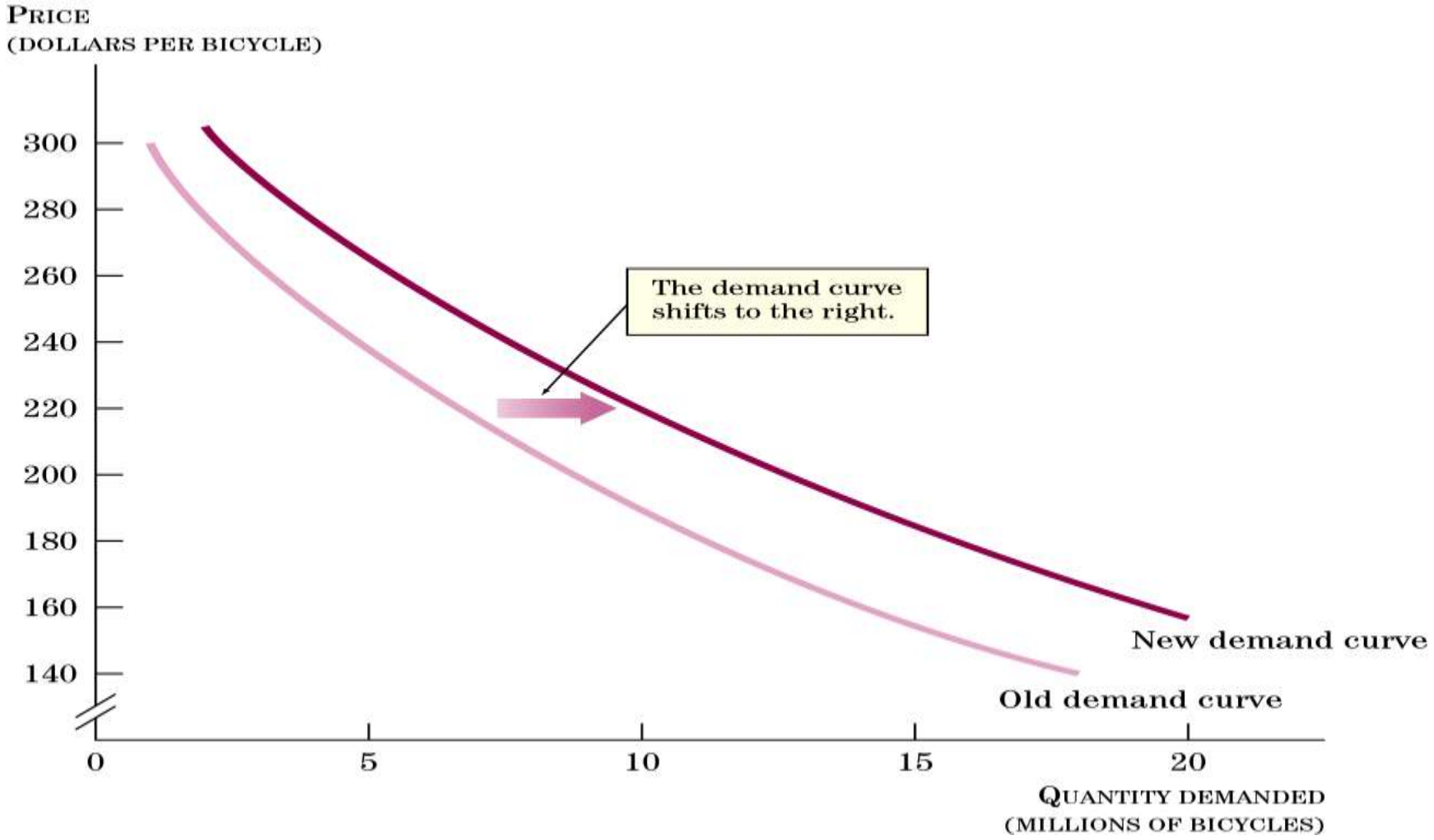
.**For example**, if the majority of group members have smart phones then the consumer will also demand for the smartphone even if the prices are high.

Shifts in the Demand Curve

- Demand curves shift around, indicating changes in other variables. A shift is called a change in demand. See Figure 3.2.

- The main determinants of demand are consumer preferences, information, income, price expectations, population, and the prices of related goods.

Figure 3.2
A Shift in the Demand Curve

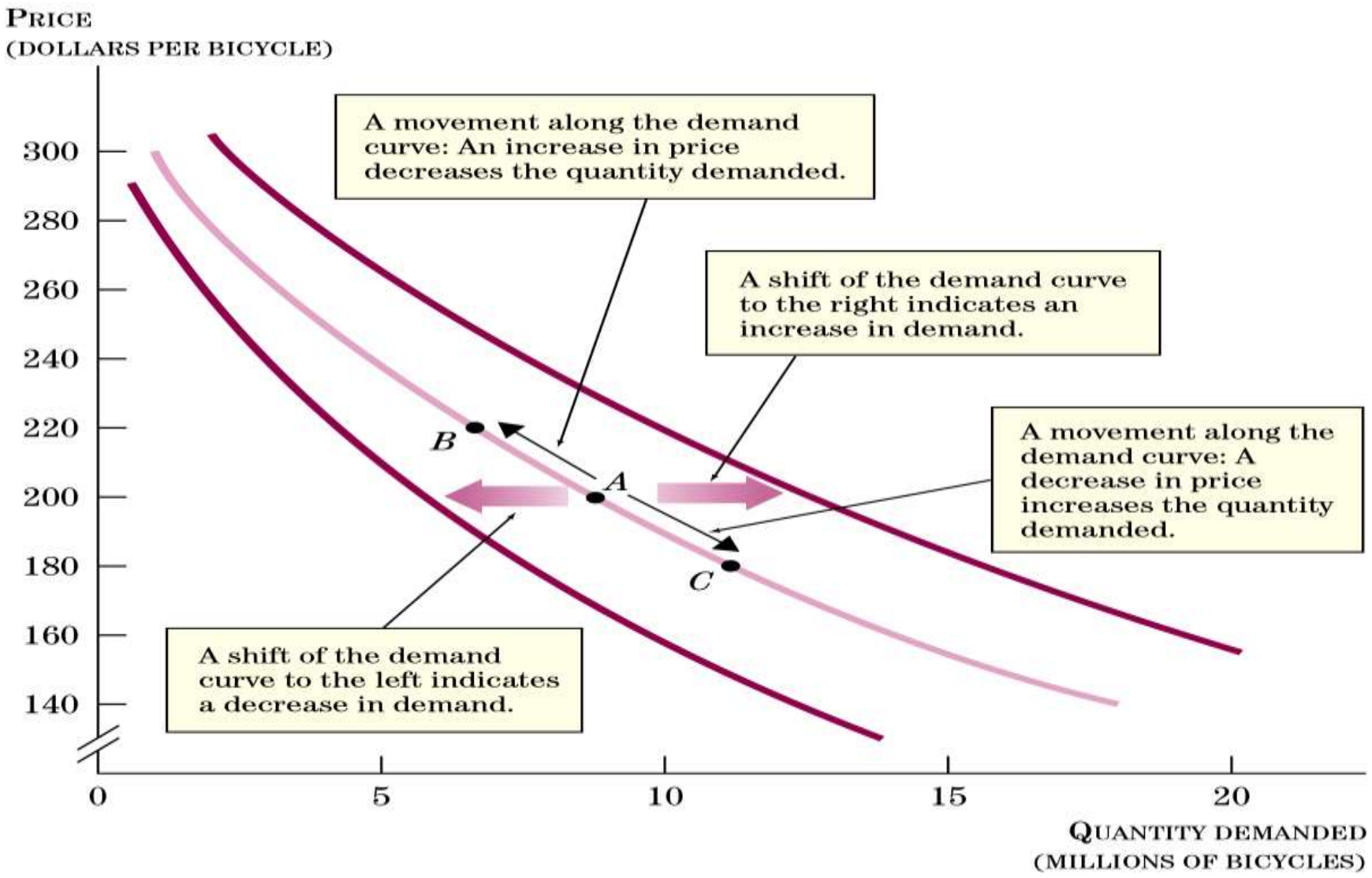


Shifts versus movements

- It is important to distinguish between shifts of the demand curve and movements along the demand curve. Use Figure 3.3.

  Note: Changes in a variable not identified on the vertical axis shift the function, whereas changes in the listed variable cause movement along the given function.

Figure 3.3
Shifts versus Movements Along the Demand Curve



Elasticity of Demand

- Definition:

  The responsiveness of demand with respect to change in price

Computing the Elasticity of Demand

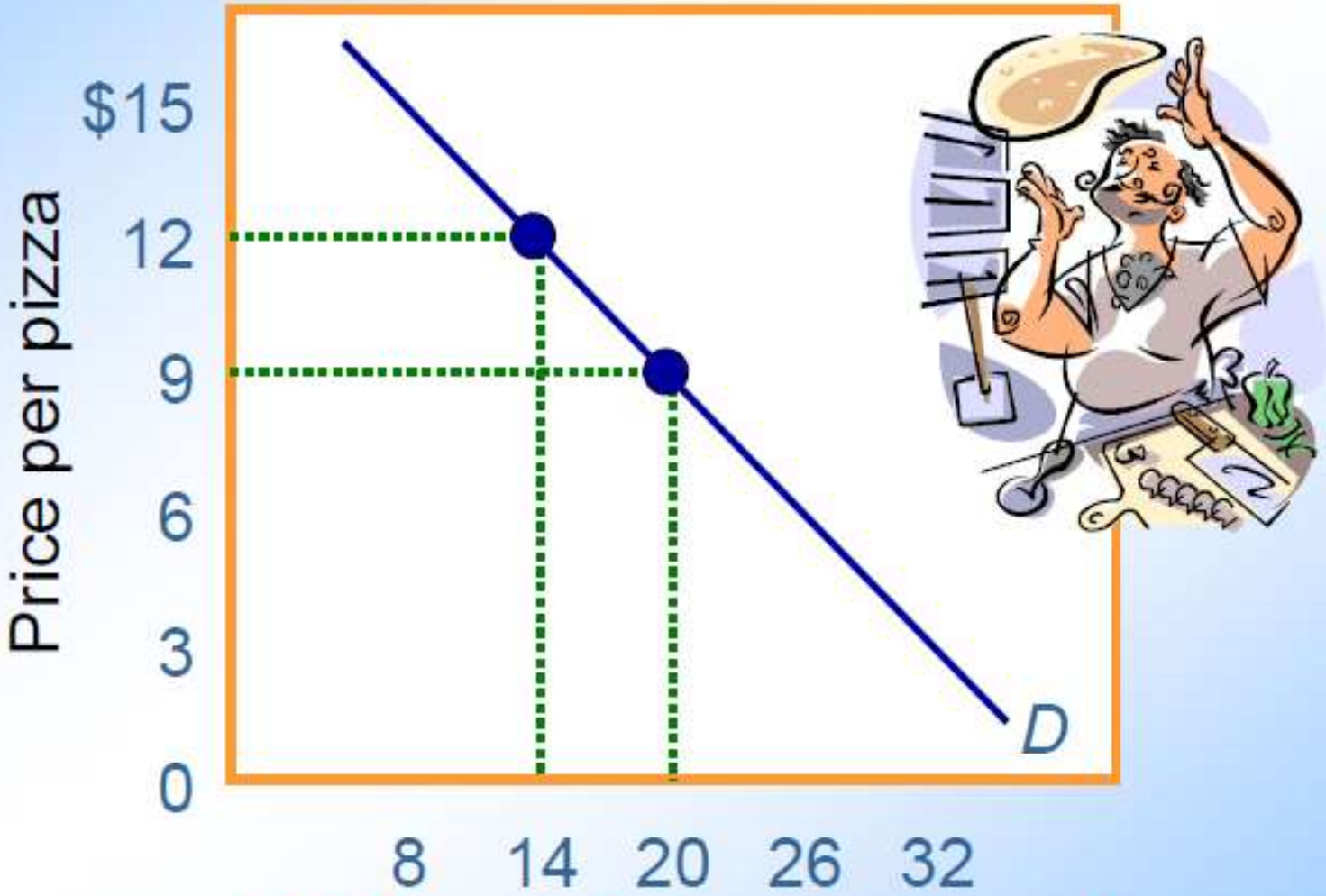
- **Elasticity of demand** measures the percentage change in quantity demanded divided by percentage change in price.

$$\text{Elasticity of demand} = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

Computing Elasticity of Demand

- **Elasticity values**
  - **>1** it is **elastic**
    - Percentage change in price will result in larger percentage change in the quantity demanded
  - **=1** it is **unit-elastic**
  - **<1** it is **inelastic**
  - Demand is usually more elastic at higher prices and less elastic with lower prices
- **Elasticity and total revenue**
  - Price x's quantity demanded at that price

The Demand for Pizza



Determinants of Demand Elasticity

- **Availability of substitutes**
  - The greater the availability of substitutes for a good, the greater the good's elasticity of demand
- **Share of consumer's budget spent on the good**
  - Increase in prices reduced the demand because people are not both willing and able to purchase @ higher prices
- **A matter of time**
  - The longer the adjustment period, the greater the consumer's ability to substitute
- **Some elasticity estimates**
  - The elasticity of demand is greater in the long run because consumers have more time to adjust

Significance of Price Elasticity

- For Fixing the price of a commodity