An Introduction to Microeconomics
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Lecture – 43
More on Three Axioms of Rationality

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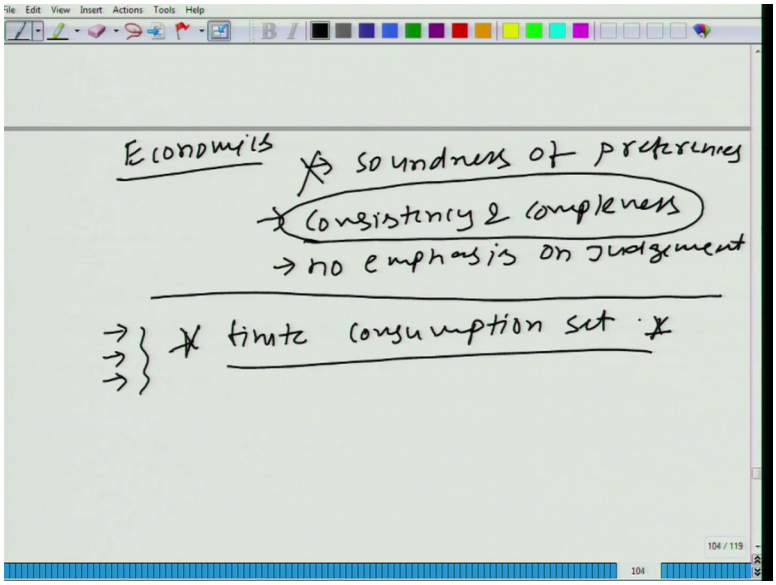

Now let us focus. Let us see what happens, because of these three assumptions, three properties or three axioms, you can take them as axioms, you can take them as properties, you can take them as assumptions. The only thing I am not saying that you cannot have weird preferences, you can have even inconsistent preference, but we cannot talk if you have inconsistent preference. We cannot talk about your choices in economic terms ok. We will do those problems.

So, what does it mean that your preference. Let us take an example and let us see what happens when your preference satisfies these three axioms and let us take; of course, I am going to, I am not right now I am particular about the assumptions that the properties that we talked about for consumption sets. So, right now I am not worried about the consumption sets.

So, as soon as I say that let us take a finite conjunction set. You may raise an objection that we cannot if we talk about the properties additivity, divisibility, then we cannot have

finite consumption set, but right now I am not worried about it. Some assumptions you know depending on the problem that you are dealing with.

You will have to come out of the regular framework that we have right. The aim right from the beginning is to describe a general framework to deal with a general problems, but here just for an example, just for illustration I am not sticking to the consumption set, the ideal consumption set that I just described earlier. Let us say that we have this finite consumption set and we again two good world.

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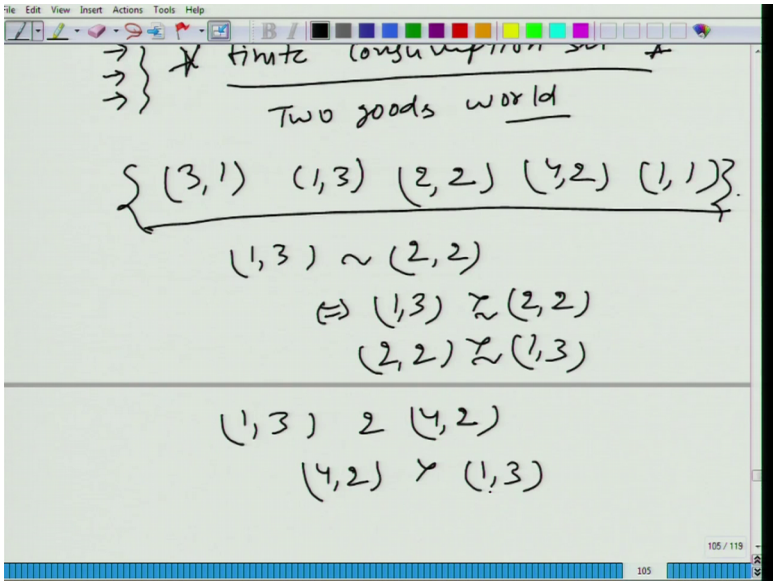

Two goods world, just for simplicity the example would not change if you include more goods there, and let us say these are the bundles we have 3 comma 1, 1 comma 3, 2 comma 2, 4 comma 4 and 1 comma 1. Only these 5 elements, these are the only possibilities.

Student: hm

Fine what does it say when we say that your preference satisfies the three axioms, means we pick any of these, any two from the set, you should be able to.

Student: compare them.

Compare them. So, let us pick 1 comma 3 and 2 comma 2. Again I am not saying this will always be the case, let us say that a person is indifferent between 1 comma 3 and 2

comma 2. What does it mean that 1 comma 3 is at least as preferred as 2 comma 2 and 2 comma 2 is also at least as prepared as.

Student: 1 comma 3.

1 comma 3 leading into that, this person is indifferent between 1 comma 3 and 2 comma 2 fine. Similarly let us pick 1 comma 3 and 4 comma 2, and let us say this person strictly or he prefers 4 comma 2 over 1 comma 3, what it means again just for description.

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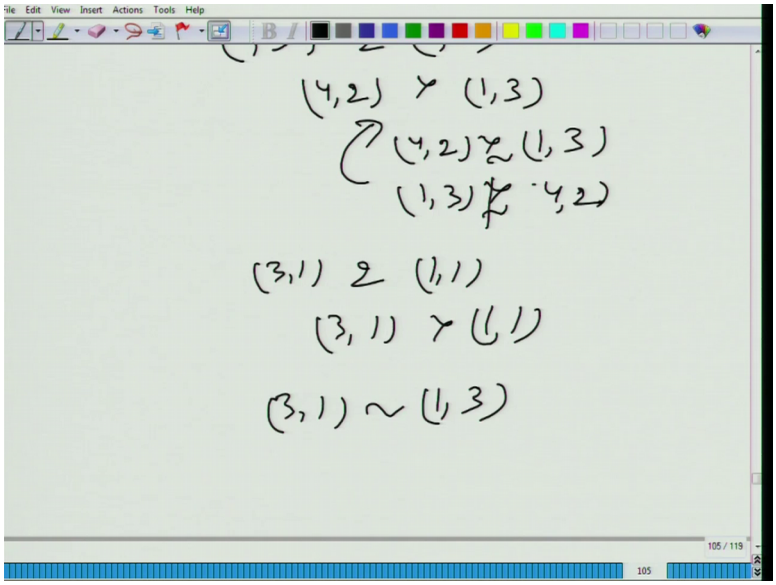

That 4 comma 2 is at least as preferred as 1 comma 3, but 1 comma 3 is not at least as preferred as 4 comma 2, this implies this relation.

Now, how about let us pick 3 comma 1 and 1 comma 1, and let us say what we have is 3 comma 1 is strictly preferred over 1 comma 1 fine, and let me put one more.

Student: And.

3 comma 1 and 1 comma 3, and let us say this person is indifferent between 3 comma 1 and 1 comma 3 what I have used so far is only completeness.

Student: Hm.

I have not talked about transitivity.

Student: (Refer Time: 04:40)

I have not talked about the transitivity.

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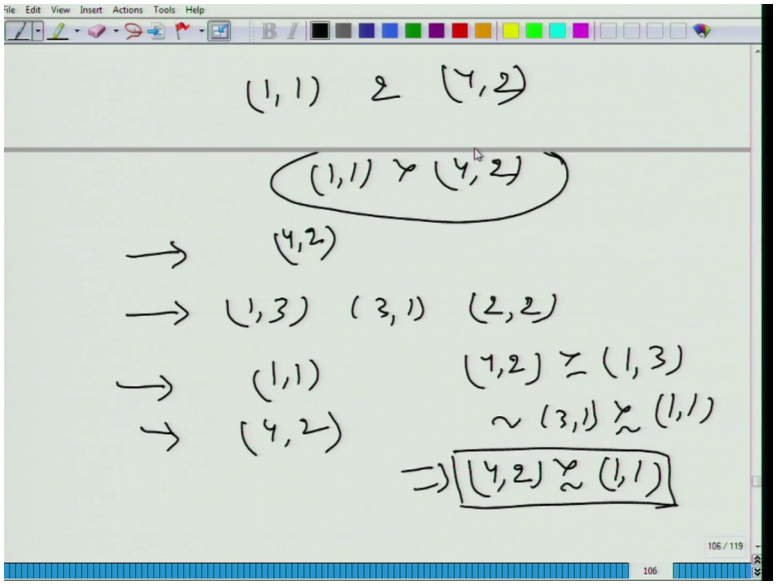

So, now, let us see if we bring 1 comma 1 and 4 comma 2, and this person let us say for time being that 1 comma 1 is strictly preferred over 4 comma 2. So, I have given you bunch of examples.

Student: Hm

Now, let us see what happens, I can say just the level. So, at one level we find a person is indifferent between 1 comma 3 3 comma 1 and.

Student: 2 comma 2.

2 comma 2 and also we have figured out that 4 comma 2 is strictly preferred to 1 comma.

Student: 1.

3.

Student: 1 comma 3 sir.

1 comma 3. So, I can put 4 comma 2. Here we do not know for what happens between 4 comma 2 and 2 comma 2 we do not know, but we will check for it, and what figured out

that between 1 comma 1 and 3 comma 1, person prefers 3 comma 1. So, we put here 1 comma 1, but we have not checked for 1 comma 3, and 1 comma 1 and 2 comma 2 and 1 comma 1 fine. Now we have also said that when we check 4 comma 2 and 1 comma 1, then this person prefers 1 comma 1.

So, in other word that when we compare 1 comma 1 and 4 comma 2, 1 comma 1 is preferred more, but now let us say what is happening to the ranking, I cannot rank them properly. So, what went wrong?

Probably.

Student: Transitivity

Somewhere we violated the edge, the exam of transitivity why, because what we have learned, let us say 4 comma 2 is at least as good as 1 comma 3, and 1 comma 3, and you are indifferent between 3 comma 1, and here you prefer 3 comma 1 over 1 comma 1. This should lead to that 4 comma 2 is preferred to 1 comma 1 transitivity leads to this, but this we hear this is violated. So, that is why we have problem, but if we satisfy transitivity, then what happens we can change the direction of this and that is another way to write is this.

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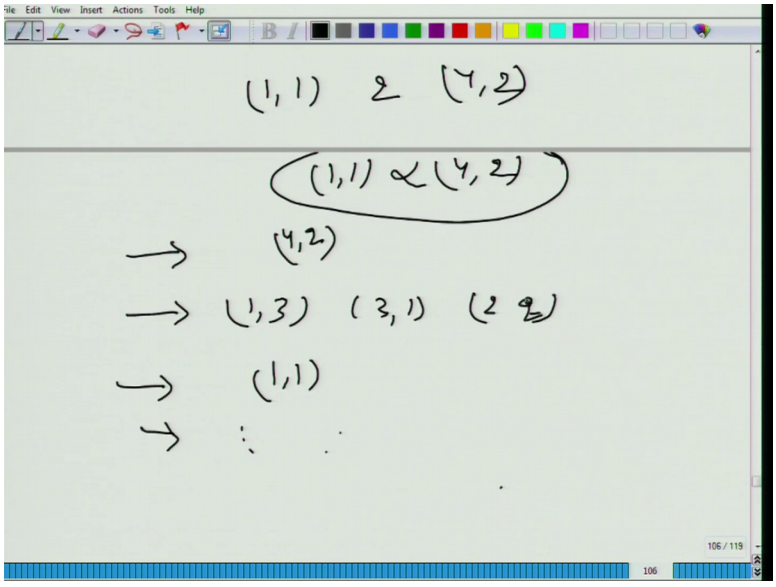

Student: yes

So, now we are fine.

There is consistency. So, when you are talking about completeness, you can compare only two, but transitivity preserves this consistency. So, now we have certain, if we follow all these then we have consistency in our choice fine. So, now, we can rank them, but one thing that let us take a look at that, this ranking is fine, nice whenever you have finite number of options that is what we have learned from here, and your preference satisfies those three axioms. Then you can rank them in consistent manner in some order, an order will be preserved fine.