

PRINCIPLES OF BEHAVIORAL ECONOMICS

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Week 03

Lecture 03

Welcome to the course on behavioral economics. This is Lecture 3, and currently we are in the first topic of introduction to behavioral economics. In Lecture 3, we are going to talk about the evolution of behavioral economics. So basically, we will begin with some historical developments in the context of mainstream economics. And then we'll try to relate it to the resurgence of behavioral economics.

So, first of all, behavioral economics finds its 20th-century origin in various empirical critiques of the standard neoclassical model of economic decision-making. The neoclassical model will be referred to as NM, in short, in the future. That model itself only came to dominate the discipline as economics gradually severed its traditional ties to psychological, sociological, and historical inquiry. An instrumental factor in this shift was the so-called formalist revolution in economics during the immediate post-World War II era. But in order to appreciate the emergence and position of behavioral economics within the wider context of the development of economic thought,

one needs to bear in mind that prior to the 20th century, much of economic thought had evolved in close proximity to psychological reasoning. So basically, neoclassical economics was primarily devoid of any psychological underpinning or major psychological underpinning. But prior to that, classical economists relied to a large extent on psychological and behavioral aspects of economics. And over a period of time, psychology lost its relevance in the field of economics.

So, in order to understand how classical economists incorporated psychology into the context of economics, we would begin with the ideas and works of some of the major classical economists. Behavioral economics, as we know it today, may not have been around much before the 1970s, but the issues it tackles have existed for a very long time. In fact, this relatively new discipline is steeped in past economic thinking. It is for this

reason that viewing behavioral economics against the larger historical and conceptual backdrop is crucial, not only for understanding the past but also the present.

Importantly, it exposes some long-standing concerns that are fundamental to both mainstream and behavioral economics. So, as I just mentioned, we will begin with the classical tradition. In order to do that, we will take a closer look at the development of the main ideas that characterize classical economics by discussing the most prominent thinkers and luminaries. This allows us to better understand the origins of the neoclassical economics that followed and to what extent behavioral economics represents a return to some of these older ideas.

So, we begin with Adam Smith. He is most often known as the father of economics or modern economics. You could also say microeconomics. His contributions to the field of economics have been immense. We will learn right now that he has probably commented on everything, or most things, that we study in economics today.

So without much doubt, the towering figure in classical thought is Adam Smith. As Thaler noted in 2015, in his 2015 book, "The famous Chicago economist George Stigler was fond of saying that there was nothing new in economics; Adam Smith had said it all". He introduced the notion of the imaginary machine that entails the coordination of all economic activities in cause and effect relationships, the economic system.

Smith was enlightened and although he is most known for his principles of the free market, one of the main ideas of classical economics. His view was that the greatest happiness in life came not from the accumulation of money or more generally from 'materialism' but from the companionship of fellow men and women. So people not only get pleasure by accumulating money but from other sources also. So economics must not be all about money as we discussed in the previous lecture. It has various other dimensions which might not relate to money.

Adam Smith's social views of economics were contained in his important 1759 book, *The Theory of Moral Sentiments*, which has been overshadowed by his much more famous 1776 book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, most often referred to as simply *The Wealth of Nations*. The theory of moral sentiment placed feelings, emotions, virtues at the center stage in economic life. Such psychological notions were rediscovered by behavioral economists, but they were there all along in Smith's classical work. They just got lost in the later development in the neoclassical work.

Smith identified the rules of 'prudence' and 'justice' and explained how these are required for society to survive and thrive. Smith noted that individuals have what he considered to be a natural tendency to look after themselves. This, he called prudence. He also talked about sympathy toward others. In this view, we are far from the stereotypical selfish, rational creature often depicted in economics.

Our actions are influenced by the emotions of other people. Behavioral economists talk about altruism. Behavioral economists talk about social preferences. Social elements are brought into the context of economics, much like the way Adam Smith probably envisioned it. The social view is a central idea today in behavioral economics, as I just mentioned.

Smith talked about the justice system primarily to deter wrongdoing and to punish those who violate social rules. Today, lawless societies are the very ones that are economically impoverished. To regulate individual behavior and achieve social harmony, Smith tells us that something else is required—and what is that something else? That is the impartial spectator, who is conceived as an ideal person who would completely empathize with our emotions and actions.

Now, all of these require self-control, what Smith called 'virtue'. So, we begin with the fact that the Theory of Moral Sentiments emphasized primarily two things: prudence and justice. So, we discussed the relevance of prudence and justice, and then comes the concept of virtue. In contrast to Smith's notion of justice, this is a form of morality that requires active deliberation.

Now, none of Smith's presumptions demand much in the way of a conscious, calculating human machine. So, if I am driven by virtue, then I might prevent myself from doing certain things which are harmful either to myself or to society at large, at least in the short run. But rational decision-making at times may guide us to do something which is extremely selfish and that may not have a broader perspective of how it is going to impact the larger society. So, all of the above is in the spirit of modern-day behavioral economics. as opposed to what neoclassicals try to preach or present.

And it is essentially psychological. The Smith view, Adam Smith's views, are to a large extent psychological. In his 1776 book, *The Wealth of Nations*, Smith gave us the concept of an invisible hand. We all know that this is probably the most celebrated concept related to or associated with Adam Smith.

Whenever the name Adam Smith comes up, people associate him with the concept of the invisible hand, which serves to guide the efficient allocation of scarce resources in the capitalistic, that is, laissez-faire economy, economies which are less regulated by governments, where there are fewer interventions, leaning more toward a free economy. The important point to note is that although Smith talked about our own prudent self-interest, this self-interest serves to benefit the whole nation. Because Smith said, it is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner

but from their regard to their own interest. So ideally, this is a situation where everybody is working toward their own benefit, but collectively, this benefits society. I can give you some more examples. For instance, in a particular country, there are certain rules regarding how we drive, or it is more like a norm. Like in India,

we have left-hand side driving, left-hand driving, left-hand walking. So generally, whenever we are on the road, we basically follow our left side, and consequently, those coming from the front or from the opposite side, they are also following their left. So this is beneficial for both or the community together, for everybody. Now, if one individual decides to follow the right side, he or she will start driving along the right side, then there will be clashes or collisions.

And which is not going to benefit anyone, so as a result, this is a classic example. When we are—each one of us—is actually working according to what best suits us. So left-hand driving suits us the most. And that's why we are doing it. And we understand that collectively, this is beneficial for society as a whole.

So this is basically Adam Smith's idea. That even if the brewer, the butcher, the baker, they are not thinking about the benefits of society, they are just thinking about their own welfare. But collectively, all of them together

are basically contributing to the social benefit or welfare. Smith was indeed one of the first thinkers to address the question of the efficiency of production. So around the time when there was also the Industrial Revolution, production increased efficiency, and the concept of efficiency came into existence. He noted that large efficiencies are achieved when the production process is broken down into small tasks, each one performed by a skilled operative.

The power of Adam Smith's thinking is seen in the modern market economy, which by and large operates very much along the lines he articulated. So there is an example from

Smith's work: the pin factory example, which exemplifies the concept of efficiency very well. So this is a classic example of the beneficial effects of the division of labor, as seen in the trifling manufacture of the humble pin. Adam Smith visited a pin factory and observed that it required 18 separate production processes.

The division of labor led to greater 'dexterity'—that is, skill in workers, which, along with avoiding the time-consuming act of moving workers from one production process to another, as well as the use of capital-intensive machinery, created great economic efficiency. How great was it? While one operative could make between 1 and 20 pins a day, when labor was divided, the rate of productivity rose to 4,800 pins a day. So, basically, the efficiency gain was huge, substantial, or you could say enormous when we adopted the division of labor.

Now we talk about other classical thinkers. Let's begin with David Ricardo. Like Adam Smith before him, Ricardo argued for free trade and the virtues of non-government intervention. So he was also a proponent of a laissez-faire economy—a freer economy and freer trade. Ricardo is known for his principle of comparative costs or comparative advantage.

It is actually more popularly known as comparative advantage. The doctrine of comparative cost advantage or comparative advantage states that all countries have the potential to offer something of economic value to themselves and the rest of the world. I just mention here that prior to David Ricardo, it was Adam Smith who also talked about trade between countries, and his concept was of absolute advantage. But Ricardo introduced comparative advantage, which basically tried to tell us that even if one country does not have an absolute advantage in the production of any commodity, still, on the basis of comparative advantage, countries can engage in international trade.

Ricardo also advanced another important idea: the law of diminishing marginal returns. We will be talking about the law of diminishing marginal returns or the concept of marginal returns, etc., later in this module and in the upcoming module while we deal with neoclassical economics more. Among other classical thinkers, there is Jeremy Bentham. He is best known for advocating Utilitarianism,

which advances the idea that the greatest happiness of the greatest number should be the foundation of morals and legislation. His work on the notion of utility had a major impact on the development of neoclassical economics. Whoever studies economics must be

familiar with something like utility. Utility is a very commonly used concept in the field of economics, and a lot of credit goes to Jeremy Bentham for his work on utilitarianism.

Bentham's philosophy can be best described as a form of consequentialism, based on the idea that actions, policies, rules, and so on should be judged on the basis of their consequences. That is, the utility they yield. So basically, neoclassicals actually borrowed this kind of idea to a large extent from Bentham. Because later on, we would see that everything, when we try to convert their consequences, is in terms of utility. The comparison is facilitated when, further, the utility is converted into some monetary benefit—first thing.

The second thing is that, in order to compare all possible consequences, we need to bring in a lot of assumptions. So those assumptions and all, we will be talking about in the next module. But for the time being, this consequentialism actually contributed immensely to the formation of later neoclassical ideas. Next, we talk about Thomas Robert Malthus. Malthus is best known for his work on the relationship between population and the production of food.

His most famous book, *An Essay on the Principles of Population*, published in 1798, concluded that as the supply of food increases arithmetically, but the population increases at a much faster, that is, geometric rate, the destiny of mankind is to live on the edge of starvation. So what he suggests is that if I have a very good life, if I have a lot of food and a lot of comfort, then he gives examples with animals and says that that will lead to a lot of reproductive activities, and as a result, humankind, like many other animal species, will tend to grow at a much faster rate as compared to the availability of food.

So the rate at which food grows, reproductive activities or growth in the population would be much higher and as a result of which when the entire food is divided into a larger amount of populations then The outcome would be everybody would actually live on the edge of starvation. So from there we would start again retreating back and as a result of which there would be population control, some would die and then those who survived they would learn a lesson from that. But then over a period of time, people tend to forget.

And again, a comfortable life would lead to greater growth, etc. So actually, historically, it has been observed that, you know, if I look at the last thousand years or so. So there has been if I plot, say, GDP per capita on GDP. it has been observed that growth has been

stagnant for large part and it has actually suddenly picked up from certain countries, specifically those countries which we now call the developed economies

from late 19th--from late 18th century, for some countries it could be late 17th century but not before that what is this long period of stagnation when the GDP per capita was not growing much, this has been explained very well by Malthus That's why it was a flat line for a long period of time. So his interest in the sensitivity of people to incentives is something that dominates neoclassical economics. That is, people are capable of making the correct choices if sufficiently incentivized to do so.

Nudging may help too. So here comes behavioral economics. Otherwise, incentives also play a crucial role in neoclassical economics, which might have been a major contribution of Thomas Robert Malthus. After that, we talk about Jean-Baptiste Say. Say is mostly known for Say's law, which states that supply or production creates its own demand—

"build it and they will come"—which happened to be the guiding spirit behind the project to build the Titanic ship that if an expensive ship is built, then, of course, there will be some takers at the end of the day. The law implies that workers receive wages for their labor, which they will then use to purchase other goods. This increase in production thus creates demand for other goods in the economy, leading to economic growth.

Another example of Smith's economic machine in motion—or something like everybody working for his own benefit actually ends up having or generating benefits for society or at the aggregate as well. So this is a principle that we actually believe in till date. Everybody has to believe that if you increase production, basically we begin with more employment, I employ a larger number of people.

Then that will generate some income. When income is generated, there will be demand. When there is demand, we need to employ more people. Further income is generated, which further causes demand, and so on. So the economy grows through this process.

So, as you can see, we begin with increased employment. Which implies that we begin with larger production; supply creates its own demand—that's basically Say's contribution. Say also contributed to the field of entrepreneurship, but this is not the place to discuss it. Then we talk about John Stuart Mill. Mill's views were expressed in his 1848 book, "Principles of Political Economy," which built upon the works of Smith and

Ricardo. One thing I would like to mention here is that classical economics, at that point in time, was also known as political economy.

Politics and economy have always been very closely connected. Mill is especially remembered for developing the idea of opportunity cost and arguing for the Ricardian principle of comparative advantage. Opportunity cost—I probably already talked about it briefly. It is the benefit associated with the foregone opportunity or the second-best alternative. When faced with different courses of action, the opportunity cost refers to the utility, satisfaction, benefit, profit, etc.

of the best foregone alternative. Finally, we talk about William Stanley Jevons. Jevons is best known for contributing significantly to the marginal view of economic behavior, which has come to exert a dominant influence on mainstream economic thinking. The marginal view, which was later formalized in Alfred Marshall's seminal work, *Principles of Economics*, contends that the utility of each additional unit of a commodity,

which we call marginal utility, decreases with further consumption. The concept of marginal, or the marginal concept, is again extremely widely used in the field of economics, neoclassical or otherwise, in classical works. We have the concept of marginal cost, marginal profit, and marginal revenue. So, marginal is actually a concept that has gained relevance in other fields as well. We cannot ignore it, as it is an important contribution from William Stanley Jevons.

The principle of declining marginal utility states that the more we have of something, the less pleasure or utility we derive from each additional unit of consumption. This is known as the principle of declining marginal utility. We will discuss it further in later modules. Now, I am not claiming that this covers all classical economists. I have only discussed a few classical economists.

There are other contributions as well. But then moving on, we talk about how psychology lost relevance in the neoclassical model or neoclassical economics. So 20th-century psychology had little to offer. That was tractable, that is, concepts that are easy to incorporate into formal economic models and find out how they are doing. That is because, as you can see, Freudian notions held little interest while psychological ideas were many and varied,

and it would be hard to distill them down to a set of assumptions or principles that could guide systematic, let alone rigorous, economic thinking. Along with this rejection of

psychology, as the 20th century dawned, academic economics increasingly followed the natural sciences in its pursuit of age-old laws and mathematical formulations. So, ideally or in simple terms, mathematics started dominating the field of economics. Talking about post-war economic approaches, in the first half of the 20th century, there were still economists who considered and discussed psychological factors in their work. For example, Irving Fisher, Vilfredo Pareto, and John Maynard Keynes.

The latter famously speculated, both figuratively and literally, on the stock market with notable success, and his contributions are there in the field of economics, behavioral economics as well. However, the general trend during this time was to ignore psychology. Psychological reasoning continued, at best, to maintain some currency at the fringes of the discipline. This trend continued after World War II, aided in many ways by the advent of better computational methods. As computers became more powerful, it became possible to build and estimate mathematical models of both markets and the economic system as a whole.

The sub-discipline of econometrics became a vital tool for economists as a means of both developing and testing theories. Economists became obsessed with mensuration, that is, the measurement of variables and the estimation of economic parameters using mathematical equations and econometric methods. Much progress was made in terms of theoretical development, and the emphasis on mathematical treatment led to greater rigor and more precise, if not accurate, results. So that was actually giving a lot of satisfaction because of more precise results, even if they actually deviated from reality. Some economists realized that the behavioral assumptions underlying their models were unrealistic, but there has been a methodological approach typified by Milton Friedman,

that economic theory had little to do with the accuracy of these behavioral assumptions or with understanding why people behave as they do. So, as I probably previously mentioned, economists are more concerned about what and not why and how. As a result, what we are observing and decoding through mathematical models was of more importance in the field of economics as compared to why they are behaving like this. But then, because of these assumptions or presumptions, some heretics, like Herbert Simon, viewed that the standard approach is somewhat blinkered. He was not prepared to accept the host of ready excuses that were offered when predictions went astray.

There were temporary blips, or rather, the excuses that were given were like temporary blips, the introduction of new and unpredictable factors, measurement discrepancies, and

so on. Simon believed that it was important to understand the underlying motivation behind the behavior of economic agents in order to improve existing theories and make more accurate predictions. Simon, in 1955, introduced the term bounded rationality to refer to the cognitive limitations facing decision-makers in terms of acquiring and processing information. So, as this term refers to bounded rationality, the implications are pretty straightforward: an individual's rationality or ability to optimize,

To process a decision or a lot of information to arrive at the perfect decision is actually bounded. Our rational capacities are bounded. So we actually cannot do a lot of mental mathematics. Most of us, the majority of us, 99% of us, will not be able to do that. As a result, the concept of rationality that was dominating the field of neoclassical economics was not acceptable to individuals like Herbert Simon.

There were several seminal papers written in the 1950s and 1960s that complemented the work of Simon. They repeatedly tried to prove that decisions do not align with what the neoclassical economists had assumed. These papers all pointed to various anomalies in individual decision-making when viewed through the lens of neoclassical models and suggested theoretical improvements. And that's how behavioral economics was born. During the 1970s, there were important developments in the field of psychology that laid some foundational principles for behavioral economics.

Most notable among these was the 'heuristics and biases' program of Daniel Kahneman and Amos Tversky. However, it was really at the end of the 1970s, or tentatively, that one can say behavioral economics was born. Two papers were largely responsible for this. The first, in 1979, was 'Prospect Theory: Decision Making Under Risk,' written by Kahneman and Tversky and published in the prestigious and technical economics journal *Econometrica*. The second paper, 'Toward a Theory of Consumer Choice,' was published by economist Richard Thaler in 1980.

Both Kahneman and Richard Thaler are Nobel Prize winners. Tversky died in 1996, as far as I remember, or sometime in the 1990s, which is why he could not receive the Nobel Prize. Prospect Theory not only built on their earlier work on heuristics and biases, but also introduced several new and fundamental concepts relating to reference points, loss aversion, utility measurement, and subjective probability judgments. Thaler introduced the concept of mental accounting, closely related to the concepts of Kahneman and Tversky.

Since 1980, the field of behavioral economics has become a burgeoning one, as both economists and psychologists have expanded and developed the work of the pioneers mentioned above. As more success has been achieved in explaining the anomalies of the neoclassical model and in developing a more complete body of theory, the field has now become more respectable. However, it should be made clear that behavioral economists do not conform to a uniform school of thought. Although they are all concerned with the psychological foundations of economic behavior, they may have quite conflicting beliefs regarding fundamental aspects. For example, we will see that the views of Kahneman, Tversky, and Vernon Smith differ substantially regarding the role and nature of assumptions, appropriate methods of investigation,

the value of various kinds of empirical evidence, and conclusions regarding such issues as rationality, efficiency, and optimization. Besides, I would also like to add that no single theory is able to explain all behaviors. For example, prospect theory fails to explain some observations that mental accounting might. And again, the hypotheses laid down in mental accounting are not able to explain all possible scenarios or behavioral aspects. There are things that can be explained by mental accounting principles.

There are things that might not be explained by mental accounting principles. So, we might need some other principles to explain certain other kinds of behavior that we observe. So, with this, I conclude this module. And in the next module, we will begin with some more introduction to neoclassical economics. Thank you.