

**Foundation Course in Managerial Economics**  
**Prof. Barnali Nag**  
**Vinod Gupta School of Management**  
**Indian Institute of Technology-Kharagpur**

**Lecture - 02**  
**Demand - Supply Framework**

Welcome to the next module of foundation course in Managerial Economics. We entered the previous module talking about the various principles of economics and I said that I am going to discuss a lot of models and let us start the course with a very fundamental and very powerful framework used in economics which is called the demand supply framework. It is a very simple framework yet it is very powerful because it can be used to understand lot of changes in the market.

Lot of market interactions in the market and be it market for goods, services or be it market for even foreign exchange, be it market for investment, savings, funds in the funds market loanable funds market. So any kind of market this demand supply framework, very simple framework of demand and supply is able to explain a lot of changes in these markets.

**(Refer Slide Time: 01:31)**

## Demand & Supply

- What is a competitive market?
- What is demand curve and how is it determined?
- What are the factors affecting demand?
- What is supply curve and how is it determined?
- What are the factors affecting supply?
- What is market equilibrium and how is price determined in the market?

So before going to the going into the actual framework, let me show what are the kinds of questions we are trying to address here. Now first I am going to briefly introduce a concept called competitive market. This is a assumption that we are going to take while explaining this framework of demand and supply.

Competitive markets or perfect competition we are going to do in lot of details later, but I am going to briefly introduce the concept of competitive market here and because this is assumption that we are going to take and we are going to also try to understand what is demand and or what is demand curve and how is it determined. Basically we are trying to understand demand and demand curve is something a relationship that a mathematical or a graphical relationship that we are going to use to understand demand and how is it determined?

Then we are going to ask what are the factors that affect demand? Similar to the demand curve we are going to develop something called the supply curve and we are going to try to understand where does this supply curve come from. What is this supply curve and what are its major determinants? What are the factors which affect supply? And finally once we have the demand curve and the supply curve in the market we are going to be able to understand that there is a equilibrium in the market where demand equals supply.

Basically, what is being demanded is getting produced. So how does that happen? So that is the market equilibrium and that is also going to answer the question that how is price determined in the market. So we said in the previous module we discussed that price acts as a signal in the market right? So when price acts as a signal in the market, where does this price come from? So this is what we are going to see in this first week's lecture of demand and supply.

**(Refer Slide Time: 03:51)**

## Assumption

- We assume a competitive market where
  - Many buyers and sellers
  - All goods are perfect substitutes
  - Buyers and sellers can easily enter or exit the market
  - Everyone is a price taker

As I said we are going to take make certain assumptions. So when we discussed the framework of demand and supply we are going to assume a competitive market here. What does a

competitive market mean? Competitive market does not, it is actually contrary to what we might think that in a competitive market everyone tries to be better than the other and everyone is trying to basically survive in the market and outwit its other rivals but that is not the case at all in the case of a competitive market where basically the assumption is there are many buyers and sellers.

There are so many buyers and sellers that it does not matter. It does not, no buyer or no seller can affect each other's decision. No one can affect each other. It does not matter if a buyer exits the market, no one is going to notice. Similarly, if a seller enters the market no one is going to notice in the sense that it is not going to affect the prices or it is not going to affect the output that is being sold in the market. So buyers, there are infinite numbers of if not infinite, a very large number of buyers and sellers and so no single buyer or no single seller is important in the market in any way.

All goods are perfect substitutes. Again contrary to the our common notion of the term competition that we use in the layman's language the competition term we use where we are sort of one might think that we are competing to better one's product than the others but in case of a competitive market all products are perfect substitutes. What one seller is selling is no way different than what the other seller is selling. So to the buyer it does not matter who buys the product, from whom he buys the product from.

So and thirdly the buyers and sellers can easily enter or exit the market. So when it does not make sense, for somehow if he feels that the cost is too much, going up too much, he can easily quit the market and no one is going to notice also because it does not affect the market. Similarly, a buyer can anytime, a buyer can enter the market, he can exit the market without affecting the market.

So a result of all these 3, first 3 assumptions is that everyone is a price taker. So price gets determined in the market, everyone looks at that price and if the price is acceptable to them they buy or they sell. So these are the assumptions behind competitive market and this is the assumption that we are going to take and now I am going to discuss about demand.

**(Refer Slide Time: 07:04)**

## Demand

- Quantity demanded of any good is the amount of that good that the consumers are willing to purchase at a certain price
- **Law of Demand:** Other things remaining the same the quantity demanded of any good would fall when prices rise

Now what is demand? Quantity demanded of any good is the amount of that good that the consumers are willing to purchase at a certain price. So every consumer has a demand, every consumer has a demand. He basically expresses demand for a certain product like I am going to purchase this many units of pizza if the price is this.

I am going to purchase so many garments if the price is this. I am going to make so many phone calls if the per unit of per phone call it costs me this much. So these are the different willingness to pay which is there in the minds of the consumer. So this is represented in the demand curve in the market.

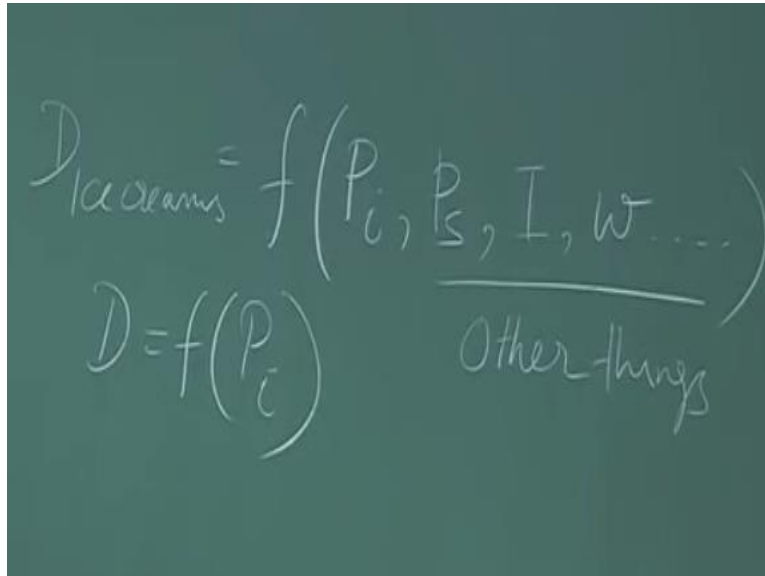
And that brings us to something which we call the law of demand. Law of demand because this is something which is most often than not observed in the market that if the price goes down the demand for the product goes up and similarly if the price goes up the demand for the product goes down. So let me show through an illustration.

Say for example we are talking about a market where there is demand for market for ice-creams and there is a demand for ice-creams. So where does this demand come from in the market. Firstly, the demand comes from the individuals, one every buyer is going to go to the market and express his demand and every buyer has his own preference own taste everything and then he expresses his demand for ice-cream in the market.

So at a certain price what I am going to demand would not be the same as or may not be the same as the amount that someone else is going to demand and before actually deriving the

demand curve let me show where does this demand come from. Say for example how many units of ice-cream I would like to buy?

**(Refer Slide Time: 09:31)**


$$D_{\text{icecreams}} = f(P_i, P_s, I, W, \dots)$$
$$D = f(P_i)$$

Other things

That demand function if I write it as a demand function say for example the demand for ice-creams would be function of certain variables that means certain my decision to buy the ice-cream is dependent on lot of things. Firstly, the price of the ice-cream. Second what? Price of something which is similar to ice-cream.

Say for example frozen desserts that are available. If I am, I have gone to the market and I am looking for something cold, something frozen, I would look at ice-creams, I would look at frozen desserts. I would probably look at cold drinks also. So price of substitute products. That is similar products which can meet the similar kind of need that the ice-cream meets.

Thirdly, what if I am rich? I am going to buy more probably, so my income. Then what else? Say for example if it is summer I might buy more ice-creams. When it is winter I buy less or the temperature outside, what is the day temperature outside like, so maybe weather. So one can imagine lot of factors on which my demand for ice-cream is dependent on.

So out of these the demand curve that I have defined here that the quantity demanded of any good, amount that the consumers are willing to purchase. So that demand curve for ice-cream is basically a function of only the price of ice-cream. Other things remaining the same. So these are the other things. So in the law of demand where I have already showed that other things

remaining the same, the quantity demanded of any good. So other things, these are the other things that I was talking about. So these are the other things.

**(Refer Slide Time: 11:50)**



Now, so now basically I am going to, what I am looking for is a relationship between the quantity of ice-cream that I am I would like to buy and the price of ice-cream. Now one more thing that I would like to mention here is we are always going to stick to this framework of price and quantity where quantity is in the x axis and price is on the y axis. This is something which are which we are going to uniformly use during the entire course and this is something which is commonly used where price is always on the y axis and quantity on the x axis.

So now say I am trying to draw the demand curve of a particular individual. Say a person called Tom. Now Tom has say the ice-cream could be of various prices, 10, 20, 30, 40, 50, 60 and there are various quantities. Now Tom knows that he decides that I am going to buy say 1, 2, 3, 4, 5, 6, 7. So I am going to buy 7 units of ice-cream if the price is 10 rupees.

I am going to buy 6 units of ice-cream if it is 20. I am going to buy 30 units if it is sorry I am going to buy 5 units if it is 30 rupees and this is how he follows the law of demand and this is how he expresses his demand in the market. So this is his demand curve for ice-cream. Similarly, there could be another person, there could be another person say Jane who is not so much fond of ice-cream as Tom and she is basically she also expresses her demand for ice-cream and when the price is 10, 10 rupees she purchases see she purchases 5 units of ice-cream.

When the price goes up, even less; when it goes up, even less, and this is her demand curve. So each individual comes to the market which with their demand curve and all the demand gets, all the demand that aggregates in the market and we get something called the market demand curve. So how is the market demand curve arrived at?

**(Refer Slide Time: 14:56)**

P	Q
10	12
20	10
30	8
40	6
50	4

So basically market demand curve say market demand curve is going to so for the market demand curve at price of 10 rupees, price of 10 rupees, market demand is 5 units for Jane and 7 units for Tom. So it is 12 units; 20, 30, 40, 50. So say we aggregate the quantities demanded by Jane and Tom at each of the prices and this is the aggregate quantity that we get in the market.

So say it is 12, 10, 8, 6, 4. So this is the market demand curve. This is the market demand schedule that we arrive at and here one thing I would just like to point out is I am taking the example of 2 people aggregating it and showing the market demand curve but going by our assumption of perfect competition in a perfectly competitive market there cannot be 2 buyers, 2 buyers is too less.

So they if in a market there are only 2 buyers they can actually influence the market. But this is just for simplicity that I am showing it. Actually, there can be whole lot of buyers and this is how the market demand curve is arrived at. You basically aggregate the quantities for each of the prices and you get the market demand curve. So this was the law of demand and in the next module I am going to talk about the different determinants of demand.

So this is the this was the like okay I have cleaned the board now but I showed the different other variables which affect demand and we are going to see how changes in those variables basically affect the demand schedule. So this is what we are going to do in the next module. Thank you.