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AN INSIGHT ON BEHAVIORAL ECONOMICS

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INTRODUCTION

In this research paper I've tried to provide an overview of how behavioral economics developed over time. The origin of behavioral economics can be traced back to Adam smith and Gossen. With the development of economics in the 20th century the economist started being rigid on their assumptions but then again behavioral economics was reborn in 1960s when Herbert Simon questioned the assumption of rationality and gave bounded rationality as a solution.

This paper also gives an introduction to major theories that have been developed in behavioral economics. The theories have tried to gradually relax one assumption at a time and develop models accordingly. I've given a brief of key theories such as expected utility theories, behavioral game theory, prospect theory, exponential discounting model and social preference.

HISTORY

The earliest traces of beginning of behavioral economics can be seen in Adam smith's book 'The Theory Of Moral Sentiment' in 1759, which is one of his earliest work. In this book Adam Smith first time proposes the concept of the invisible hand but he also talks about how people are not solely motivated by self interest but also take in consideration of emotion of sympathy towards other and have a natural sense of virtue. Apart from this in this book he also discusses the theme of reward and punishment and importance of fashion and custom.

Gossen's first law or the psychological law of consumption or the law of diminishing marginal utility is also another example how the early economist used to take human emotions, stimuli, impulses in consideration. But since the beginning of 20th century economist started being rigid and discarded the idea of mixing psychology and economics. The economist started focusing on what people do and how they act rather than what they desire or why they act? To make the models simple they believed that consumer is rational and logical which provided them a good benchmark to work with.

From 1960s the psychology was again included in economics by Herbert Simon. Herbert Simon gave the concept of bounded rationality strongly questioning the assumption of standard model. Nobel prize winner, Herbert Simon said that human beings are nor machines and neither can they process information as computers do, humans are not rational and logical all the time, bringing light to limitations to human decision making, he coined it as bounded rationality.

A milestone work in behavioral economics in done by Daniel Kahneman and Amos Tversky who strongly criticized homo economicus with their questions and experiments. In one of their experiments (1974) Kahneman and Tversky claimed that decisions people make are highly based on rule of thumb or heuristics. Another groundbreaking work was done by them in "Prospect

Theory: An Analysis of Decision under Risk," (1979). Furthermore, they also explored framing effect and endowment effect and how it affects the choices of individuals contradicting rationality. Daniel Kahneman won Nobel prize in 2002 for his contribution to include psychology in economics and paving a path for modern day economics.

Reinhard Selten during 1950s and 1960s questioned game theory's ever increasing popularity. Game theory which is deeply rooted to inflexible assumptions of homo economics, not only expected the participant to be rational, selfish and clever but also demand him to be telepathic was logically improved by him with his theoretical ideas like subgame perfection. He won noble prize along with John Nash and John Harsanyi in 1994 ' for their pioneering analysis of equilibria in theory of non- cooperative games'.

Another contribution to modern behavioral economics in done by Richard Thaler who won noble prize in 2017 in Economic Sciences. He criticized the work of rational choice theory and supported the findings of Kahneman and Tversky's prospect theory to justify wide range of anomalies. He also developed a theory of 'mental accounting' and how it affects consumer choices. Moreover, he also developed the concept of 'libertarian paternalism' and reported its practical implications for policy.

KEY THEORIES OF BEHAVIOURAL ECONOMICS

Expected utility theory

As a development over rational choice theory, expected utility theory was given. This theory was developed to help decision making under risk and uncertainty. In homo economicus, where the person tries to maximize his utility, in expected utility theory the individual seeks to maximize his expected utility. The theory was initially given by Bernoulli but formally developed by Neumann and Morgenstern. They gave four axioms on which this theory is based, namely- continuity, completeness, transitivity and independence. These axioms when followed gives us a utility function that can be measured cardinally. EUT takes the weighted sum of utilities of each outcome of an event and help the individual to arrive at a decision. The theory though suffered many anomalies such as Allais paradox, endowment effect, no reference point and zero wealth, provided a benchmark on which other theories of behavioral economics can be formulated.

PROSPECT THEORY

Prospect theory is one of the major work of Kahneman and Tversky and it was developed as an improvement over expected utility theory. Under risk and uncertainty, how an individual makes the decision is the major cornerstone of this theory which was formulated by its founder. Prospect theory majorly had two features: first, value function. The value function was similar to utility function but it incorporated refence dependence, loss aversion and reflection effect. Prospect theory evaluated choices made by the individual on basis of some refence point which can be a goal, status quo or expectations. Reflection effect showed that people are risk seeking in loss domain but risk averse in gain domain. Loss aversion shows that people dislike loss more than they would like gain of the same amount. Second, probability weighting function, where subjective weights are given to objective probabilities.

Prospect theory is an ‘as if’ model of decision involving risk. Here the individual do not make implicit calculation but rather it act as if it was performing those calculations.

Exponential discounting MODEL

Exponential discounting model is developed as a theory to measure choices across time. Here the individual seeks to discount the future utilities or disutility to measure its present value. The core of exponential discounting utility is that individuals usually values present utility more than future utilities. The future utilities are discounted by a discount factor, δ, which has a value between 0 and 1. In the first period the utility is discounted by δ. In the second period the utility is discounted by δ^2. In the third period the utility is discounted by δ^3. And so on.

An improvement over exponential discounting model is quasi hyperbolic discounting model where a clear distinction is made in short term and long term time period. Assuming that the people are usually impatient in short run but patient in long run two discount factor $\beta\delta$ are taken representing the same respectively.

BEHAVIORAL GAME THEORY

The homo economics game theory focuses on players being rational and model behavior of participants taking strategic decisions. Game theory is about participants having perfect information. It had led to development of prisoner’s dilemma, Nash equilibrium, dominant strategy and others. Behavioral game theory is the extension of this standard game theory where it also takes into account how the player feels about payoff, limits strategic thinking, take effects of learning and also include the possibility of asymmetric information. Some of the developments in behavioral game theory are k level thinking, ultimatum game, dictators game and more.

SOCIAL PREFERNCE

Another aspect of behavioral economics in social preference where we strongly question how the utility of a person can depend on other person’s utility. Criticizing homo economicus the economists have asked why things such as charity exists when we say people are rational and are self- interested? Studies show that people highly contribute to charity showing that a person’s utility can depend on other person’s utility as well. Behavioral economics have provided three reasons for social preference mainly- reciprocity, reputation and distribution. Distribution says that people care about resource division due to altruism and inequality aversion. Reciprocity states that people might base their utility on other person because they expect them to do the same in future and reputation concerns with social stigma and what other people or society as a whole think about them. Charness- Rabin model and Fehr- Schmidt model have successfully included social preference distribution aspect in them.

CONCLUSION

Behavioral economics have greatly evolved from its root in the work of Adam Smith and Gossen to become a developing field where economics merge with psychology. Throughout 20th century economists have keep rationality as a core and mainstream concept in their model. However, behavioral economics have seen major developments with the contribution of scholars such as Kahneman and Tversky, Richard Thaler, Herbert Simon, Reinhard Selten.

Key theories such as bounded rationality, prospect theory, behavioral game theory, and models of time-inconsistency preferences provide a more elaborated understanding of decision making under uncertainty risk and intertemporal choices. These models have successfully take diversion from rigid assumptions of heuristics, loss aversion, mental accounting and social preferences. Further, the models of social preference rightly introduced how other individual’s utility affect an individual.

Behavioral economics as a field not only helps us diverting from the inflexible assumptions of economics but also give us a framework which can help policymakers, businesses, companies and researchers in practical implication of marketing, consumer behavior, policy-making, business strategies, market analysis and much more.

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