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

Lecture – 51
Marginal Rate of Submission (MRS)

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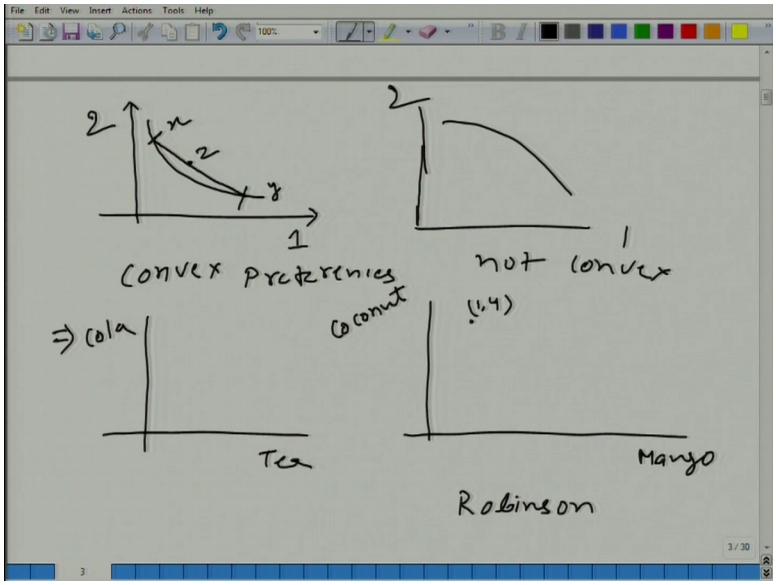

The second way to look at it let us say, let us take again little different example then tea and cola, what I have again if I go back to the Island and now let us say that we have mango on that Island; mango and coconut, and there is no other good. Now let us say its Robinson fine, and let us take a bundle here when he has 4 units of coconut and 1 unit of mango.

Now let us say that suddenly Robinson finds someone selling mango on this Island. And since on this island there is no other good available, the only thing that you can do is barter, you can give some mango take coconut back for those mangoes or give some coconut and take mango back fine.

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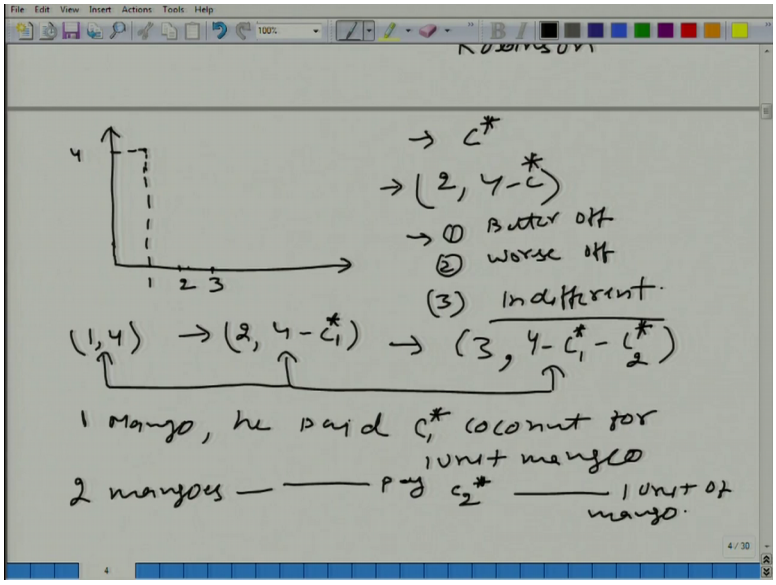

So, now let us say the Robinson wants to increase his amount of mango from 1 to 2. Here we have 1, here we have 4, let us say here is 2, earlier he is here. So, he wants 1 unit of mango. Now let us say the person who is selling mango says that I need c amount of coconut to give you 1 mango. Let us say, let us not worried about whether he would become better off or worse off, let us say if we participates in this transaction then what happens. Then he will get, he will have ultimately 4 minus c amount of coconut and 2 units of mangoes. Now there are three possibilities.

Student: (Refer Time: 02:22)

Oh sorry, thank you 2 comma 4 minus c fine. Now there are three possibilities, either this person is better off, worse off or indifferent. Of course, what we are doing here, we are changing the amount of mango by 1 unit [FL]. Let us say that we have figured out a particular c star for which this person is indifferent. There will be a c star, because we are talking about continuity assumption. So, there has to be a c star that would make this person indifferent between 1 comma 4 and the new bundle fine.

Now, let us say, if he is moving from 2 to 3, now he wants one more. So, now, let us say here we have started from 1 comma 4 2 to 2 comma 4 minus c star and from there we are moving to 3, and the idea is to keep this person Robinson indifferent between these bundles, and of course, he has to pay further to get this mango. Now what would happen; of course, it would be 4 minus c star, let us now put here 1. This is for the first unit of mango, and now the you he is going to get, he is going to give up c 2 star amount of

coconut, but the thing is that he is in different between these two, and he is indifferent between these two.

So, using transitivity, this person is indifferent among all three bundles, but now my question is, when he had one mango, he paid c 1 star coconut or 1 unit of mango. Now he has 2 mangoes. Do you think he would pay. Now he is paying, he pays c 2 star for 1 unit of mango.

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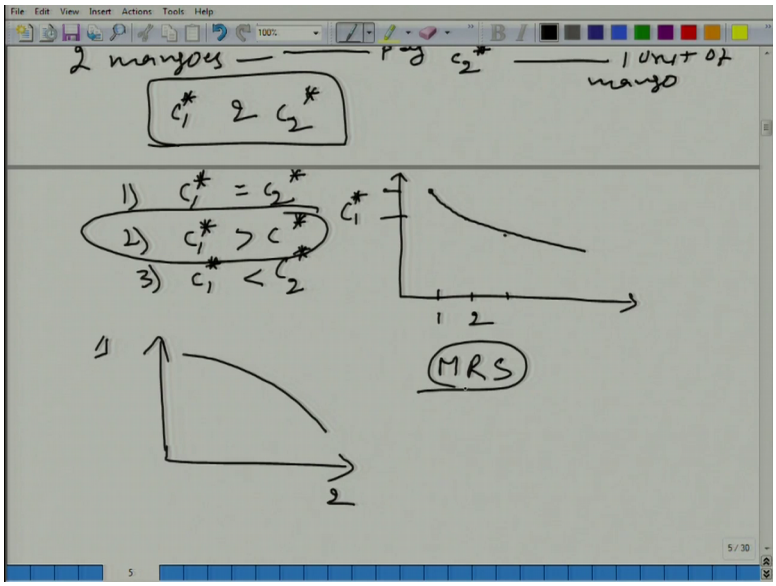

When you talk about a relationship between c star 1 and c star 2. So, there are three possibility that c 1 star is equal to c 2 star, second is c 1 star is more than c 2 star, 3 is c 1 star is less than c 2 star, which one would be typically true. Of course, different person would have different kind of preference, but we are talking about a typical individual, which one do you think would be true, 3.

So, what you are saying that as he has more mangoes, his willingness to pay for one more mango would go down fine. Now let us try to draw it, how would it look like, how would it look like, what you are saying, if what you are saying is true how would it look like, starting with 1 comma 4 and we increase here to 2, this is 1, this is 2 and here is the fall this is c 1 star. The fall is going to be more or less you said 2, fall is going to be less now, c 1 star that is what we are.

Student: (Refer Time: 06:12)

Discussing. So, less. So, for this we will be here, and if we continue with this then fall will be lesser, lesser and lesser. And of course, we are talking about change in mango by 1 unit, but if we, let us say mango is divisible and we are talking about change by small amount and then we will get more points and we will be able to draw unindifference curve, because what we did? We did these exchange in a way that this person remained indifferent. So, how would it look like. And if the case number 3 is true, if case number 3 is true then what would happen, it will keep on increasing and it will be like this; good 1 and good 2.

Typically what has been observed that people exhibit this rule number 2 and that is the reason, that is another explanation that I talked about the balance that why do we get, why does preference exhibit convexity, because balance bundle is preferred over extreme bundle, this is another interpretation. Why do we get convex preferences, because our willingness to pay for a good decreases in terms of other good as we have more of the first good, and this has a technical term in economics. This is basically diminishing marginal rate of substitution, but before that let us talk about what is M R S then it would be clear, marginal rate of substitution, fine.

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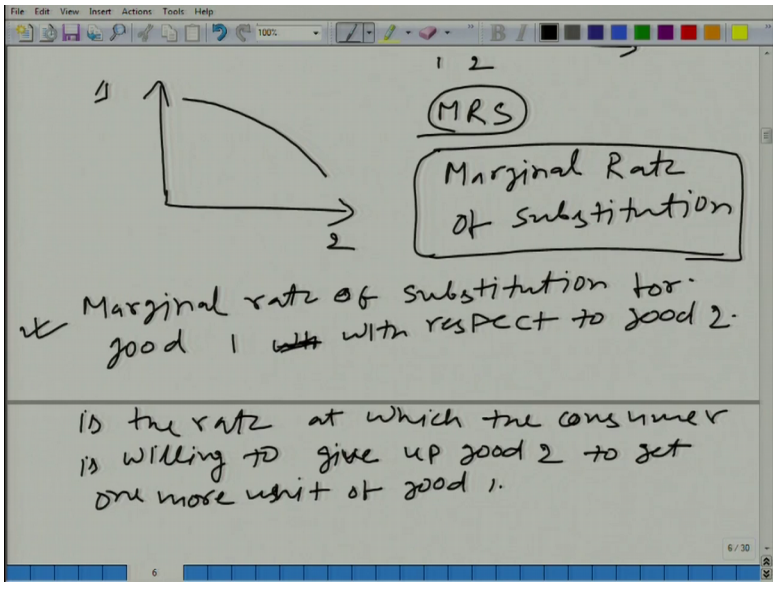

So, what is marginal rate of substitution, what do we mean by marginal rate of substitution. Again how you, what you are talking about is important. So, let me say again marginal rate, just saying marginal rate of substitution is not good enough, we have

to specify that marginal rate of substitution for good 1 with respect to good 2. Now you can say that marginal rate of substitution for good 1 with respect to good 2. It is basically as the name says it is a rate, at which consumer is willing to give up good 2 to good get 1 more unit of good 1.

So, marginal rate of substitution for good 1 with respect to good 2, is the rate at which the consumer is willing to give up good 2 to get one more unit of good 1. Since it is a rate let me reverse this, that marginal rate of substitution for good 1 with respect to good 2 is the rate at which the consumer is willing to exchange good 2 to get one more unit of good 1, whether the consumer is giving up or taking good 2 to reduce the amount of good 1 by 1 unit.

So, it is rate of exchange, not the market exchange rate, but the individual exchange rate and this exchange rate is such that, if you participate in this exchange your utility or your level of satisfaction would not change, you will remain on the same indifference curve, your utility level is not changing, what does an indifference curve represent, a particular level of utility fine, you had a question

Student: (Refer Time: 10:57)

See opportunity cost is typically we talk about in the market sense. Here we are talking about what an individual would feel. So, it is possible. Again there are two parts, why do you buy a good in the market, because the value, the price of that good is less than the value that you assign to that good. So, we are talking about, in the individual sense, not in the market sense, the opportunity cost is related to the market, what is the price of that good in the market ok.

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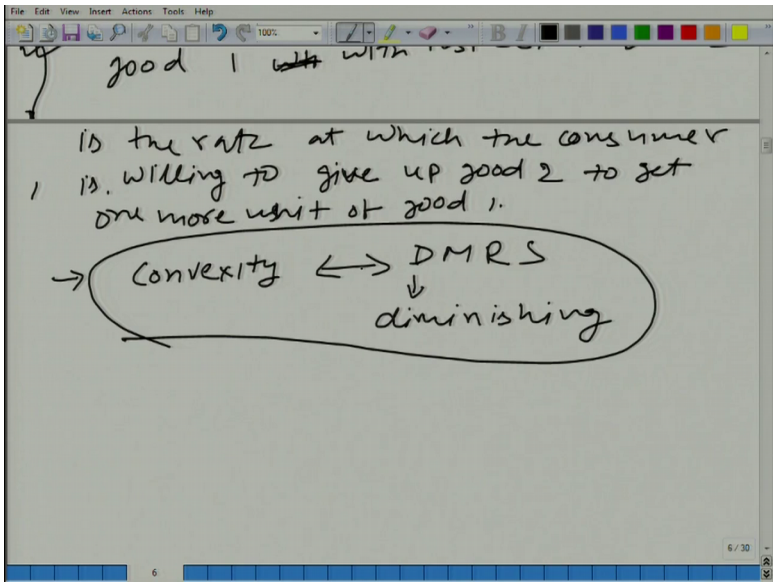

So, its bit different, but the concept is very much similar. So, we will talk about the opportunity cost, when we talk about the budget constraint, because there the budget constraint relates to the, how market is allowing the, what is the market rate of exchange. This is your individual rate of exchange, you understand that is why its bit different. So, marginal rate of substitution is very clear to you.

Now what we are saying is, whenever we have diminishing marginal rate of substitution, then the preference would exhibit convexity. So, convexity implies D M R S D sort for diminishing decreasing, but this is not always true, this is not always true. What I am not saying that convex, its convexity, always implies D M R S and D M R S always implies convexity, but I am saying that its not necessary that an individual preference would exhibit convexity, fine.