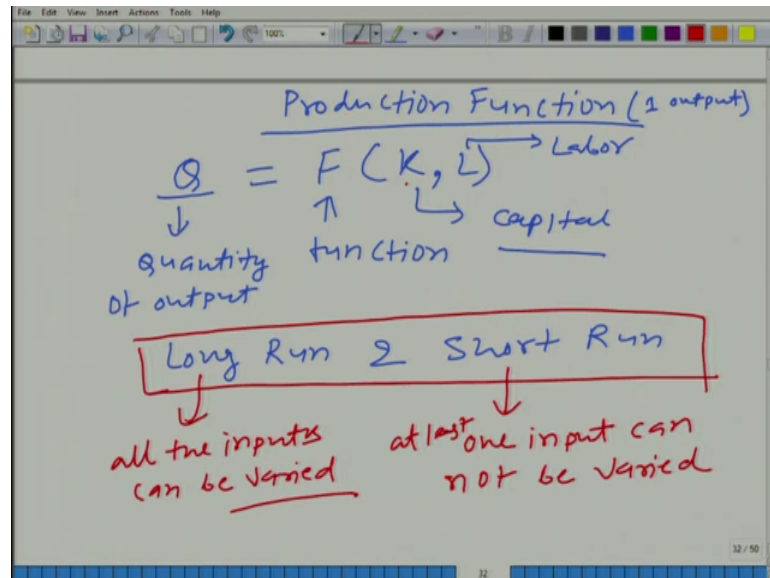


An Introduction to Microeconomics
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Lecture – 77
Production in Short Run

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Now, let us be little more attention to the Production Function. And we will of course, there are as I said earlier, there are several different kind of production transformation or functions are feasible. We are going to take a particular example just. So, that it is convenient, we will learn all the most of the concept using this particular production function, we will say that Q the Q is amount of output, better way to remember is quantity, quantity of output. And of course, here we are talking about production function what we have that one output only. If we have more than one output, then we cannot talk about the process in terms of production function.

So, Q is equal to capital F this is function representing the technology and what we have K comma L K is capital and L is labor and, we have already discussed what do we mean by capital and what do we mean by labor of course, here we are not specifying whether it is physical capital, or financial capital, or here we are not in L we are not talking about whether it is physical labor or knowledge. We will keep it vague deliberately so, that it is very general. Now what we are going to do is that we are going to talk about long run

and short run, have you ever heard these terms long run and the short run, what do we mean by long run and the short run.

Student: At least one of the inputs is fixed on constant it cannot be change.

Cannot be varied.

Student: Cannot be varied and long run is a period (Refer Time: 02:18) can vary each and every one.

So, short run one in at least one input one, input cannot be varied and in long run all the inputs can be varied. So, in this contest of course, we have only 2 inputs K and L typically, typically it is difficult to varied K in the short run or here let us rather than using short run let say in the short duration, it is difficult to vary K why capital typically is machinery, if we are using machinery just for example, then buying machinery takes time buying machinery takes time, the d c you can, but labor is relatively easier to higher and fire, but if you look at our countrys labor law even we have difficulty in varying labor ok.

So, in the short run typically in this course just for understanding of course, it is abstract representation of the real world, when we talk about short run we will assume that capital is fixed capital cannot be varied. And in the long run when we say that long run what we mean that in that problem, we are able to vary capital as well as labor because, long if you decide to change the capital it will take some time, but eventually you will be able to buy machinery or sell of machinery ok.

So, whenever we are talking about long run we will say that capital can be varied, but if we have more than to inputs, then it would depends on the context, but there it is long run it would be very cleared that we can vary all the inputs, but in the short run what we have to keep in mind that at least one input cannot be varied.

So let say, they are basically the same thing see look at it this Q is equal to F fine and in the short run. So, let say the capital cannot be varied capital is fixed at K naught label ok. So, we can say we can give it, if you want we can write a new function which is a function of L only for example, let us take cob Duglus function here, what we have is production function is K to the power a L to the power b ok. And now let say that capital is fixed at label 5. So, 5 to the power a and L to the power b this is nothing, but a function of L only.

So, that is what I am saying these two are the context that we are talking about of course, in short run you can have more than 1 input as fixed inputs, but right now we have only 2 inputs that we are talking about and, we want to vary at least one of them. So, in this context that production in the short run or production in one variable both are the same thing.