Unit 2: Can we think of health as capital ?

5. Intertemporal choices

Hello, I'm Nicolas Jacquemet, professor at the Sorbonne and the Paris School of Economics and a research fellow at the CES. In this video on intertemporal utility we are going to look at the decisions we make regarding healthy behavior, and their consequences both in the present and in the future. In economics, the idea of intertemporal choices is nothing new as this is how economists understand saving and borrowing behavior. Saving implies not spending today in order to spend more tomorrow. Borrowing means spending less tomorrow in order to spend more today. Understanding saving and borrowing behavior means understanding how our decisions affect different points in time. In terms of health, the idea of intertemporal choices has been taken into consideration only recently and it has important consequences because health is above all a capital good. The health behaviors that are typically thought of as intertemporal choices are, of course, risky health behaviors namely, consuming alcohol and tobacco. In economics, intertemporal choice is based on the notion of temporal utility and on the level of utility also known as the satisfaction as assessed by an individual of their own situation over time. A few things are necessary to work out intertemporal utility. First, individuals must measure and assess their level of satisfaction with the situation they are in not only today but also at all future points in time affected by the decision they made. We all know that future utility bears less weight in the decisions we make today the further away the benefits are. We need a tool that can compare the levels of utility attainable at different points in time which can depend on what these points are and how far in the future they are from today. To compare utility over time, we use what is called a discount which measures the value today of our satisfaction tomorrow or the amount of money we will receive tomorrow. Someone who is very patient is someone for whom future utility bears a lot of weight in today's decisions. Someone who is very impatient, however will have a very high discount rate and therefore a strong present bias compared to future situations. To understand the decisions made over time we need to know the discount rate that affects individuals' decisions. To measure this we very often use surveys in our studies that ask respondents about the value, as they see it of different possible situations in the future according to a given time-scale. We measure the discount not only in terms of potential monetary gain but also in terms of state of health by asking people to evaluate the value today of different states of health at different points in the future. These studies show that the discount rate tends to be much higher in matters of health than matters of money. This has consequences on the behavior that we can expect from people with regard to their health particularly as concerns the extent of risky behavior. The advantage of measuring these discount rates is that it gives us something we can use to steer public policy. This is because the average discount rate or the distribution of the rate in a given population can help balance policy making between preventive and curative policies. Preventive policies, in a way, disrupt current well-being for the benefit of a future state of health while curative policies tackle the aftermath of current negligence or the repercussions of decisions on one's state of health. Different discount rates measured across countries can lead to different trade-offs between preventive and curative policies. Furthermore, available studies show a large diversity of discount rates depending on culture or country. A number of recent studies have linked the rise in the obesity rate in the US to a moderate increase over the last twenty years in the US population's discount rate.

5. Intertemporal choices

Another important piece of intertemporal utility and the tool that is the discount rate and which poses the most problems to understand the way people make decisions with regard to financial flows and with regard to health behavior is the notion of temporal consistency. Temporal consistency suggests that by taking into account the discount rate which compares different situations spread out over time people will act consistently regardless of the timeframe. We have experimental studies in economics to study individual decision making – we call them experiments when really they are just games that people can play and in which they can win money. Participants make decisions in a computer game designed to illustrate the frames of reference of their behaviors and decisions. These experimental studies tend to show that temporal consistency can become doubtful based on how people act. One experimental study that allows us to highlight this inconsistency offers respondents different choices between two possible amounts of money in a given timeframe. For example, two options are offered: either win €100 tomorrow or €101 the day after tomorrow. Another choice is then offered: win €100 today or €101 tomorrow. We find that most people act inconsistently with regard to the theory of intertemporal utility. Many people can wait for the day after tomorrow to win €101, rather than €100 tomorrow. Yet many people also prefer to win €100 now rather than wait a day to win €101 tomorrow. Present bias pushes people to make decisions that they will regret tomorrow. People who have present bias are people who plan to or who will act inconsistently both because they will regret in the future the decisions made in the past and because, in the future they will be tempted not to follow what had initially been committed to. A consequence of this observation in terms of health policy is that it justifies paternalistic policies that will push people to act consistently and to give more weight to the future than to the present bearing in mind temporal inconsistency and their presumed present bias. For example, it was this type of observation that led to attempts to reduce smoking by raising cigarette prices. This makes tobacco consumption expensive and therefore leads people to reduce their tobacco use today for the benefit of their future self thanks to their current decision. Another factor in decision making over time by individuals with present bias is their degree of self-awareness of their own temporal inconsistency. We distinguish two groups: sophisticated and naive people. A naive person behaves inconsistently and is not aware of preferences changing over time or that their future self will regret the decisions made today. On the other hand, a sophisticated person also has a present bias but is aware of their temporal inconsistency. The idea of sophistication is important to understand intertemporal behavior. It distinguishes between people who try to get around their inconsistency from those who continue as before because they are unaware that their preferences change over time. In particular, sophisticated people aware of their present bias will tie their hands to keep themselves committed to today's decisions made for tomorrow so as to avoid giving in to tomorrow's present bias. This is the same kind of commitment strategy we use when we put our alarm far away from our bed to force us to get up even though tomorrow our bias will be to stay in bed. When it comes to health this corresponds to commitment strategies such as buying in small quantities – not buying multiple packs of cigarettes at once or not buying lots of unhealthy food in order to avoid giving in to excessive consumption. It also means increasing the costs associated with these behaviors.

- We can see a discord between the theoretical analysis of temporal choices and its insights on individual decision making and the future consequences of those decisions – so, on the one hand, the theory of intertemporal choice – and then on the other hand observations made during experiments on intertemporal decision making which is an example of behavioral economics. Behavioral economics seeks to use knowledge from economics and psychology to understand the complexities of individual decision making and to inform public policy.

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