Health Economics

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Lecture 26- Introduction of Behavioral Economics

Welcome again, friends, to our NPTEL MOOC module on Health Economics. We are taking a little departure from the conventional understanding of health economics by including the section on behavioural economics. Again, within behavioural, there is also disaggregation. We will discuss what is called the conventional approach and what is a non-conventional approach. So the target here as a base for the previous unit is that we covered financing, especially in the previous unit, financing and healthcare insurance. This week of our course, we will discuss behavioural health economics.

This lecture covers the Introduction and identifies the relevance of behavioural economics compared to traditional economic theory. So, behavioural economics is impossible without citing the context called Nudge. However, Nudge, the name authored in 2008, mentioned that homo economicus could think like Albert Einstein, store such memory as IBM's Big Blue and exercise the willpower of Mahatma Gandhi. Hence, this has given me a very different perspective.

So, we considered citing this and will use this Nudge theory in our discussion. This behavioural economics tries to improve economic theory and policy by drawing mainly on psychological or behavioural insights on how real people think and behave instead of the idealistically rational. So, one context is very important in our economic decisions or economic theory; the fundamental assumption is that the particular person should be rational. However, in reality, this is not the case at all times. The person might take decisions in an irrational structure as well.

So, we are going to discuss what you mean by rational and what you mean by irrational assumptions. Generally, the economic model assumes that humans are rational and predictable, but we are, unfortunately, not as smart. We often make not-so-rational decisions. You can also refer to the illustration work given by Pranjal Kulkarni, India Behavioral Economics Network. So those designs etc., are taken from this. We are just hand-citing so you can refer to the speech and clarify further.

Regarding some nudges or behavioural perspectives, we just cite some illustrations here. Emphasizing scarcity often leads us to fall prey to marketing tactics. You might have seen

that in online stock, sometimes, they write that stock is finishing shortly, and you reserve your booking.

So don't miss out on the last day or limited time offer etc., they used to give. Similarly, they also indirectly market with the word very rare, you must buy; these are the common words. And similarly, they use a direct approach called a special offer, your end limited entry and only ten spots are left etc. I usually mention.

Another way of looking at the marketing or the behavioural prospect is as follows: I think I will buy this outfit, and somebody else is giving you the direction that you will look very good while buying. So it tempts people to go for a purchase. Similarly, in different food chains, you will find a number of directions for marketing like it is written as treat your parents for no reason today. Sometimes, we follow behavioural marketing tactics, like destination, wedding, etc. Look at the word we follow in the illustration of Pranjal.

Look at all these celebrities' weddings in Rajasthan. Another couple might consider extending and going for a wedding of such variety. Another one, maybe we should have our wedding there too. That is why it is indirectly tempting. Sometimes, some incentives are given, like if I work faster, I can skip the rush hour and find a seat in the metro.

You might have seen the problem in Delhi and even Mumbai, all such metro cities. So there are rush hours; if you work relatively faster your task might be completed, and you will get a seat in the metro. And that works as a simple nudge on how you can go for the effectiveness of your work. Given all such background understanding of some behavioural incentives or nudges, we are happy to introduce you to the chapter or unit Introduction to behavioural economics. So, the model of economic behaviour we have considered in this course is restrictive in a number of ways.

It assumes rational economic agents. Agents can comprehend risk and uncertainty perfectly. Agents are assumed to be self-interested. However, in real-life situations, an agent may deviate from this rationality and make irrational decisions. Hence, the branch of behavioural economics is important where decisions are still taken out of the irrational behaviour; the branch of economics that incorporates insights from human psychology into models of economic behaviour is called behavioural economics.

And this is used to help us understand why our models may not make the predictions we think they should in some cases. Let us compare this to traditional and behavioural economics by the concept of who the people are by market, the world, and policy tools. Starting with the concept, the traditional one is based on classical and neoclassical thoughts, whereas the behavioural one is based on psychology or interdisciplinary concepts. Coming to the people and their choice, in the traditional one, it is rational, I think we have emphasized already. In other cases, however, it is not always rational; there are systematic deviations from rationality.

So, we will discuss bounded rationality, heuristic biases, and prospect theory in our lectures. In the traditional case, when we say rational, rational agent theory etc., rational agent theory, homo economicus, and expected utility theory are part of the discussion. So, we will start with the expected utility theory and then extend it to the non-rational context, such as bounded rationality, heuristic, biases, etc., and even prospect theory.

The market so far is concerned in both cases, and in the traditional economics context, the market is considered to be efficient. Hence, the efficient market hypothesis is studied. Another feature is that there is no free lunch. In the case of behavioural economics, there is empirical evidence of overreaction, underreaction, market bubbles, etc.

, are part of it. Hence, there is a possibility of a market crisis, and some concepts called crowd psychology collective behaviour are part of the market discussion. And in the traditional one, it is possible to calculate, or it is called calculable, whereas in behavioural economics, it is fairly complex. In terms of policy tools, this is the traditional, typically legislative enforcement. In contrast, in the case of behavioural one, it is based on the Nudge or the intervention or the libertarian paternalism or choice architecture etc. So you can understand through an example, like if you work for the National Center for Disease Control, and its job is to keep people in India safe from disease, a sudden flu-like disease breaks out in Delhi. Your best estimate is that 600 Delhiites will die from the disease if no government action is taken.

Your research team gave you two program choices to counter this outbreak. You must choose among the two choices in each program. There are two possible responses to the crisis of each program, and each causes the same amount, but one can only be chosen due to resource constraints. Hence, we are just mentioning the two programs for your understanding. Response A will save 200 people for the first program, and response B is risky.

It has a one-third chance to save all 600 people but a two-thirds chance to save no one. So, one-third where you can save 600 people. So, as per program one, if that is the composition you choose out of A and B, then we will check for program two. So, starting with program A, it is for sure that the program will save 200 people. However, another approach is to take another response with some risk.

So, we will be including this risk aspect in our calculation. Similarly, in another program, response C mentions that 400 people will die for certain. And in response D, there is a one-third chance that no one will die and a two-thirds chance that everyone will die. So then, obviously, we will try to find out which one is indeed chosen from these two programs. So, the framing was different in the two programs, but the content for each choice in a program is the same; we will just clarify.

Most people in the program choose A because there is hardly any risk. In the other case, C, 400 people will die. It is just against the approach we have seen. It is related to saving; it is related to dying. Hence, the person's choice will be reversed when we take another side of the case.

So, in response, D, there is at least a one-third chance that no one will die and a two-thirds chance that everyone will die. So, at least, there is a probability context for saving some lives. Hence, response D is the most chosen. By manipulating how alternatives were framed, researchers could alter choices dramatically. So, the framing was different in the two programs, but the content for each choice in a program was the same.

So, we are explaining the development of behavioural economics over time and in different contexts. So, as I already mentioned, it is an interdisciplinary one, and it intersects economics, psychology, sociology, and neurobiology. So, the internal intersections highlighted here are economics with psychology and psychology with sociology and neurobiology. So, starting from its scientific basis, counting by their year, the first stage refers to the period 1960 to 1970; in different Carnegie schools, the concept of limited rationality or the behavioural theory of form was noted. So, Carnegie schools are referred to in this context initially, then later on for the period 1970, which is related to Kahneman, Tversky, and Thaler and is interdisciplinary mainly research.

The emergence has already received the Nobel Prize and the emergence of economic experiments, behavioural finance, the flowering of cognitive psychology, etc. In the later part in the third stage, the work mostly referred to Libson and Jack, the emergence of neuroeconomics, and the popularization of a new way of cognition. It is, again a very deep conception of behavioral science. Its scientific basis refers to its Friedman economic theory and expected utility theory, as well as its origin of cognitive cycles, etc. In between, due to technological changes, there have been some changes in the design or structure of behavioural economics.

So, there are different papers and findings; however, the work is still very limited. The socio-economic foundations are very relevant; the emergence of the mainstream economy and then the improvement of the population's welfare is accompanied by some possibly rational choices, the growing role of state in the economy and the growing demand of society for new theories, etc. We have referred to the article for your better understanding. As I already said, it is based on rationality; however, we need to just specify the difference between these two, homo-economic and humans. So rationality, self-control, selfishness, stability of preference etc.

So far as the homo-economic is concerned. But humans may go for predicted irrationality and limited cognitive skills, emotions, social norms, morals etc. Then also limited selfishness and variability of preferences as well. So we will be just discussing all sorts of things. Behavioural economics is concerned with systematic departures from rational choice.

Behavioural economists attempt to identify systematic biases that depart from rational choice, and the departure from rational choice can inform the development of more general descriptive models of economic behaviour. Models can be used to develop testable hypotheses and predict economic behaviour. Some systematic departures from rational choices are presented here as generosity and selfishness, paying attention to some cost, overconfidence, self-control problems, hyperbolic discounting and other biases. These are all important biases noted in the context of rational choices, with some systematic departures from rational choices in terms of biases like the framing effect. We will also give each of their examples for clarification. Starting with bias number one, called generosity and selfishness, the economic model of rational choice assumes rational self-interest where people often engage in the act of generosity and exhibit altruism.

These acts are motivated primarily by a concern for the welfare of others, such as donations to charity are the most obvious example, and economists have tried to include these in the model, for example, by adding someone else's consumption into your utility function and parents' utility depends on child's consumption. So that is where we address some sort of selfishness or generosity, etc., which can camouflage the market in a different form or different utility patterns. Another bias we have already mentioned is paying attention to sunk cost. As we all know, Sunk cost is considered a lumpy cost at the entry, which is usually not recovered as per the definition.

However, when the sunk cost is already incurred, it attempts but the person or the organization to indeed be attached even if there are some disturbances in the model. The sunk cost policy describes our tendency to follow through on an endeavour if we have already invested time, effort or money into it, whether or not the current cost outweighs the benefits. Even if the current cost outweighs the benefit because the sunk cost has already been incurred, we still have the bias of this one cost to continue and go for the production or consumption. The sunk cost fallacy is associated with commitment bias. Commitment bias means that once you are committed to any step, promise, or work, even if there are some nonpaying events or the events are costlier, but still seen because of the commitment, you are supposed to go for it.

The sunk cost fallacy is associated with commitment bias, where we continue to support our past decisions despite new evidence suggesting that they are not the best course of action. So, for example, imagine that you bought a concert ticket a few weeks ago for $50. On the day of the concert, you feel sick, and it is raining outside. The traffic will worsen because of the rain, and you risk getting sicker by going to the concert. Although it seems that the current drawbacks out of the benefits, why are you still likely to choose to go to the concert? We have already purchased a bigger ticket, which still influences our decisions.

Similarly, sometimes we have already purchased different combo packages or the entire package for that cereal, but in between, we find that cereal is not that interesting. However,

we always try to check if anything will be better, and we will try to complete that series. So, these are some of the examples. Another is overconfidence bias, a bias related to overconfidence when individuals believe that skill level and judgment are better than they truly are or expect that outcomes are better for them and are more likely to happen than they truly are, such as gym charges, etc. are taken every month instead of single day basis with the belief that or overconfident that or the over-optimistic goals are made to be utilized. But there are some events where people fail not to go and may not continue every time. So, because of the overconfidence in taking up the task, the person purchases the entire package. Hence, the gym takes advantage of this optimism by offering monthly memberships to make more money from clients who may not visit as often as they initially planned. So, the planning fallacy is part of the explanation. Indeed, the planning fallacy is another example of overconfidence, where people underestimate the length of time it will take them to complete a task and often ignore past experience.

That is also part of a different behaviour. So, another bias is called self-control problems and hyperbolic discounting. It used to be the case that the person takes the decision based on average or over. In reality, there are different courses of action and different periods. So when people make a decision based on now, they have a strong preference for now over future events. A 10 percent discount rate implies that $1 today equals 0.9 next year. So, there is evidence that many people have a higher discount rate when making decisions about immediate consumption. So, the bias is that there are different discounting rates, but they are not really encased or counted in people's minds. Hence, different decisions are taken. And that is basically called hyperbolic discounting. That is clarified as the tendency of people to place much greater importance on the immediate present than even the near future when making economic decisions.

This means that future decisions should consider the time discounting rate. Coming to the bias of this one problem that is related to the decision is called the decision stop being time consistent. Consistency in a consumer's economic preference in a given economic transaction, whether the economic transaction is far off or imminent. Consumers will specify their preferred exercise and diet routine for next week when they are not consistent with time. But then, when they get to next week, they want to stick with the plan they set up.

So now we are clarifying behavioural economies for health and healthcare and how these are specified in the healthcare context. In healthcare, people find it hard to understand important information when making decisions. Making a wrong decision can be a bigger problem; sometimes, people choose things that aren't best for their health in the long run. Behavioural economics' applications in health include organ donation, health insurance take-off, simplification of choice, reduction in tobacco use, obesity, etc.

You can go through the examples. So, especially in organ donation, I am just giving you the summary. Some countries have their own policy related to organ donations. One might be an opt-out system or an opt-in system. Indian context used to be an opt-in system where

people are given the choice to register for their organs to be donated after death. Countries like Denmark, Germany and the US followed the opt-in system.

Another one is mandatory registration; one has to fill out a firm declaration in his life when the person is alive that organs are to be donated. That is, if there are any, then at any time, they can write about their opting out policy or opting out action. They can write down that I am going to opt out of this. So, some countries follow this, like Austria, Sweden, France and Russia. The significance of behavioural nudges is substantial as they can assist individuals in recognizing their genuine preference for organ donation without biases.

The opt-out system has higher enrollment for organ donation than the opt-in system. Some of the reports we have just mentioned here. According to a 2003 report, the willingness to donate organs ranges from a peak of 80 to 100 percent in Austria and Sweden to a minimum of 4 to 20 percent in countries such as Denmark and Germany. So, enrollment in government-sponsored health insurance programs is another one we have already mentioned, and another is called the simplification of prescription drug insurance plan choice. I think I need to; sometimes you will find in government-sponsored health insurance programs, as mentioned in Baker et al. they found the reasons for improving take-up rates such as problems in understanding the cost and benefits of alternatives, the sheer amount of choice bias toward the present over the future and misunderstanding of the degree of risk etc. In the case of simplification of prescription drug insurance plan choice, people do not appear to be making good choices like presenting only relevant information available, limiting the number of choices available and selective contracting etc. Part of it, I think you please go through all these details will be useful. The traditional reasoning for obesity is that food prices have gone down, so people have increased consumption.

So, food prices used to be written in traditional format. However, researchers believe that obesity is not a rational choice. The reason for obesity is due to food companies' attempts to change the taste of consumers through campaigning and advertisement. So, in the next slide, we will take the understanding of knowledge how these are helping the students or the people to go for a healthy practice. Reduction in tobacco use, another one. The traditional economic method suggests raising prices or taxes again and providing information about perils or regulations will be curbing. In the context of behavioural economics, this encourages people to sign contracts to quit smoking, providing rewards for skipping the habit. We will also discuss this from Simpson's work on NUDGE. This suggests that when you keep your healthy foods nearby, your chances of accessing them will be very high. So, we have kept healthy food here whereas the relatively unhealthy food like doughnuts etc. are kept from a distance. Hence my cunning choice in architecture will soon have home eating healthy. This is what is written. So, testing economic theories with data and approach is called experimental economics, or the branch is called experimental economics. When we test those theories, we use an econometric or experimental approach. So, some of them might be discussed in other sections.

Some of the coverages we will make it. However, I am just presenting here what exactly is in our structure. So far as behavioural economics is concerned, we start with economic theory, then we address traditional economic theory, where we will calculate or clarify and calculate expected utility theory. However, the non-conventional economic theory is defined as or is explained as behavioural economic theory. We will discuss prospect theory in other lectures, especially in lecture number 3, then inconsistency theory and Nudge theory. In the next lecture, we will discuss the expected utility theory. So, these are the readings we have followed and I think they will be very useful for you to follow them correctly.

I am sure this will be useful, and you will raise your queries. Thank you.