Foundation Course in Managerial Economics

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Lecture - 24
Market Supply (Contd.)

Welcome back to our discussion on perfect completion and market supply curve we left off the earlier discussion with talking about how the market supply curve is arrived at and we made certain assumptions and to move ahead.

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So basically the long run market supply curve so the long run market supply curve as we have assumed that all firms are identical and as all firms produce at price equals minimum average total cost the long run market supply curve is horizontal at price is equal to minimum average total cost. So let me explain what this means.

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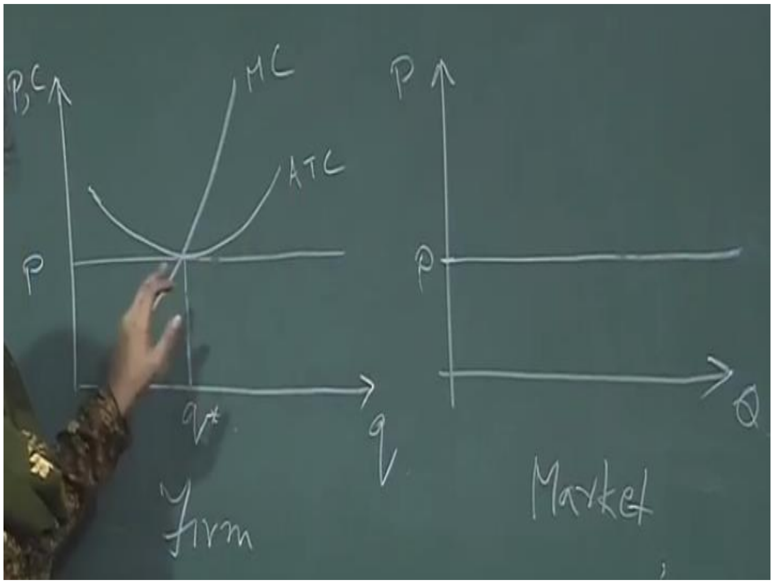

This basically means that here we have a typical firm, here we have a typical firm and they are all identical and so this is the average total cost, this is the marginal cost of the firm and this is the price. So this is for the firm and this is for the market. This is for the firm and this is for the market but we know that all the firms are exactly similar. In the long run they all are operating at the minimum of the average total cost where marginal cost equals average total cost equals price and this is the situation for all the firms in the market.

So basically so basically at this price at this price the supply in the market is basically a horizontal supply curve for the market. So the long run supply curve in the market is horizontal because all the firms are exactly similar. In the long run they operate at minimum of their average cost and minimum of the average cost is equal to the price.

So depending on how many firms are there or how much output is can be produced like depending on how many firms enter the market and they produce. So at this price the amount of quantity supplied is unlimited because the price is not at the, the price gets fixed at the minimum of the average total cost and the supply curve of the market is horizontal.

So basically this quantity gets the depending on how many firms are there in the market the market supply will be determined but the price is not going to change. So for that because this price is the price at which this price is the level at which average total cost of all the firms is minimum. So the firms are operating at their minimum cost and that is the price that they are charging in the market and at that price unlimited supply is possible in the market. So long run market supply curve is horizontal.

So now to discuss a small variation in what we have been discussing what happens if there is a impact of an increase in demand in a market. So far we have talked about supply and demand is something exogenous in the market. It is so far we have not discussed about impact of demand in the market.

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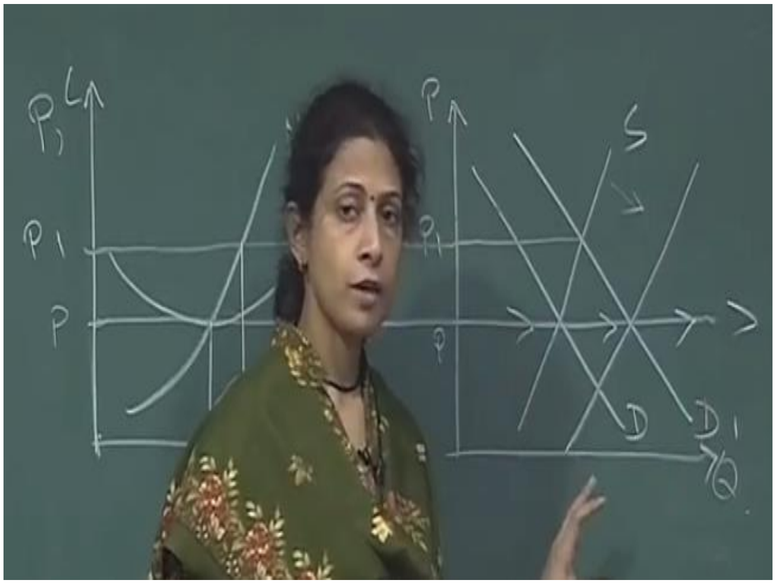

Now say so basically again I will draw a typical firm and I will draw a market. So this is a typical firm. Again they are all similar and I will draw a draw the aggregate the market. This is price and say this was the price that was being charged, this is the price. Okay, so this is the price and this was the market demand and supply curve. So this was the market demand and supply curve which determine the price and so and this is the marginal cost.

Now in the short run what happens is say the demand shifts to the right. All of a sudden there is more demand for this good and the demand curve shifts to the right so because of which price increases from P to P 1. So demand curve shifts to the right price increases from P to P 1 and when that happens so initially it was say here. So this is P 1 and now the firm is producing a higher level of output so it was earlier producing here q and this is q 1.

So it is producing a high level of output and it is getting a profit. So since the price has gone up so the average cost is now lower than price and this firm is basically earning a profit. So this firm is basically earning a profit. Now what happens? When this firm is earning a profit, looking at the profit other firms enter the market.

So other firms are going to enter the market which shifts the supply curve to the right and the process is going to continue as we discussed in the previous module P so that all the firms are now again operating at the minimum of their average total cost. So the so due to demand increase initially there was potential for some positive economic profit.

Looking at the economic profit new firms enter the market which shifts the supply curve to the right and when supply curve shifts to the right price starts falling in the market and price will keep on falling in the market till price hits the minimum of the average total cost so the situation is again back to where it started from that all firms are operating at zero economic profit and all firms are producing an output at the level where their marginal cost is equal to their minimum average cost is equal to the price in the market.

So this situation happens and the price finally goes back to P and the output has just increased. So in the long run so this is how it increases. So in the long run the supply curve in the perfectly competitive market it is a horizontal supply curve at the price level which is equal to the minimum of the average cost of all the existing firms in the market.

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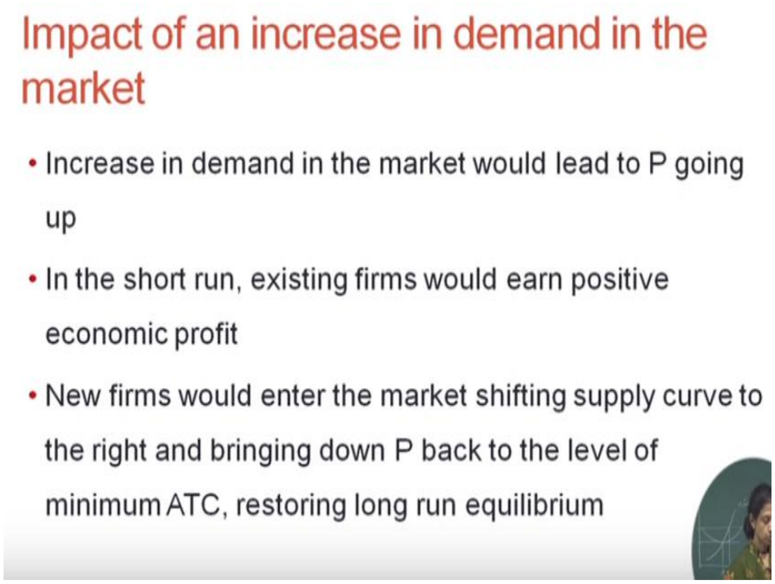

So to summarize increase in demand in the market would lead to P going up. In the short run existing firms would earn positive economic profit. New firms would enter the market shifting supply curve to the right and bringing down P back to the level of minimum average total cost restoring long run equilibrium.

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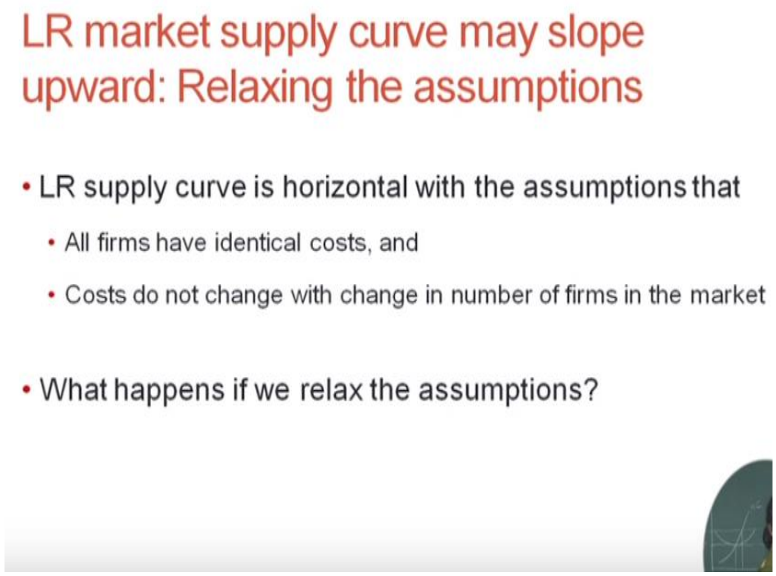

Now what happens if we relax the assumptions that the cost are that the cost structure for all the firms are exactly same and costs do not change when firms enter or exit the market. What if we relax these assumptions? What happens to the long run market supply curve and we will see that the long run market supply curve can actually slope upward if we relax this assumption.

So long run supply curve is horizontal with the assumptions that all firms have identical costs and costs do not change with change in number of firms in the market. What happens if we relax the assumptions?

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So first let us assume that the firms have different costs. So it is a very realistic assumption. Firms may have different costs and as price rises and there are positive profits to be made first the low cost firms will enter the market. So in this situation the firms or the entrants are not exactly same as all the entrants all the firms they are not similar to each other. So what happens when price rises initially it will be the low cost firms who will enter the market.

So as price increases further and further even higher cost firms find it lucrative or find the potential of making profit in the market and they also enter the market and as they enter the market that increases the supply in the market even more.

Hence long run supply curve would be positively sloping. So since costs are also increasing with higher cost firms entering the market so the long run supply curve would as high cost firms enter the market on the one hand the costs are increasing but on the other hand the quantity supplied is also increasing. So we have a positively sloping supply curve in this situation.

For the marginal firms or the firms who are last to enter the market. Obviously the firms which have higher costs are the ones who are last to enter the market. So for the marginal firms the economic profit is equal to zero but for more efficient firms or firms with lower cost they can manage to continue to have positive economic profit in this situation. So lower cost firms economic profit may be greater than 0.

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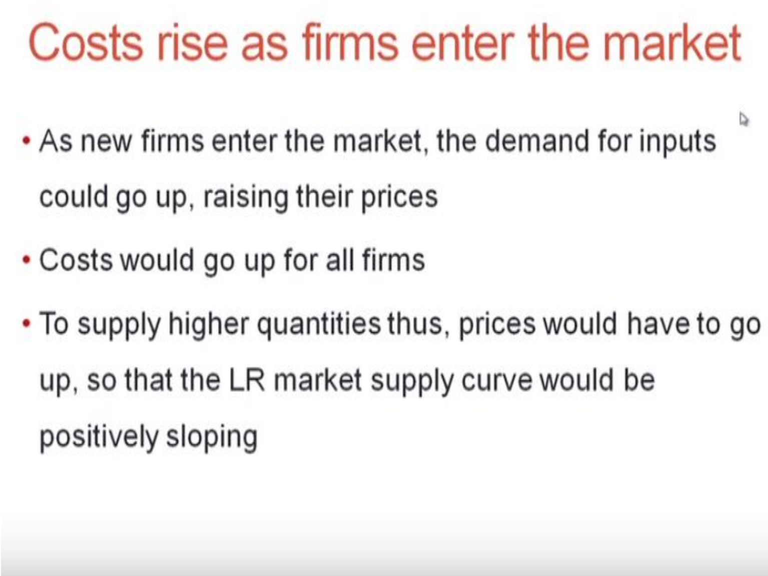

Now what about the second assumption? What happens if cost rise as firms enter the market? What happens when cost rise as firms enter the market? As new firms enter the market the demand for inputs could go up raising their prices. So this is a very realistic assumption or this is a very realistic situation that when there is more and more firms entering the market for production of the same good the pressure on input can go up. The inputs demand could go up.

Say for example there is say land for producing certain cash crop the amount of land is limited so the cost of land is going to go up or say for example beach front property. So if the cost of if more and more firms try to build beach front property then where is the land going to come from? So the land cost is going to go up for all the firms.

So as new firms enter the market the demand for inputs could go up raising their prices. So cost would go up for all firms. So to supply higher quantity thus prices would have to go up so that the long run market supply curve would be positively sloping. So in both the situations we see that if we relax both the assumptions it is possible to have a positively sloping long run supply curve in a perfectly competitive market.

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Coming to the last question that we asked in the first slide when we initiated our discussion on perfectly competitive market that, is the equilibrium efficient or not? Is the equilibrium efficient or not? When we try to discuss this what do we mean by efficiency? So there could be 2 levels of efficiency. One is called the productive efficiency another is called the allocative efficiency.

Now what is productive efficiency? Productive efficiency is basically production at minimum cost. Now productive efficiency is achieved in a competitive market as the most efficient firms enter the market first and firms operate at their minimum average cost. So if we go by the first set of assumptions that all the costs are similar there we saw that all the firms are operating at the minimum of the average cost. So which means basically all firms are operating at the most efficient combination of inputs possible.

In the second set of assumptions if we assume that different firms have different costs there also we are seeing that the most efficient firms are entering the market first and as price goes up the less efficient ones are entering the market but nevertheless to make any amount and the less efficient firms are basically not earning any positive economic profit. It is the more efficient firms which are earning the positive economic profit which basically means that production productive efficiency is achieved in a perfectly competitive market.

What about allocative efficiency? Now allocative efficiency what it means is basically that the allocative efficiency is who gets the goods? Who gets the good at what price and who supplies? So is there efficiency there in the allocation of the resources and allocation of the output. Basically in perfectly competitive market allocative efficiency is achieved in a competitive equilibrium because it ensures that the willingness to pay that is the price by the buyers where does this P come from. Where is where does this price come from.

This price basically is basically is coming from the demand curve of the market and demand curve basically represents the willingness to pay by the consumers for every level of output. So if Q is the amount that is getting sold in the market then for Q level of output P is the willingness to pay of the buyers and in case of perfect competition we are seeing that the willingness to pay the competitive equilibrium is ensuring that the willingness to pay that is P by the buyers for the last unit produced is equal to the marginal cost of producing it.

So basically the supply the cost of supply of the product is equal to the willingness to pay for the product. So the cost of supply of the last unit which is the marginal cost of supply is equal to the willingness to pay for that last unit which is equal to price. So that ensures that allocative efficiency is achieved in this perfectly competitive market.

So this happens because in perfectly competitive market price is equal to marginal revenue and hence the profit maximizing condition of the firm implies that at equilibrium marginal cost is equal to marginal revenue is equal to price. So basically the cost and benefit of that single output the last unit of output is equal in a perfectly competitive market and that ensures that the equilibrium of perfectly competitive market is efficient.

Now we will be talking about this efficiency will coming will be coming back to this efficiency aspect again when we discuss about monopoly and when we look at the equilibrium situation in a monopoly market and we will discuss more of efficiency in that context and it will be interesting to contrast the equilibrium in case of monopoly to the equilibrium in case of a perfectly competitive market.

So that ends our discussion on perfectly competitive market. In the following week we are going to take up the other extreme of the market structure which is monopoly and see how the producer decides how much to since the producer is a price maker in case of a monopoly unlike a perfectly competitive firm. So we are going to see how he decides what price to charge and how he decides how much output to produce. Thank you.

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