An Introduction to Microeconomics
Prof. Vimal Kumar
Department of Economic Sciences
Indian Institute of Technology, Kanpur

Lecture – 16
Few Examples

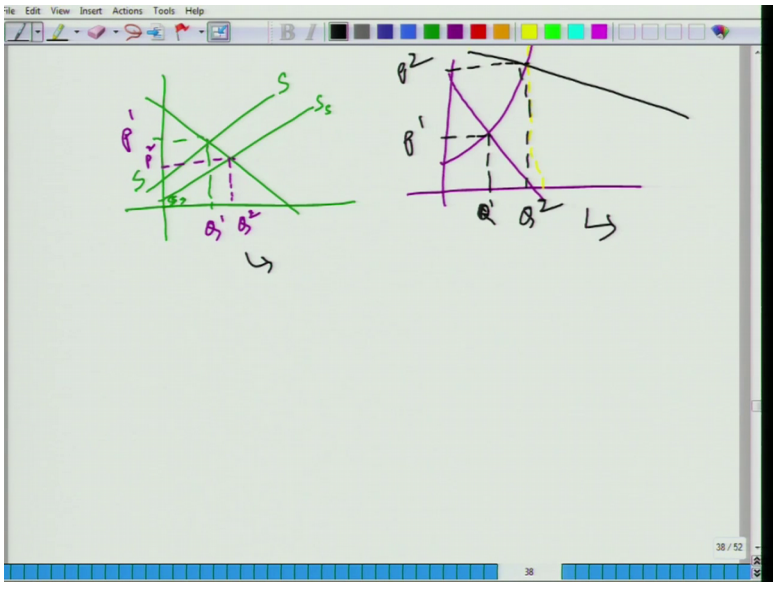
Now, let us look at the facts that we discussed, some of the facts that we discussed right in the beginning of this chapter. And one of that, one of those facts we had was that how the price of mango comes down in the season while the hotel room rents in the season go up. Now, can you think of the reason? Now, we have done demand, we have done supply, and we have also studied market equilibrium can you think of.

Student: Supply of mango in the season is more.

Supply.

Student: Of mango in the seasons more.

(Refer Slide Time: 00:58)



So let me write it here. So, let us say this is the probably line and supply in the season goes up this is supply and this is supply in the summer or in the season that is denote it, it goes up.

Student: While in off season we have to it store it in the refrigerator and storage because of these days lesser amount of mangoes available in the winter, so its price is higher than. But.

Not price, price we will get from the equilibrium what you can track about that in the summer season when.

Student: The demand.

No demand, demand is let us say the demand probably again you can bring demand and supply both into the explanation, but what I suggest that if you think it is not that we do not want to have mango in the winter season, sometimes we just miss mangoes in the winter season and in the other seasons. We would love to have mango. So, let us say it is not impacting our demand it may because we have developed that habit of having mangoes during the summer season, but again it is an abstraction. So, we can say the demand is more or less the same over the year. But in the summer month supply is not more as you said. So, what is happened to the happening to the supply, it is shifting outward.

So, let us say what is happening to the, as a result this price let us denote it by P 1 and Q 1, Q 1 is the amount of quantity it is the quantity of mango bought and sold in other season at price P 1, and this is Q 2 and P 2 is the price of the mango in the summer and Q 2 is the amount of mango bought and sold in the summer. Of course, it is not very precise you may say that Q 2 is much much higher than Q 1, but again it depends how we draw the graph what we can get is that qualitatively more mangoes will be sold in the summer month at lower price. Quantitatively speaking we need the exact depiction of demand and supply curve.

Now, let us look at the hotels what happens.

Student: (Refer Time: 03:32).

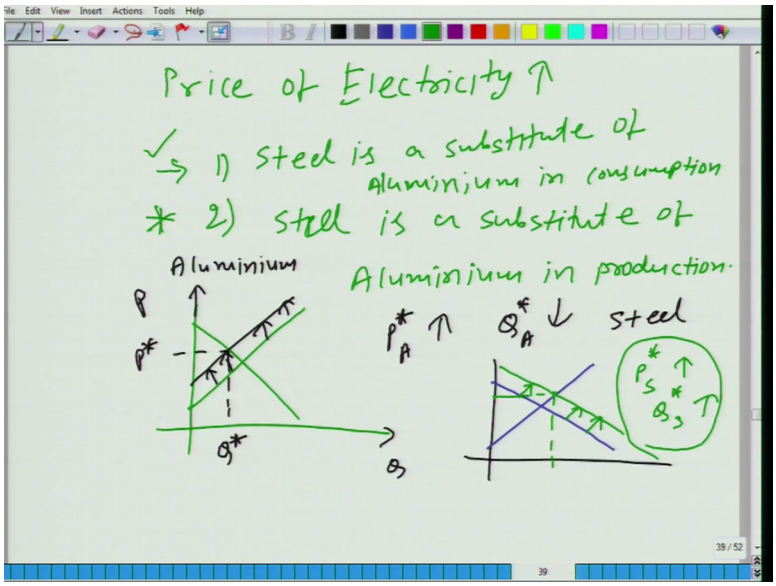
Let us say let us take Shimla, example of Shimla in summer month here demand increases. So, what we have demand is like this. And supply I can say again here if we assume I was taking about more precise information supply we can say that supply first increases as price increases of the hotel where the room rent increases in Shimla, but

after some point of time supply stops increasing. So, I can say it is its like this after certain price it becomes the supply becomes fixed and in the summer month what is happen, what happens because of the heat of Delhi people would like to visit Shimla. So, demand for these rooms would go up manifold. So, it is going to be like this. So, see what is happening here. Earlier this was quantity Q 1, this is Q 2, P 1, P 2.

So, when we say season what we mean is that quantity bought and sold goes up that is what in season means that the these two things are happening because of different reason mangoes are in season means supply is increasing, but rooms in Shimla if I say just for example, sake when we are talking about rooms in Shimla. Then we are talking about increased demand and increased demand increases the room rent in Shimla while increased supply decreases the price of one unit of mango all over the country do you understand. Another example let us, take let us take another example that we know that aluminum is obtained from bauxite through a process of smelting and smelting is very intensive in electricity very very intensive in electricity.

So, now let us see that what happens if the price of electricity goes up, the price of electricity goes up.

(Refer Slide Time: 05:54)



Student: Price of aluminum price.

That is very simple to see now we know the concept price of electricity goes up, but I do not I am not just interested in looking at the market for aluminum I am also interested in looking for the market of steel ok.

Student: Ok.

And let me say just for the purpose of this example that producing is not that intensive in electricity. So, for our purpose we can assume that the change in price of electricity does not impact the

Student: Production (Refer Time: 06:36).

Production of steel directly.

Student: (Refer Time: 06:40).

How about indirect effect. Now, again I want complicate this problem just. So, that we understand that not only now let us look at it two thing is I want to say that there are two possibilities. The first possibility is that steel is a substitute steel is a substitute of aluminum in conjunction what I mean to say that when the price of aluminum part goes up people shift to steel parts and second also again I do not know that whether it is true or not just for the just. So, that we understand the concept let me also say that steel is a substitute of aluminum in production.

So, let start with this first. The price of electricity is going up and still is a substitute of aluminium in conjunction what would happen let us forget about the second part right now just look at the first part. What would happen to the market equilibrium price of the steel and quantity demanded of and supply of steel at the market equilibrium price after the price of electricity goes up, do you understand. Earlier we were talking about now it is very easy to see that price of electricity goes up it means remember the one of the factors that affect the supply curve the cost of inputs. So, input cost is going up it means marginal cost of producing one more unit of aluminum is going up. So, it also means that willingness to supply is coming down. So, if I can do the aluminum market, what will happen to the supply; let us say it is for aluminum, what will happen?

Student: (Refer Time: 09:06).

It will shift.

Student: Sir, lack of (Refer Time: 09:10).

So, as a result.

Student: Price would increasing.

P star aluminum will go up and Q star aluminum will.

Student: Go down.

Come down. What would be its impact if steel is a substitute of aluminum in conjunction?

Student: Parts of steel (Refer Time: 39:36).

Now, let us look at the steel market. What will happen to the demand of steel?

Student: Demand (Refer Time: 09:47).

There will be higher demand of steel at the same price.

Student: (Refer Time: 09:49).

So, and as we already assumed right now that for the part of one we are ignoring the second, supply curve will not change supply curve of steel will not change fine. So, what is the result? P star steel also goes up but.

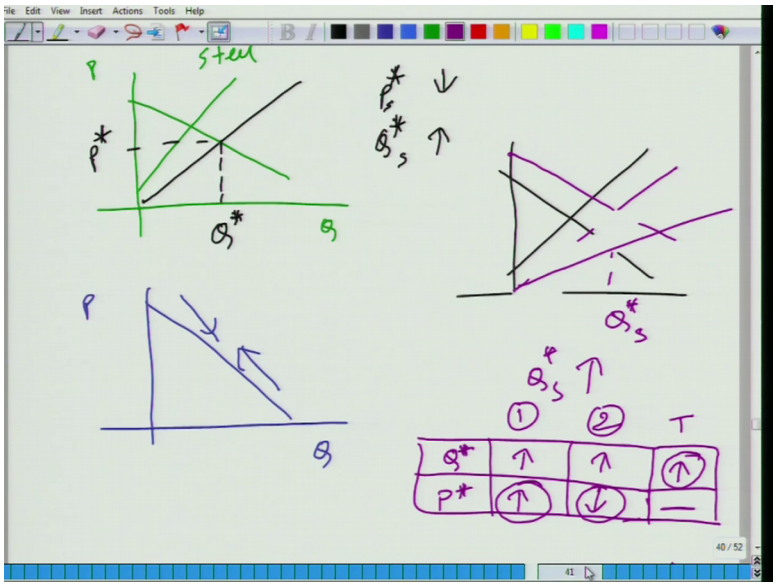
Student: Demand of (Refer Time: 10:24).

Q star steel also climbs up unlike here also goes up unlike here, here they move in the opposite direction here they move in the same direction.

Student: (Refer Time: 10:37).

That is for the part one.

(Refer Slide Time: 10:40)



Now, let us look at the, when now let us concentrate on the second part ignore the first part that steel is a substitute of aluminum in the production what happens what will be its impact. Let us say we are talking about steel market. This is price, this is quantity, if they are substitute in production if steel and aluminum are substitute in the production and price of electricity has gone up. So, price of electricity has gone willingness to supply willingness to supply aluminum will come down.

Student: Down.

But what will happen.

Student: Willingness to supply will raise go up.

Willingness to supply steel will raise go up because steel and aluminum are.

Student: Substitute.

Substitutes. So, it will go up something like. So, what is its impact?

Student: Price distribution.

Student: Sir, can we also think in this way that the technology that we have today for producing aluminum.

Hm.

Student: is proving to be a little more expensive. So, means deterioration in technology we have observed with rise in price. So, (Refer Time: 12:00).

See, again we are using technology that the particular technology that we used to produce. You know technology is a block box we will learn that technology is a black box that takes for economics purpose that takes certain input and produces certain output. Just because price of electricity has gone up it is not about it. Technology is not about price technology is about like this is technology that you need one unit of electricity and one unit of boxite to produce one unit of aluminum, this is the technology. So, technology is not changing, it is just the price of producing aluminum is going up you understand fine. So, effect is similar, but it is not it is not the same thing fine.

So, now you see here equilibrium price of steel is coming down and equilibrium quantity of steel is going up. So, what we have done we have considered this first and second part individually. So, what if we consider these two together what will be its impact. So, now, I am saying that let say the price of electricity has climbed up and aluminum production is intensive in electricity and steel is substitute of aluminum in production as well as in conjunction what would be the impact of increase in electricity price on steel market, think about it.

Student: (Refer Time: 13:41) substitute, sir its.

Ah?

Student: Supply would.

Student: (Refer Time: 13:45) outward.

Supply curve.

Student: Shift rightwards. So, we get a new equilibrium.

We will get new equilibrium one. So, let me draw it here.

Student: Sir I do not think. So, they there will be any change in demand curve as such.

Student: Now.

Demand will change because demand.

Student: Demand curve will not change demand curve will change (Refer Time: 14:02).

Demand curve will change.

Student: (Refer Time: 14:04).

When we say demand changes it we mean is the demand curve is changing. While demand curve will change now aluminum more expensive, people will be willing to buy more of steel because steel is a substitute of.

Student: (Refer Time: 14:21).

Aluminum.

Student: Sir, demand is in its curve will not shift right.

Curve will shift remember just its, just to remind you let us look at the steel demand for steel curve this is demand for steel curve here we have price, here we have quantity.

Student: Sir (Refer Time: 14:42).

Just let me explain it. So, what is happening now this curve you move along this curve only if price of steel is changing you shift this curve when any other that can affect the demand of steel is changing and here the price of aluminum is changing which is the factor that affects the demand of steel. So, you will get a shift rather than a movement along the curve.

Student: Yes, sir.

Fine. So, now, what is happening that supply of steel is increasing and what is happening to the demand.

Student: Demand is also increasing.

Demand is also increasing. So, we can see clearly the quantity, quantity of steel is going up. Can we say anything about the price of in the market?

Student: It will remain same.

Student: We have to.

Student: We cannot say anything (Refer Time: 15:47).

We do not look at the graph because graph can how about drawing the new supply curve rather than like this I draw it like this. So, what we get you have to because right now we are interested in qualitative result. So, it is good idea separate the effects into two part and what we obtain let me draw it here, here it is because of the what we first observed we observed that.

Student: Price (Refer Time: 16:28).

Price as well as the quantity increases. So, this is the first effect, this is the second and this is the total. So, this increasing and this is increasing fine. How about for the second? Quantity is increasing.

Student: Price (Refer Time: 16:46).

But price is.

Student: Decreasing.

Decreasing. So, the overall effect here it is very clear for the quantity that it has increased this we do not know to say the impact we have to understand the not only the direction, but also the quantity.

Student: Quantity.

That we do not have. Right now we are doing this qualitative analysis, we do not have the quantity. So, we cannot say the only thing that we can say that total impact on the quantity would be that more of steel would be bought and sold in the market, it is clear.