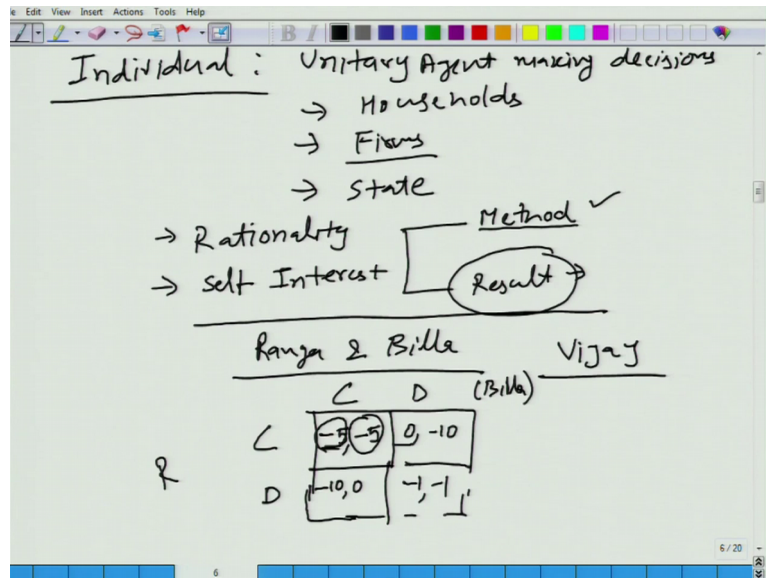


**An Introduction to Microeconomics**  
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**Indian Institute of Technology, Kanpur**

**Lecture – 04**  
**Basic Keywords: Individual**

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Now, the last topic for today's lecture is individual. You may be wondering why I am talking about individual, I am an individual you are an individual, but here in economics individual is much broader than you I here, individual means and an unitary agent making decisions. So, when you think just think of your family when your parents are making a decision for your household in that case, when you know when they are acting as one unit they will be considered as the individual unit in economics.

So, typically you will see households making the decision firm; firms typically consist of many individual, but most of the time they make decision as one unit, when we are talking about internal structure of firm then of course, we have to focus on different individual making that firm, because we want to study their actions, but when we want to study the interaction between these 2 firm here we can safely assume that firm is acting as one unit.

So, we talked about firm as an individual. Some time even state, when let us say government of India decides to purchase fighter planes from some European country France or Britain there of course, there we are not talking we are not focusing on the decision making process

that government of India went through, some of people might have supported one decision, one choice some of them might have supported some other choice, but if we are studying that then we cannot take government as one unitary agent, but when we are talking about the government of India, interacting with the firm selling fighter planes then I can say government of India is unitary agent.

So, we will take it as individual. So, you see we make a lot of simplification in the next class I will talk more about the simplification and abstraction. I just want to focus 2 important characteristics of this economic individual one is rationality, and second is self-interest. What is rationality? 2 ways to look at it one through method and second through result. If we look at it through method then the decisions are made based on some will thought reasoning rather than based on emotions, habit or reaction. So, that is if we make decision based on reasoning then we will say that the person is being rational. And second is based through using result.

So, here we can say action that leads to desired result is rational action, but here one thing you should pay attention to that these 2 are not the same. They are different. Let us take an example, let us take an example where it would become clear that the definition of rationality using method is different from definition of the rationality using result concept.

So, let us say that there were 2 thieves named, just for fun sake you can name them Ranga and Billa. And they were caught robbing a bank, and inspector Vijay brought arrested them, but the problem is that inspector Vijay does not have enough evidence to prosecute both Ranga and Billa for a bank robbing. The maximum that Vijay can do is to prosecute them for breaking the lock and that is let us, say is a minor crime in comparison to robbing the bank.

So, what Vijay can do Vijay can separate them into 2 different cells and offer them an incentive and what is incentive we will get into the definition in the next lecture, but let us say that Vijay can say that you know to Ranga that if you confess and Billa does not confess then you will get to walk free, because Vijay will use that evidence to get to convict Billa; and Vijay can offer the same deal to Billa if Billa confesses Billa gets to walk free, but Ranga gets heavy punishment and if they both get if they both if they both confess then both of them get a punishment that is higher than the punishment for a minor crime, but not as much as when one person only confesses.

So, let me write the payoff here, and I will explain what does it mean, if both of them do not confess it means then Vijay cannot prove that they were trying to rob a bank Vijay can

prosecute them only for breaking the lock and let us say the punishment is one year in jail both of them get one year in jail. And if both of them confess then both of them get 5 years in jail, but here is the catch if only one of them confess then what happens that the person who confesses gets to walk free and the other person gets 10 year in the jail.

So, I hope now this story is clear to you. So now, let us look at it if, we pay attention to this result what should they do they both should they should not confess both of them should not confess, but now let us look at the process, let us pay attention to Ranga let us say this is Ranga, and this side we have Billa and the first payoff is for Ranga and second pay off in any box is for Billa.

So, let us say Ranga is thinking now Ranga may think what Billa may do let us say one option is that Billa is going to confess, then what should Ranga do? Let us say, Billa confesses by confessing Ranga would get 5 years and by not confessing he would get 10 years. So, he is better off by confessing. So, he is going to confess. If he thinks that Billa is going to confess what let us look at the Billa's other action, Billa is not planning to confess and Ranga is thinking about this. So, Ranga thinks that Billa is not going to confess. So, if I confess I am going to get 0 here while if I also refuse to confess I will get one year in jail better off by confessing.

So, Ranga is going to confess. So, no matter what Billa does Ranga is always better off by confessing and by the same logic Billa would go through the same logic and Billa would figure out that he no matter what Ranga does he would be better off by confessing. So, he is also going to confess. So, both of them would confess and they would end up they would both get 5 years in jail rather than getting one year in jail. So, the method sometime may not lead to the best result, but in economics we are going to focus on the method rather than the result. So, in the next class we are going to start with self-interest and then we will talk about the techniques that we use in economics.

Thank you.