

PRINCIPLES OF BEHAVIORAL ECONOMICS

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Week 01

Lecture 01

Hello everyone, this is Sujata Kar. We are going to begin with the first lecture of the course on introduction to behavioral economics. The first lecture is going to deal with, uh, basically an introduction where we'll be talking about what behavioral economics is. And why do we need behavioral economics? The significance and importance. Throughout the introduction, there are several modules, during which we are going to talk about the relevance and the emergence of behavioral economics.

So this is just a small part of it where we are going to start with what behavioral economics is and why we need it. So behavioral economics applies psychological insights into economic judgment and decision-making. It aims to describe how real people make decisions in their private and public lives under various constraints. Such as time, knowledge, cognitive processing limitations, or social pressure. At its most general level, behavioral economics uses insights from the social sciences.

For example, sociology in general and psychology in particular to inform economic thinking and theorizing. And here in this context, I must say that a lot is taken from psychology. It takes knowledge from judgment and decision-making research. To develop realistic assumptions about how people typically think, feel, and act.

Social psychology plays a large part too. So here you can see that 'realistic' is in italics because we want to emphasize this word. Behavioral economics, to some extent, tries to set itself apart from mainstream economics or standard economic theories under the pretext or assumption that the assumptions made or followed in standard economic theories are most often not really very realistic.

So as a result of which, in order to bring in more realism to the theorization, behavioral economics basically takes a lot from the area of psychology. It makes predictions that can be tested either in the laboratory, where controlled studies with experimental manipulations are possible, or in the field, where observational or experimental studies can be conducted.

We will discuss these methods—laboratory experiments as well as field experiments—in detail later. But in this introduction, we briefly mention that one such methodology or different types of methodologies include laboratory experiments as well as field experiments. Field experiments are especially popular when controlled research is conducted in a real-life context. For example, researchers may observe farming communities to examine the factors underlying cooperative behavior—quite literally in the field.

Increasingly, behavioral economics research is incorporating knowledge gained from neuroscience, the direct study of the brain in relation to psychological processes. However, in this course, we will just touch upon some concepts of neuroscience and not actually deal with or rather delve into it in great detail. We would rather focus more on field experiments as well as laboratory experiments by providing some examples.

A more cynical view is that behavioral economics is little more than repackaged psychology couched in terms more amenable to economists. And there is also the suspicion that it is used to impress those in business and government who hold economics, but much less so psychology, in high regard. So, since in the field of business and government, economics is actually a well-regarded subject and psychology is probably not considered to be very relevant,

behavioral economics is assumed to be a repackaging of psychology. This is done in order to suit the purpose of economic understanding, planning, decision-making, prescriptions, and so on. Though there is some truth to these claims, and of course opinions may vary, it is very far from being the whole story. You will gradually see that it has, you know, very many dimensions.

And it tries to actually approach reality to a large extent. As a result, we cannot call it just repackaging of psychology couched in terms more amenable to economists. Behavioral economics can be defined as behavioral science applied to the problems of economics. Choice under uncertainty aims at maximizing some benefit by the optimal allocation of scarce resources. So here we are trying to differentiate between behavioral economics and behavioral science.

Behavioral economics is basically the application of behavioral science. Behavioral science is a much broader field. Although potentially any aspect of behavioral science can be applied to economic matters, in practice, not all of behavioral science is actually used.

Behavioral science is vast, including not only psychology but also communication science and related academic fields.

So only some parts of behavioral science can be observed in the area of behavioral economics in terms of its applications. Now, talking about applications, consider the COVID-19 pandemic that motivated people to change their behavior in reaction to changed incentives. So it's like people wanted to maximize their utility in terms of living a longer, healthier life; people needed to change their behavior.

They needed to accept a lifestyle to which they were earlier not familiar. That is, during the lockdown, we lived in the confinement of our houses for a long, long period of time. Then, of course, we were used to maintaining certain distances socially. We were forced to use masks and hand sanitizers. So the practices which were not there previously came into our lives in a huge amount.

So a lot of lifestyle habits actually changed. And that is something we agreed to do because we wanted to live long. We wanted to maximize our utility in terms of having a better life, expecting that once COVID-19 gets over, we would again get back to normalcy. People had to make choices under considerable uncertainty because we did not know what was going to happen tomorrow. The way the disease was spreading, nobody had even the certainty of living tomorrow.

And actually, many people experienced huge losses in their lives in terms of the loss of their near and dear ones. So those were the uncertainties people had to deal with. There was talk in government about the possibility of behavioral fatigue and people adopting less healthy life choices. The COVID-19 pandemic is just one example of how utility is not just about money. It can be quite literally about life and death as well.

We are talking about this specific point that utility is not just about money. Because later on, you would see that there are also discussions on how mainstream economics actually focuses on money as a means to measure all sorts of utility. Satisfaction or dissatisfaction from something or everything can be measured in terms of money, and as a result, that makes our decision-making processes much easier.

But other than that, we would try to prove that there are a lot of psychological dimensions in the concept of satisfaction or utility, which has less to do with or nothing to do with money. So, the COVID-19 pandemic could be just an example of how utility is not just

about money, it is actually sometimes about life and death as well. What do we mean by 'behavioral' in the context of economics?

Charlie Munger, the partner of Warren Buffet at Berkshire Hathaway, said, 'If economics is not behavior, then what is it?' So, basically, there are a lot of behavioral components in economics which might have been ignored by mainstream economists for a long, long time, but historically, that has not been the case, which we will also show you later in later modules while discussing the history of economics as well as the evolution of behavioral economics.

There are two opposing views on this matter. The first goes back to the founding father of economics, Adam Smith, who showed how economics could be seen to represent a system with various, often hidden components. For example, the government may increase taxation on sugar to discourage its consumption. So basically, there are hidden components in the sense that when the government imposes taxation on sugar

then the hidden agenda is to discourage consumption. Similarly, as you all must know very well, the taxes on tobacco consumption and taxes on alcohol are very high because the government understands that regardless of how much we try to stop people by imposing taxes, people would still consume these commodities if they are addicted to them. So one point is that this is going to increase government revenue, and the second point is that

very high taxes may discourage at least some sections of society from reducing their consumption of tobacco and alcohol. So Adam Smith, who showed how economics could be seen to represent a system with various, often hidden components. Of course, there are components which are not hidden, but there is also a possibility of having components which are hidden, In this way, people are rather passively influenced by the pulls and pushes of the economic system.

So basically, he talked about an economic system where people are forced to do something. Of course, everybody pursues their own interest, their own benefit. Nevertheless, there is greater aggregate benefit resulting from the pushes and pulls created by the government. Continuing with behavior in economics, the second opposing view is that the economic system reflects the collective decisions of people. It is influenced and defined by their behavior.

In this way, if we can change people's behavior, then the system's dynamics can be changed. So basically, the previous example of imposing taxes on sugar in order to control

that, is basically an example where the economic system reflects the collective decisions of people. Basically, it is influenced and defined by their behavior. So when collectively people decide to reduce the consumption of sugar, that is a collective benefit for the society.

As well as that, it increases the tax revenue of the government. It is also possible that when people collectively behave in a certain manner, then that also influences the economic outcomes at the aggregate level. This view sees people as active agents, and the economic system, to the extent that it exists in some independent form, is always playing catch-up. So we can also see that some economists tend to have less crime and less corruption.

So people's behavior, their civic sense, their love for their country—that's why, that's what might be driving them to be honest—are also impacting the economic outcome. So those economies are actually doing far, far better than economies which are laden with a huge amount of corruption and crime. So, as a result of which, what we are trying to say is that people here are active. People here are acting as active agents in the economic system, to the extent That it exists in some independent form, is always playing catch-up.

So, the economic system is catching up with the behavior of the individuals. Whatever view we may prefer, behavioral economics is very much of the opinion that people's behavior heavily influences the economic system. So, as we discussed, the economic system tries to influence people's behavior, and then the opposing view is also there. Where the people's behavior influences the economic system. Now, there are certain conflicts.

Basically, conflicts—I'm going back to the conflicts between economics and behavioral economics. So, behavioral economics—we may refer to it as BE—reflects the combined work of psychologists and economists, Although both belong to the wider social sciences, typically they think, theorize, and research in very different ways. This poses a problem when we talk about behavioral economics because often we are talking about the extension of psychological ideas to matters of economics. Some mainstream economists claim that such ideas have little to do with real economics.

Nonetheless, psychologists have made major contributions to behavioral economics, for example, the Nobel Prize-winning work of Daniel Kahneman. But, it is not only psychologists who are challenging mainstream economics. Many behavioral economists come from a mainstream economics background, for example, George Loewenstein and Richard Thaler. They are far from satisfied with the standard assumptions and models and instead apply insights from behavioral science to improve economics on its own terms. So

basically, both sets of behavioral economists—those with a psychology background as well as an economics background—

if they are not satisfied with the mainstream understanding, assumptions, and the way the models work there, then they might be opting for alternatives through which behavioral economics actually emerged. Some behavioral economists, for example, Dan Ariely, are psychologists who are less wedded to the belief that central economic principles need to be retained, while those trained in economics prefer modifications to the existing theories instead of discarding them altogether. So the conflict actually is in terms of how much of mainstream economics needs to be retained or whether it should be completely discarded or not.

And what we are trying to discuss here is that behavioral economists coming from a psychology background are more of the opinion to go for complete disregard of mainstream economics and come up with a completely new area as behavioral economics, which might not have any connection with mainstream economics. But those who come from an economics background and are just disillusioned by mainstream economics, they may prefer basically combining the mainstream with behavioral economics, and then they suggest that behavioral economics must get aligned with mainstream economics instead of completely disregarding it.

That could be primarily because of their training in mainstream economics, or it could be due to certain nostalgia associated with it. Whatever it may be, we would also gradually see that it's actually not worth completely discarding mainstream economics. Instead, merging both is actually quite a valuable and insightful idea. Okay, so the next question is: if there is any chance of merging mainstream economics with behavioral economics, then the question is, why do we need a separate stream of behavioral economics?

We could just have modified mainstream economics, calling it economics as usual. But regardless of our perspective, behavioral economics was brought into existence by the increasing weight of evidence from strange observations or anomalies, as we can call them, and odd facts that the mainstream economic approach struggles to explain or even comprehend. So we can call them misbehaviors.

Such aberrant judgments and decisions are reflected in the fact that too often, we do not follow through with our best intentions. For example, New Year's resolutions are one annual example. They are now something of a ritualized illustration of the failure of willpower. So these are, for example, anomalies.

Every human being, they probably go for a New Year resolution. And most often we find ourselves not able to fulfill the resolution. Then the point is that why we every year still make another resolution. That is the first point of anomaly. Second thing is that when we form the resolution, we must have in mind that we want to achieve it, having some good intentions and a good purpose in mind.

So that basically is expected. The fulfillment of the resolution is expected to add to our well-being, add to our satisfaction or utility, the typical term used by economists. Now, the point is that if we really believe that this is going to improve my well-being, then why do not I stick to it? Why we fail to fulfill our resolutions? So these are basically certain anomalies which behavioral economists observed at the first place and then they try to answer.

And even when we appear to have a definite preference for something, for example, saving for retirement, we do not always act in a way that maximizes the desired outcome. So again, you can see that this is another anomaly. We all know that when we will be retiring, there will not be any steady flow of income. So we should make arrangement for retired time so that at that point of time also there would be some regular cash flows coming into our lives in order to keep our life quite comfortable. But still, it has been observed that most people fail to save for their retirements. Why is it so? So these are misbehaviors; these are anomalies which are not explained by mainstream economics.

We procrastinate and misjudge probabilities. For example, we think we may not live to enjoy the benefits. And fall prey to a number of biases that serve only to illustrate our inability to conform to the image of the idealized rational economic agent. So basically, we conceptualize ourselves as something like an idealized rational economic agent. As a result, we take resolutions, we decide on certain things, but then our problems are that we procrastinate, misjudge probabilities, and as a result, We also suffer from several biases, and these actually stop us from doing the best things—those which are best suited for our purpose.

We often live for today. So often, it seems that tomorrow is another day that can be neglected, and sometimes we just seem to do things all wrong—and importantly, systematically so. So, of course, when you watch the video, you would also understand or realize that we all make certain decisions which are wrong in life. How do we end up doing things which are wrong if we are actually completely rational human beings, as

hypothesized or conceptualized by mainstream economists? Why do we make wrong decisions, and why do we do it systematically?

That is, at times, even after deliberating on certain things, we make wrong decisions. We keep on making wrong decisions successively. Like each year, I make a new resolution, and I do not stick to it. So we are doing it systematically. Why is it so?

Now, taking a cue from that, what behavioral economists design or think of and what mainstream economics consider, we can have two types of individuals: ECON versus HUMAN. To understand the different conceptions of mainstream and behavioral economics, it is convenient to contrast the depictions of ECON—the full form is homo economicus. and Human or homo psychologicus. These are depictions or caricatures of the two types of minds thought to be important in behavioral economics. Because prior to behavioral economics, we only had rational individuals who could be called ECONs.

But when we realized that actually the way mainstream economics considers us to behave. We do not behave in that way. So, we are basically more humanly. How HUMANS generally behave.

So, that is how the concept of HUMAN came into existence with the concept of behavioral economics. Mainstream economics emphasizes ECON. How are the ECONs? They are cold, rational, calculating, and self-interested beings. On the other hand, psychology focuses on HUMAN.

Humans are flesh-and-blood beings who are limited in processing capacity and prone to a number of biases, errors, and influences. And they are emotionally warm and sometimes hot in how they make decisions. So decisions are not always perfect because we are emotionally warm and sometimes hot. So when we become angry, we do something for which we repent later on. But that's the point.

We are not always rational human beings. We are not always, you know, cold, rational, calculating, and self-interested beings, which are termed as ECON. Rather, we are more like normal human beings, the way we are. We make mistakes. We at times get angry.

At times, we do a lot of things out of sympathy. For example, we do charity out of sympathy. Sometimes in our charities, people cheat on us because they encash on our sympathies, so that kind of mistake we also make. other than that we are also prone to a number of biases, errors and we are often influenced by individuals individuals. Friends or

family members ask us to do something, and we do it, even if it might not be the best thing for us.

So these are normal decision-making processes through which every human being goes. So we see that behavioral economics is about how people actually behave. It is clearly concerned with flesh-and-blood humans who often do not seem to know what they want or how to get things done in the most logical and efficient fashion. The other, mainstream economics perspective focuses on how people should behave. In its purest form, ECON makes rational decisions that conform to logic; ECONs are self-interested and weigh costs against benefits to maximize their own benefit.

Unlike the seemingly wayward HUMAN, ECON is analytical, intelligent, disinterested, and not influenced by bodily states, mood, emotion, or things like that. As Richard Thaler stated in an interview, 'I believe that for the last 50 or 60 years, economists have devoted themselves to studying fictional creatures.' They may as well be studying unicorns. So please note that this is 50 to 60 years because, until the end of the 19th century, economists were not really that preoccupied with mathematical modeling, devoiding economics of psychological understanding or concepts.

This actually proliferated the branch of economics from the 20th century onwards. And behavioral economics started gaining ground from the 1960s and 70s onwards. And that's why roughly we can consider a period of 50 to 60 years during which economists devoted themselves to studying fictional creatures. But if ECONs are those fictional creatures, then why do they exist?

One possible reason is that science often works by holding simplifying assumptions. That reduces the complexity of the manifest world by creating constructs of a more abstract and latent or hidden nature. Second, a more human reason is that mathematical prowess has become something of a badge of respectability in the economics profession and serves as an important career-enhancing function. So the first point is that, as in most mathematical models, we need to begin with some kind of assumptions. So the more we started adopting or incorporating mathematics into the subject area of economics,

the more we started getting away from reality because we needed to make certain assumptions in order for the models to work. The real world is actually much more complex. It's nearly impossible to work with the real world. So certain assumptions are required. But then, as the assumptions became more and more restrictive,

we actually moved farther away from reality. But why did we prefer mathematical exposition? The reason is that mathematical prowess has become something of a badge of respectability in the economics profession and serves as an important career-enhancing function. During the 20th century, mainstream economics increasingly adopted a mathematically inspired conception of the world. In this, certain assumptions had to be made in order for the equations to work.

They had to be tractable. This permitted formal theorizing, expressed in the language and logical machinery of mathematics. Mathematical notation charmed and impressed the profession, and at the same time intimidated those who challenged its basic tenets and general worldview. Now the question is: does ECON exist in reality? So if ECON does exist, then there really would be little need for behavioral economics.

It could be relegated to the conscientious study of psychological trivia with few real-world applications. So mainstream economics would actually prevail, and we would not need something like behavioral economics. To the extent that mainstream economics does accept the existence of humans, it assumes they aspire to be ECONs in all important respects, especially when the stakes are high and important decisions are being made. So basically, we all want to be perfect.

So even though we are humans, we actually aspire to be ECONs. And that is more so when the stakes are higher. For example, when I plan to buy a property—I plan to buy a house—then of course we get into a lot of calculations. The decisions are taken by considering a significant amount of time. A lot of information is collected from various people—from various sources

and other sources from where I think I can get genuine information, and accordingly, a decision is taken. So the decision is not made out of emotion or state of mind when I am hot or agitated. So these decisions, which involve huge amounts of money, are made after a lot of deliberation. And as a result, during those times, we actually try to be as rational as possible. So basically, we try to become more like ECON.

So the concept of ECON may then retain some of its importance or relevance. Economists must also assume that humans manage a good enough approximation to ECON to make mainstream economic models work. Some behavioral economists from both psychology and economics backgrounds believe that the ECON model is simply unrealistic, containing an imaginary fictional creature only to be found between the dust covers of an economics

textbook. Where typical forms of HUMAN thinking, feeling, and behaving are largely ignored and, when not ignored, disparaged as irrational.

It is possible that people move between these two states, and these simple depictions do not do justice to the true variety and complexity of behavior. So this actually makes much more sense—that sometimes we are HUMAN, but sometimes we are ECON also. We try to be ECONs. HUMAN depiction is more concerned with descriptive and positive aspects, that is not what ought to be, but what is.

Descriptive and positive aspects are those that describe what something is. David Hume, who formulated the idea that you cannot deduce 'ought' from 'is' in his most important work, 'A Treatise of Human Nature.' So basically, he said that you cannot deduce 'ought' from 'is.' For example, Think of cancer, which basically 'is'—it exists—and what we 'ought' to do about it.

We cannot think about why cancer is there and what should be there in place of cancer. When cancer is there, we need to think about how to destroy it, how to get rid of it, and how to cure an individual from cancer. This is what is implied by 'you cannot deduce ought from is.' One of the problems in understanding behavioral economics is keeping these two perspectives in mind simultaneously because both have their merits. Now, talking about misbehaving, as we have already mentioned, when we are humans, we do a lot of misbehaving.

Richard Thaler, in his 2016 book 'Misbehaving,' contends that behavioral economics is all about misbehaving, by which he describes how human economic agents deviate from the ECON model predictions. This book probably originally came out in 2015, but I refer to the 2016 publication. That's why I mention it here as 2016. Thaler spent much of his early career cataloging such misbehaviors, what he calls 'supposedly irrelevant factors' or SIFs. We will be taking a few examples of SIFs.

For instance, in a student essay marked out of a total of 100 or 137 marks, Thaler found that his students often preferred 96 out of 137 over 72 out of 100 possible marks. So people are preferring 96 out of 137 over 72 out of 100, while 72 out of 100 is 72 percent and 96 out of 137 is 70 percent. So these are irrational behaviors, and he noted that these were economics students who are otherwise thought to be rational, but then why are they preferring 70 percent over 72 percent? Now there are several biases here. First of all, as I just stated, 96 is bigger than 72. So it is easy to see that 72 out of 100 is 72 percent, but 96 out of 137...

What is the percent? Unless I mention it here, you will not be able to quickly find out what the percentage of 96 out of 137 is. So many of us would need a calculator. This simply means that since understanding the percentage of 96 out of 137 is not really that easy, you will have a cover. Basically, 72 out of 100 tells you directly it is 72 percent, but 96 out of 137 tells

nobody what the percentage is directly or immediately. From a strictly rational point of view, this is misbehaving, as 72% is always better than 70%. But it is not the way students see things. That is because they actually prefer the numbers that are not readily convertible to percentages. Let us consider another SIF.

It is about saving \$10. We will consider similar experiments conducted by Kahneman and Tversky later in some other context. Consider an individual, David, who is shopping for a clock radio for \$45 in a local shop. The shopkeeper informs him that the same product can be bought at their new store, a 10-minute drive, for a special price of \$35. So basically, if he drives for 10 minutes, he would arrive at a store

where he would get the product at a price that is \$10 lower than the price he is charged in this store. On another occasion, while shopping for a flat-screen TV from the same store for \$495, David is informed that he can buy the same TV for \$485. Again, a saving of \$10 at their newly opened store, a 10-minute drive away. The thing to note here is that it's always a 10-minute drive in both cases,

and in both cases, David is going to save \$10. When posed with these choices, it is observed that many people are willing to take the 10-minute drive to save \$10 on the clock radio but not on the TV. So, basically, people are willing to save \$10 out of \$45 but not much interested in saving \$10 out of \$495. This is a completely irrational decision according to standard economic theory. This is irrational according to mainstream economics because \$10 is always \$10. You are going to drive for 10 minutes in both cases.

So if you are willing to save \$10 here, you should be willing to save \$10 here as well. But what people do is they compare the Rather, they go for a comparison between the percentages saved. So here, you are saving \$10 out of \$45. Here, you are saving \$10 out of \$495. So, you basically do not think that saving \$10 out of \$495 by driving another 10 minutes is worth it.

But this is an anomaly from the perspective of mainstream economics. SIFs are not recognized by mainstream economics. Thaler, in his 2016 book, noted that the premises on

which economic theory rests are flawed. First, optimization problems that ordinary people confront are often too hard for them to solve or even come close to solving.

Mainstream economics basically suggests that people generally go for utility maximization, which are most often optimization problems. But the thing is that most individuals around us are not familiar with optimization problems. Even if they are, they won't go for mental calculations. Just imagine how many of us actually do optimization or solve optimization problems before making any purchases.

We really do not. And as a result, we make certain decisions that are probably not supported by mainstream economics. And they would be called SIFs or simply irrelevant factors. Second, the beliefs upon which people make their choices are not unbiased.

Overconfidence may not be in the economist's dictionary, but it is a well-established feature of human nature. And there are countless other biases that have been documented by psychologists. So overconfidence and other biases often influence our decisions, which are not taken into consideration by economists. Third, there are many factors that the optimization model leaves out. There is a long list of things that are supposedly irrelevant.

Mainstream economics tells us that the values we attach to all things in life can be expressed in monetary form. This is reflected in the willingness-to-pay concept. So those who are from an economics background would understand that willingness to pay is basically the maximum amount of money someone is willing to give up in order to obtain a good or service or to avoid a bad outcome. It can be used to evaluate outcomes that are inherently non-monetary.

For example, the benefits resulting from healthcare programs. The idea that good and bad can be measured in monetary terms makes it possible to compare the satisfaction, happiness, or utility of one thing with another. So this is the thing I was talking about a few minutes ago—that economics actually puts a lot of emphasis on monetary terms. Everything can be evaluated or converted into monetary terms in order to facilitate comparison. So there comes the

importance of money in mainstream economics. But behavioral economics could treat money from a very different perspective or may not necessarily always associate money with everything that we pursue or from the things from which we derive satisfaction or utility. To present the behavioral perspective, we begin with a study by Camerer, Babcock, Loewenstein, and Thaler conducted in 1997.

It basically involves New York taxi drivers. This study found that taxi drivers, especially the inexperienced ones, tended to set themselves a daily target income and then stopped working once this target had been met. The drivers usually would hire their taxis for 12 hours per day, but it's not necessary that they would be driving for 12 hours. So they set a target for every day in terms of the money earned. Once the target is fulfilled, they would stop working.

Now, this occurred irrespective of the early earnings potential which varied from day to day depending on weather conditions. For example, on a rainy day, there must be higher demand for taxis. The rates could also be higher. So, first of all, you may get more orders.

The second thing is that per-order prices must also be higher. So, as a result, any taxi driver or most taxi drivers would be able to fulfill their target income for the day much more easily when there is you know, when there is bad or poor weather. So, this field study is notable for several reasons. First, the findings contradict one major mainstream economic theory of labor supply called the life-cycle model.

But we are not going to discuss the life-cycle model here. I will discuss it under mental accounting in detail. What you observe broadly is that taxi drivers can earn more by driving more on a rainy day, but they refrain from doing so as they have a target income and stop driving when the target is fulfilled. So, this is completely irrational from the perspective of mainstream economics. But what it shows us is that utility is not just about acquiring money.

Rather, it can be the opposite. There are other things that you or we may value more. We may decide to give money to charity. So, it's not always necessary that having money gives us more pleasure. We can also get pleasure by doing something for someone in need or for the socially deprived.

We do it because by doing such things, we gain utility from the 'warm glow' derived from this donation. We may also get further psychological utility from letting the world know about our good nature. Therefore, money and psychological utility are independent, although this may depend on one's level of wealth. Further, what the selfish rational person considers important to themselves defines their utility,

this need not always be money, and this determines how they allocate their scarce resources. For example, time and effort. So, looking at it from the perspective of taxi drivers, they might not be willing to or might not be focused solely on earning money. For

example, they could also value spending time with family. For this reason, viewing the total utility of taxi drivers purely in financial terms is inappropriate. Broadening utility beyond pure income renders the judgments and decisions of taxi drivers not so irrational after all.

With the broadening of utility, there are several psychologically interesting things here. For example, working on a bad day or when the weather is bad is harder work and the chances of accidents must be higher. Both are expected to reduce the broader notion of utility described above. So basically when you think that there are greater chances of being or experiencing an accident from which you would be receiving greater disutility and that may disincentivize you to work more. Further, many drivers want a regular working day that is predictable and to disrupt this may reduce their overall quality of life,

like missing out on time spent with family or on social or leisure pursuits that have a higher level of utility. I mean, we need to consider the concept of opportunity cost here. Basically, the benefits associated with the foregone alternatives. The loss of valued time with family, friends, etc. can never be recovered and as a result of which we may not get always utility from earning only money, but we may value other things that are also important in life.

So, this is why we see that the way mainstream handles money or understand money could be very different from how behavioral economics might look into money. With this, I come to the end of the first lecture or module 1. These are the references that I have followed. Thank you for your patient hearing.