Lecture – 15
Market Equilibrium

Now I think we are ready to discuss market equilibrium.

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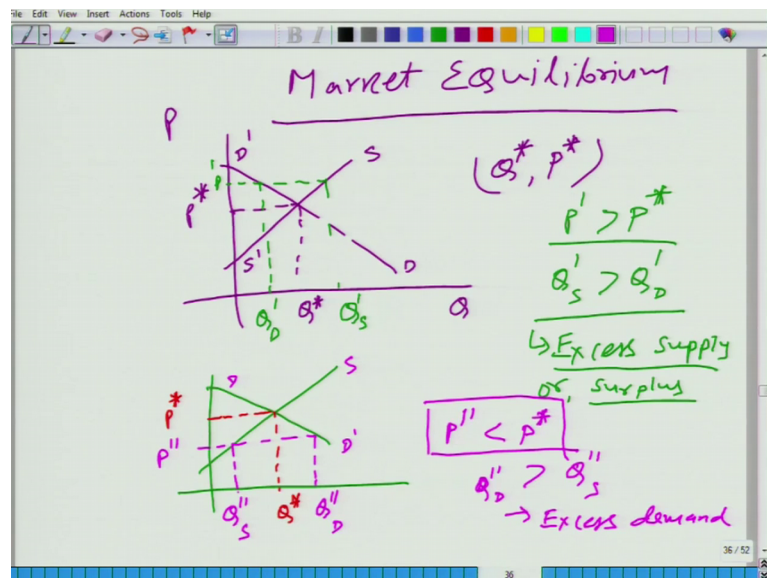
We have discussed demand, we have discussed supply, demand from consumer side and supply from producer or seller side. Now we want to bring these 2 sides together. We want to study the market. So, can you think at which level the market would operate, demand equal to supply, mind you (Refer time 00:55) clearly speaking what you are saying is not wrong it is right, but when you say demand, demand means demand function, demand does not mean quantity demanded. When you just use term demand, demand is demand function or demand schedule. So, what you are saying is, demand schedule is equal to demand supply schedule that is wrong, because demand is an upward sloping function while c supply is a downward sloping function. What you meant to say I believe that at the price at which quantity demanded is equal to.

Student: Quantity supplied.

Quantity supplied and that constitute the pair, the quantity and price pair constitute the market equilibrium.

So, let me draw here this is of course, supply S S dash, D D dash is the demand, on y axis we have price, and x axis we have quantity. So, market equilibrium is the quantity price pair at which, at the price at which quantity demanded is equal to quantity supplied. Star denotes that this is a special pair, giving the market equilibrium. What is the significance of market equilibrium? The significance is it is a pair, at which both buyers and sellers are satisfied. They are satisfied, let us look at any other point any other price level (Refer Time: 02:45).

Let us look at the price (Refer Time 02:47) level, let me this is P dash where P dash is greater than P star. What is happening at this price? The suppliers, suppliers are willing to suppliers are willing to supply Q dash S while buyers are willing to buy only, Q dash D and of course here Q dash S is greater than, Q dash D. So, it means there are some suppliers in the market, who are not able to sell their product. So, in other words what we have is called, excess supply or it is also called surplus, but there is another surplus also we are going to talk about. So, do not get confused this is excess supply or surplus.

Now, let us look at the, let me draw the another graph. So that it does not look bad, here this is P dash this is Q dash and now we are going to consider a price, P double dash and P double dash is less than P star. Let us see what is happening at P double dash, if market price is equal to P double dash and not equal to P star. At P double dash sellers are willing to supply Q double dash S. While buyers want to buy Q double dash d, and Q double dash D is of course, more than Q double dash S. So, what is happening there we have excess demand.

We have excess demand, fine and some of the buyers are not able to buy product, in the market they want to buy at this price, but they are not able to buy. So, in excess demand case, buyers are not satisfied they are not, and in excess supply case the sellers are not satisfied, they have excess of goods in the market, but if you look at the market equilibrium at this price the quantity demanded is equal to quantity supplied, they both are buyers and sellers, they all are satisfied they are happy it matches.

So, this market equilibrium has this is special property. We will do an example.

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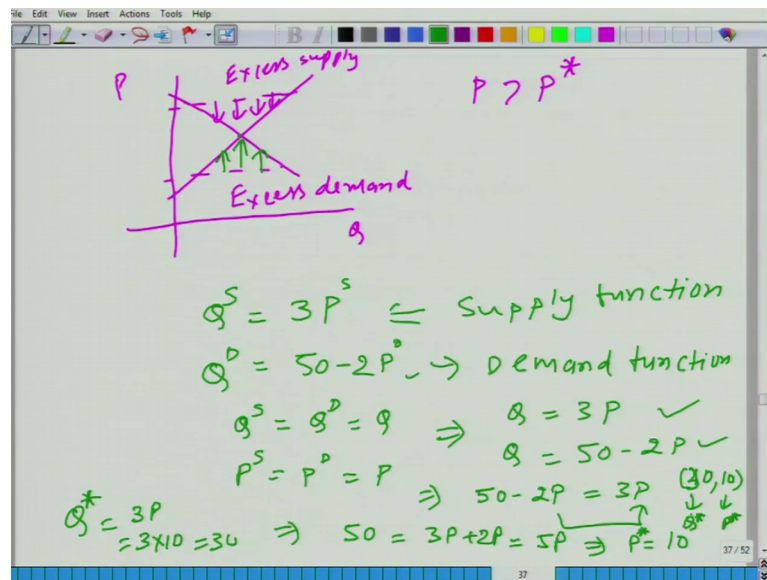
But before that let us look, what is happened in case of excess demand and excess supply? This is the case where we have excess supply, and here we have, just consider just for an example consider potato market, and let us say that market is not operating at the market equilibrium. So now there are 2 possibilities, either the price at which this market is operating, is more than market equilibrium price or less than market equilibrium price.

Now let us consider when P is greater than P star, of course we have just learned that in this case we will have excess supply. It means some of the sellers, are not able to sell their product they will be unhappy unsatisfied, but it also means that is one of them would notice, that at this price we are not able to sell our product. So whatIshould do is that I reduce my price slightly. So that I can sell.

Let us say just for example, go to them if you go in a market and you find that everyone is selling potato at 10 rupees per kg, and someone else is selling his potato at 9 rupees 50 paisa per kg and his potato is as good as others. What will you do? You will buy from a person who is selling at 9 rupees 50 paisa.

So, this the although in the market you will have excess supply, but at least this particular seller will not have excess supply, he will be able to sell his product fast and this will be noticed by everyone. So, everyone will have this tendency to decrease their price. So that

they can sell their product in the market. So, whenever you have excess supply there is a downward pressure on the market price, you understand that.

Similarly, we will come to the equilibrium little later, but similarly now consider the case of excess demand, you go to the market probably what will happen in case of excess demand I am not saying this is the only thing that can happen, but one of the things the, one of the possibilities is that there is a long queue, because there are very few they are not enough sellers in the market trying to sell their product. Supply is less quantity, supplied is less while quantity demanded is more.

So, one repercussion one possibility is that there will be a, queue people waiting in the queue trying to buy this potato. So, one of the consumer probably would notice that you know if I'm, if I offer a little bit more price, you know will get the potato immediately. So, in that case he would offer and he will get his demand fulfilled immediately, and that would generate incentive for all buyers. So, whenever you have excess demand there is an upward pressure, on the price. And here let us see this is the upward pressure, and when do you think this upward pressure will vanish from the market, or when in case of excess supply when the downward pressure vanish from the market, when you reach to the equilibrium.

So, in this sense whenIsay market equilibrium, it is in this sense that no one has incentive, to deviate from this particular price of course, remember this is ha this is abstraction we are talking about not exact reality, we are talking about a model where that for example, that the potato farmer that many potato farmers are come in a marketplace selling their product, I'm not talking about that, I'm not saying that only unique price has to exist, you never find this unique price in the market, typically what happens you may find that at some place, farmer is selling his potato for 5 rupees per kg, attend some other place 6 rupees per kg. Why it happens? Probably the transportation cost or transaction cost.

So we are abstracting from that sort of scenario we are talking about a highly idealized situation, in this highly idealized situation you will have one particular price market equilibrium price at which goods will be bought and sold, and of course later on as we progress in this course, we will learn the condition you do not know the assumption that

we need to achieve this sort of market, fine but that is for later, is it clear the excess demand and excess supply ok.

Now, let us do a simple problem to obtain, you know just a simple numerical problem to obtain the market equilibrium. So, let me write, the this is the equation for supply function, and let us take another equation for demand function. By no wayIam saying that all the supply functions are given by this equation.

This is just an example for illustration, and this is demand function and if you want to, if you want to distinct differentiate this P, from this P what you should say, that this is the price that supplier wants, and this is the price that buyer is willing to pay, what happens at the equilibrium. We get 2 more equations what we get that Q S is equal to Q d, at equilibrium Q S has to be equal to Q D that is quantity supplied has to be equal to quantity demanded. And also, the price that supplier gets is equal to, the price that buyer pays. So, this is P D.

So now we have 4 equations 4 unknown we can solve it. So, what we can do, that we can replace Q S and Q D by Q, and P S and P D by P. So now, it will transform the 4 equation system into a 2 equation system, and we get Q is equal to 3 P, and Q is equal to 50 minus 2 P, and we can write 50 minus 2 P is equal to 3 P, we will take this 2 P to this side, and then we get 50 is equal to 3 P plus 2 P and that is 5 P, and P is equal to 10.

And mind you although we get P is equal to ten, but it is P star the equilibrium price is 10, and when we get the equilibrium price, we also get the equilibrium quantity, we can use either this equation, or this equation using one of these 2 equations, we can get the quantity at the market equilibrium price. And that is 3 P and that is 3 multiplied by 10 30. So, market equilibrium can be given by an ordered pair, that is 30 comma 10 30 denotes the quantity demanded or supplied, and 10 denotes the market price P star Q star.