Microeconomics: Theory & Applications
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Lecture - 03
Major Themes in Microeconomics (Part-II)

Hello, welcome back to the lecture series on Microeconomics. We have been discussing the Core Theme of Microeconomics theory which is price and markets. So, how price is determined in market? Back in 1776 Adam Smith wrote about very simple market model; where he told us that even if there are millions of buyers and sellers in the market, it may seem like a cavos, but actually even through a cavos the market will reach an equilibrium. By equilibrium he means that the market will clear. So, there will be a price at which the quantity demanded will be equal to the quantity supplied; and that is market equilibrium in Adam Smith's world

Now, what is equilibrium? Equilibrium is state of no change; this is kind of optimal state. So, one can say that if a person an economic agent or economic entity reaches a situation which is based attainable given the resource constant and the current conditions, then there is no need to deviate from that situation. Hence that situation would be called un equilibrium.

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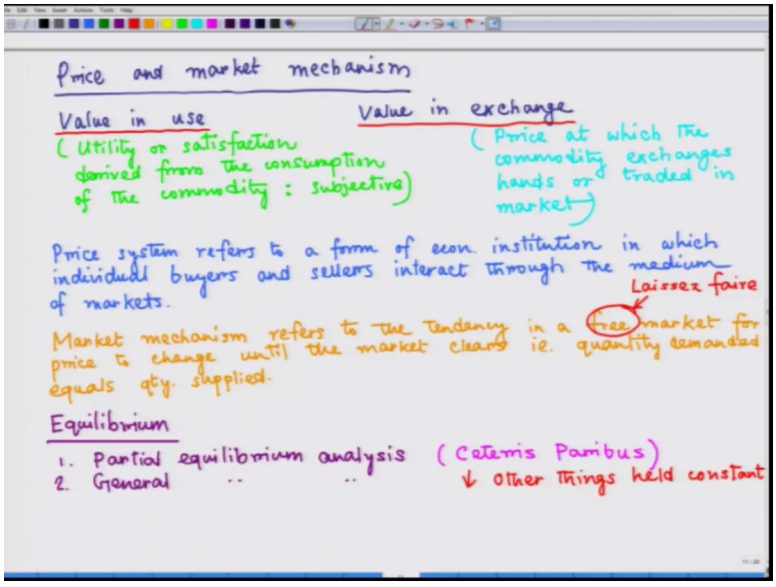

So far we have seen the concept of price, equilibrium and market. Now let us look at the working of price system or market mechanism through a graphical illustration. It will help us to understand how market works in Adam Smith's world.

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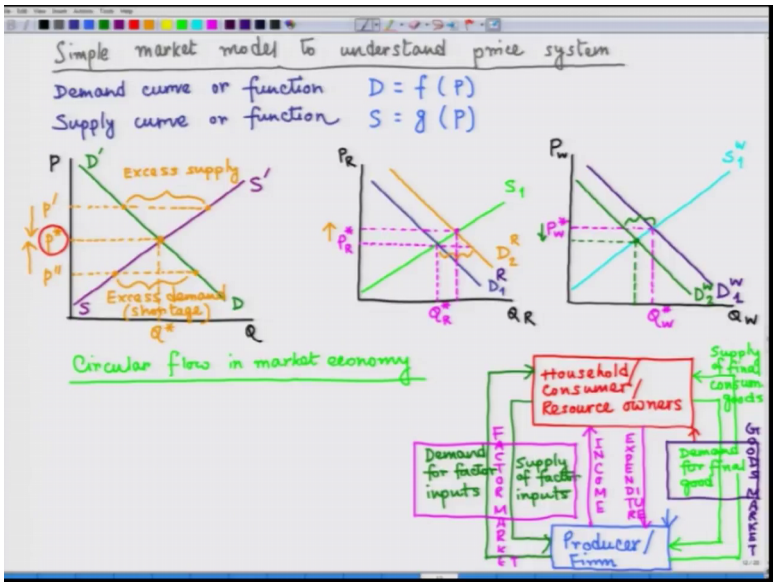

Adam Smith talked about invisible hands in his book, what are this invisible hands? They are the demand and supply functions in the market. So, before we draw graph to explain the simple market model proposed by Adam Smith, let us have definition for demand and supply. So, what do we mean by demand and supply? Demand curve or demand function gives us the relationship between quantity of a good demanded by consumers and the price of that particular good. And generally a demand curve is downward sloping means that as the price goes up demand for a commodity goes down.

By supply curve we mean a relationship between the quantity that the producers are willing to sale and price of that particular commodity. And in general the relationship between these 2 variables is positive; that means, that if we observe a higher price, then we also observe a higher quantity put forward by the sellers to sale in the market. So now, let us draw a diagram with this invisible hands and let see how market clears

Along the horizontal axis, I measure the quantity brought and sold denoted by Q and along the vertical axis I measure the unit price of the commodity which is denoted by P. From the discussion on demand and supply we can write a simple form of demand function; quantity demanded as a function of its own price. Similarly, we can also write S

as another function quantity supplied as another function of the market price that is observed.

Now, let us plot this 2 functions. So, we have this downwards looking demand function say D, D prime. And we have these upward sloping supply functions S, S prime. And Adam Smith says that these are the invisible hands and when market clears, the market clearance occurs at the intersection of the demand and supply curve. So, basically at the intersection of this 2 curves equilibrium price market clearing price and quantity are obtained.

So, let us denote that equilibrium quantity or market clearing quantity as Q star and the prices P star. Now why P star and Q star are equilibrium prices and quantity? Let us check. So, we have to prove that this is that optimal state from where the either the buyer or the seller has no incentive to deviate. So, let us deviate from the optimal price or equilibrium price P star and see what happens.

So, let us consider 2 cases where to start with we assume a higher price P prime and let see what happens at this price. So, note that at this higher price P prime there is excess supply in the market of the magnitude this. This is excess supply as there is lot of supply in the market, this will create a negative pressure or downward pressure on the price, and the price will fall because the seller will think that it is better to reduce the price a bit and sale the quantity or some of the quantity rather than selling it not at all.

Now let us look at the other case where we consider a price which is lower than the equilibrium price say P double prime and let study what will happen at a lower price. Here we can see that at lower price P double prime there is excess demand for the commodity in the market. So, there is shortage of the commodity. At price P double prime there is excess demand in the market. And the buyers are ready to pay more to have more units of the good.

So, in that case there will be an upward pressure on the price sellers will say this is a very profitable situation for them because they can charge higher price. So, in that case they will raise the price. And finally, we can see that although we have deviated to P prime and P double prime, but in both cases we are going to return to thus market equilibrium price P star. And that is why we call that this is an equilibrium from where deviation is not profitable.

Let us now study how price system and market mechanism helps an economy to take a call on resource allocation problem. Let us start with a simple case where the consumer consumes only 2 goods. Suppose we are considering rice and wheat. Now with time if there is a change in taste and preference, then that will be reflected through the demand function. So, let us assume that with passage of time the consumers in an economy.

Let us assume that in an economy there are consumers consuming both wheat and rice. Now let us also assume that with time there is a change in taste and preference, and the consumers started preferring rice more over wheat. Now in that case how the economy is going to react, how the economy is going to take a decision on resource allocation issues? Let study through a diagram. So, in this case we are going to study the case of rice so, I am denoting Q R as the quantity of rice being brought and sold in the market, and price of R rice P R denotes the price of rice. So, there will be the demand function for rice which is denoted by say D 1 and there will be supply function which is denoted as S 1, this is like period 1.

Now, let us also draw the diagram for wheat. So, along the horizontal axis, I am measuring the quantity of wheat denoted as Q W. And then along the vertical axis, I am measuring the price of wheat which is P W. So, we have plot the demand and supply curve again. So, let us have the demand function and that is say D W 1 and let us call it D R 1. And let us also superimpose the supply function. Now let us call that supply of wheat denoted by S 1 W.

Now, as there is a change in preference, the consumer he had started to demand more for rice at the given price. So, then what will change in this particular diagram? So, let us first mark the equilibrium price and quantity that is the initial condition to start with. Now at these equilibrium price P star R suppose the consumers have started demanding more rice because there is a change in taste and preference. If that is the case, then we are talking about a parallel shift in the demand function, and let us have this new demand function denoted by D R 2. So, of course, we can see here that there is some excess demand in the market, and hence there will be an upward pressure in the market of rice and the equilibrium price will raise.

So, the new equilibrium price will be at the new intersection point P 2 in the new demand curve and the original supply curve, right. Now what will happen in the case of wheat?

So, let us first look at the equilibrium price and quantity figures to start with. Q star W is the equilibrium for market clearing quantity and then P W star is the equilibrium price to start with.

Now, in this case what will happen at the equilibrium price? There will be decrease in demand for wheat because of the taste and preference change. So, in that case the demand function will parallelly shift downward and let us call this new demand function D W 2. So, what will happen now? There is some excess supply of wheat in the market, and of course, there will be some downward pressure due to a clot of wheat supply in the market do there will be a fall in the equilibrium price. So, the new equilibrium price will be obtained at the new intersection between the new demand curve and the original supply curve, right.

As the prices of this 2 commodities change, this will send signal to the factors markets as well, why; because now the farmers will see that the cultivation of rice more profitable than the cultivation of wheat. So, land, river and all other agricultural resource inputs will now flow from the wheat sector to the paddy sector. Let us now discuss another related concept called circular flow of market economy. These discussion is very important to understand the concept of general equilibrium in microeconomic theory. This discussion will show you how markets are interrelated.

So, as of now there are 2 boxes I have drawn. So, this is the lower box and this signifies the producers or the forms in the economy, and there is this upper box which denotes the households which are basically consumers, but note that they are also the owners of the resources. By resources I mean, that it can be labor, it can be capital. The households will supply this resources labor, capital etcetera to the farm and this is called supply of factor inputs. Why they will approach farm or produces obvious reason because the producer of the firms needs to produce some outputs and for that they need this resources or factor inputs.

So, of course, there is this earn which represents the demand for factor inputs. And this is flowing from the producer's farms box to the households box. So, this is demand for factor inputs. As the household or the consumer supplies this resources to the firm or the producers in return they earn income. So, for labor the worker receives wage, the persons

who has saved and invested, the capital to the firm he earns rate of interest etcetera. So, these are the factor earnings.

Now what will the household of the consumer do with this factor earnings? Of course, they need to consume, and they will now demand for goods and services. Now a critical question arises how these returns to factor inputs it resources are determined. So, these are determined through a market and that market is called the factor input market; where this demand for factor inputs meets the supply of factor inputs and equilibrium price and quantities are figured out.

So, this link box you can call this as factor market. So, there will be a flow of factor earning from the producer box to the house hold box and this is called factors earnings or income. Now with this income the household they are going to start demanding for final goods and services to consume. So, there will be a flow of demand and there will be another flow which will denote the supply because the producer after producing some final goods and services of course, has to sale it to earn some money and he will sale this to the house hold or the consumer sector. So, this will be the supply of final consumption goods.

So now the income which goes to the household from the producer or firm box now comes back to the form again. And this is to the expenditure root. Now there is a market called factor market, where this demand and supply for factor inputs interact with each other. There will be another such market which is for the final goods and services, and it is there where this demand for this finished final goods meet the supply of this finished final goods and the equilibrium price or the market clearing price is obtained.

So, this market is called the goods market. With this discussion we conclude the theme prices, markets and equilibrium. Now let us move to a different theme, the next theme is theory and models. What is a theory? Theory is a set of explanations and predictions regarding real life objects that will be observed around us. Often theories are represented through simplified models.

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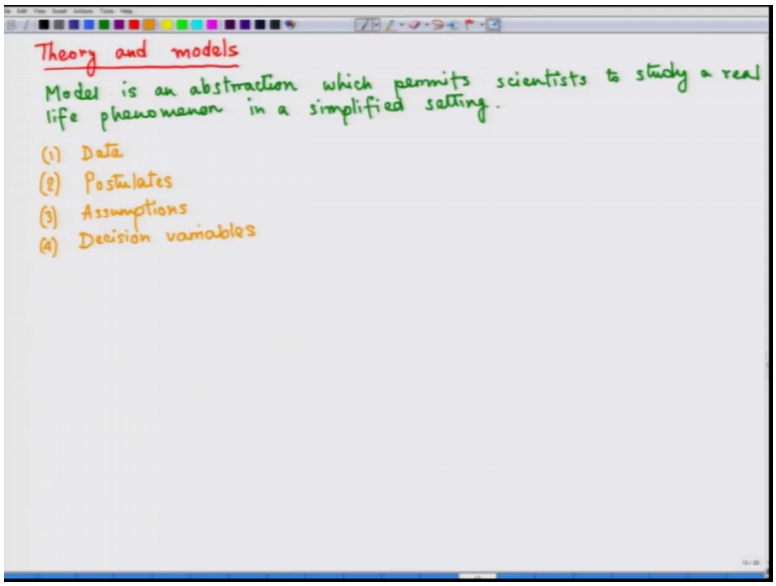

What is a model? So, model is an abstraction which permits scientists to study a real life phenomenon in a simplified setting.

Now a theoretical economic model has 4 components. And let us have a look at this 4 components. The 1st component is called data, the 2nd component is called postulates, 3rd components is assumptions and the last component is decision variable. Let us now explain these 4 components one by one. What is data? Data is exogenous parameter used in the modeling exercise. These are held fixed so that the economic agents cannot tamper with the magnitude of this factors.

What is postulates? Postulate is universal type statements on the behavior of the constructed abstract objects. What is assumption? Assumption is basically the link between the real life object and the constructed object. Now the last one is decision variable. What is the decision variable? Decision variables are the variables of the interest to this constructed economic objects and the economists. So, an economic agent or a constructed object basically tries to optimize given the resource constraints and the person or the economic entity is basically looking for the optimized value of this variables and so are the economists.

So, these are basically the control variable in a model. So, with this let us finish for today. We will continue with the discussion in the next lecture. We will continue with the discussion on themes of microeconomics in the next lecture.