Foundation Course in Managerial Economics

Prof. Barnali Nag
Vinod Gupta School of Management
Indian Institute of Technology-Kharagpur

Lecture - 20
Perfect Competition

Welcome back. We discussed in the previous module, we discussed about the different kinds of market structures. Now we are going to this week we are going to spend most of the time discussing about the first kind of market structure that we mentioned which is the perfect competition. So we are going to discuss about perfect competition this week.

When we say competition, the use of the term competition in here the use of the term competition in economics kind of is very different from the way we usually use it in fields of say like sports. In sports when we say that 2 parties are 2 people are competing and wherever we say that there is competition it basically means that the parties are trying to the rivals are trying to establish their supremacy over each other. They are trying to they beat each other in a game they are trying to up their game beat each other and emerge as the winner.

So that is what we mean by competition but here in case of the perfect competition we are going to see that competition here does not mean that the products of the different firms the different competitors in the market they are different from each other. They are not competing on the basis of products.

Basically competition the use of the competition here in this context is more to establish the establish the fact that there is level playing field for everyone in this kind of market structure. Basically what we mean is there is level playing field for all the firms who enter this market and compete with each other. So they cannot compete on the basis of the products because the buyers know that the products are exactly the same. There is not much difference between the products and say so there is no special loyalty to any particular seller.

So they cannot compete on the basis of the products they are selling and basically there is level playing field. So let us proceed and see what are the typical characteristics of a perfectly competitive market.

(Refer Slide Time: 03:02)

We try to understand the following

- What is a perfectly competitive market?
- How does a firm in a competitive market determine how much output to produce?
- What price does it charge?
- How much does it produce in the short run and in the long run?
- When might a firm shut down?
- When might a firm decide to exit the market?
- What does market supply look like in the short run and in the long run?
- Is the competitive equilibrium efficient?

So in case of when we study perfectly competitive market we try to understand the following. What is the perfectly competitive market? How does a firm in a competitive market determine how much output to produce? What price does it charge? How much does it produce in the short run and in the long run? When might a firm shut down? That means in what situation would it be better for the firm to shut down production than keep on producing. When might a firm decide to exit the market altogether? What does market supply look like in the short run and in the long run in a perfectly competitive market?

So first we are going to see the look at the decision making process of a competitive firm and finally we are going to look at what the decision making process of individual firms leads to and what happens to the market supply in case of a competitive market. Is the competitive equilibrium efficient? This is the question we will be asking at the end of discussing each of the market structures. We are going to look at the market equilibrium, of the market equilibrium, price charged, and the market equilibrium quantity produced and we are going to ask ourselves is this a efficient outcome or not?

(Refer Slide Time: 04:45)

Perfect Competition

- There are many buyers and sellers in the market
- The products are homogeneous and there is perfect information
- Firms can easily enter or exit the market
- Buyers and sellers are all "price takers", i.e. they take the market price as given and no individual buyer or seller has any influence on the market price.

So these are the assumptions in case of a perfect competition which we discussed in the previous module also when we talked about market structures. So there are many buyers and sellers in the market. The products are homogenous and there is perfect information. Why do I use the word perfect information? So the products can be homogenous but that would not mean anything unless and until the buyer is aware of the fact that the products are homogenous.

Say for example 2 sellers are selling milk in the market and the milk are exactly the same. They are probably procuring it from the same dairies or the same farmers or local farmers who produce the milk and sell it to the dairies. So but they are all that they are doing is packaging the milk and selling it in the market. So the buyer needs to understand that the content of the milk cartons are exactly the same no matter what kind of celebrity endorsement has been done, what kind of claims are there on the packaging and how attractive the packaging is.

In case of perfect competition we are assuming that the buyer sees through all these kinds of what we say marketing gimmicks and they understand that the products are exactly the same. So it does not make sense for the seller to put so much of effort in trying to differentiate the products when the products are not different.

So the firms can easily enter or exit the market. It is not difficult for the firms to start production and if it is not profitable for the firm if he wishes to discontinue if it wishes to exit the market then also it is not stuck. So that is another assumption of a perfectly competitive market and finally buyers and sellers are all price takers. That is they take the market price as given and no individual buyer or seller has any influence on the market price. So this basically happens

because we have assumed there are huge number of buyers and sellers in the market so if say for example one seller drops out of the market he withdraws his produce from the market that does not reduce the supply so much in the market that it affects the price in the market.

Similarly, the number of buyers in the market is very high. So if one buyer or a few buyers leave the market they stop buying the product the price it that does not their action of discontinuing the consumption of the product does not reduce the price in the market. So these are the certain assumptions of perfect competition and to before we discuss about what happens in case of the questions that we asked in the beginning of this session, we said that how does the producer decide how much output to produce and what price to charge.

(Refer Slide Time: 08:32)

We shall study all four market structures with the assumption that the objective of any firm is to maximize profit

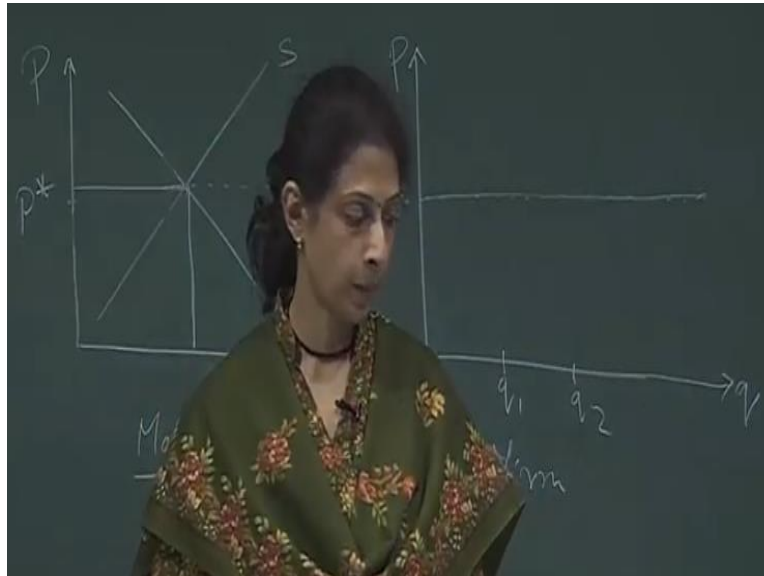
- Profit = PxQ – Total Cost
- For a perfectly competitive firm, P is given
- So, where does P come from?
- What happens if firm decides to charge a different price?
- How does the firm decide how much Q to produce?

So before I am that is the question that we will be asking in each of the market structures when we discuss about them and so before that we are making this assumption that we shall study all 4 market structures with the assumption that the objective of any firm is to maximize profit. So profit maximization is the objective of the firm that is something which we are going to assume all throughout the course.

So as we know profit is total revenue minus total cost. Total revenue is price multiplied by quantity and for a perfectly competitive firm P is given. This was our assumption that price is given but where does this price then come from. So that is the question and what happens if the firm decides to charge a different price and then we are once we understand about the pricing then we are going to ask how does the firm decide how much output to produce.

So let me show so let us try to answer the question where does this P come from? So when I am saying that the for all the buyers and sellers in the market price is given and they are all price takers basically where is this price coming from.

(Refer Slide Time: 10:03)



So remember that when we discussed about market demand and market supply we had shown that in a competitive market this is price, this is quantity, this is the demand curve, this is the market supply curve and this is the market this is not the firm but this is the market this is the aggregate of all the sellers and buyers who are there in the market.

The buyers come to the market with their set of demand and the market demand curve is a negatively sloping demand curve which follows the law of demand and all the sellers they come to the market with their supply curve and they are willing to sell the products at certain price they are willing to sell at certain amount and which gives us the aggregate market supply curve and this is the positively sloping supply curve and the intersection gives us the market price. The intersection gives us the equilibrium price in the market.

So now this price we shall be using the small q for showing the firms output level and we are going to use the capital Q to show the market output level. So the price is basically same. So this is for the firm. This is the decision making for the firm and the firm basically so this is the price that the firm has to accept. So he is a price taker so he has to he knows this is the price line. He knows this is the price line and he can supply and he can sell as much quantity he wants at this

price. So he knows that this is the price that is prevailing in the market and he knows that at this price he can sell all the products will be all his output will be sold at this price.

So to the firm the demand curve that the firm is facing the demand curve that the firm is facing is basically horizontal. The demand curve that the firm is facing is horizontal. The reason that I am repeating this is because this is important. Look at the market demand curve. The market demand curve is negatively sloping market demand curve but a individual seller in the market who is a very small part of this supply curve he is one of the numerous sellers that they are in the that there are in the market. So to him this demand curve does not matter.

What matter to him is he knows that at this price he can sell whatever product he has. So basically he knows that at this price this is the demand curve of the market. So to the seller the demand curve is horizontal. What amount he is going to sell that is going to depend on his cost situations. That we are going to come later.

So what whether he is going to sell this much or he is going to sell this much that depends on his cost situation and that we are going to discuss in details later. The all that I would like to emphasize here is to the individual firm the demand curve that the individual firm faces in a perfectly competitive market is basically horizontal at the given market price.

Now next question is what happens if the firm decides that I am going to charge a price which is higher than P star or he decides I am going charge a price which is lower than P star? Can that happen? Now say the firm decides and before that before we talk about that let us take an example.

Say for example there is the local wholesale vegetable market where there are farmers coming from lot of places of nearby places and they are bringing their produce there. There are small farmers who are probably bringing you know like a few kilos of the product and say they are bringing spinach and there are farmers who are who are bringing say truckloads. So all of them are bringing their produce to this wholesale market to sell it over there and they do not have any influence on the price.

They just reach the market and they will ask what is the what is the going price? So they will be told that the price is P star and they know depending on how much produce they have they can sell q 1 or q 2 or q n or anywhere. So for each of these sellers this is the prevailing price and they all face a horizontal demand curve.

Now what happens if one of the sellers decide I am going to charge a price which is higher than P star. What will happen? Now if this firm or if this seller decides to charge a price which is higher than P star since all the buyers have perfect information they know that the prevailing price in the market is P star and they would not like to pay a price which is higher than P star. So this seller will see that all his customers are leaving him and his shop is empty. So everyone will go away from him and buy from other sellers.

What happens if he charges a price which is lower than P star? That is good for the buyers right? No. Because if he charges a price a price which is lower than P stars there are numerous buyers in the market and everyone wants to buy from him. So everyone will rush to his shop to buy his produce but he cannot cater to all, he cannot meet all the demand and it will be extremely costly for him to supply to all the people who are asking for his product and then he has to increase its price. So in a perfectly competitive setup there is no way but for the sellers to follow the market price, the market determined price. So they are all price takers in this perfectly competitive market setup.

So this is in the next module we are going to see we are going to discuss about what how the firms decide how much output to produce. Thank you.