

BOOK REVIEW

THINKING, FAST AND SLOW

DANIEL KAHNEMAN
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How rational are humans? Many important implications hinge on this seemingly innocuous question hinge, for not only economists, but all social scientists. In *Thinking, Fast and Slow*, psychologist and recipient of the 2002 Nobel memorial prize in economics (alongside Vernon Smith), Daniel Kahneman, gives a summary view of the question. At first glance the book seems to be an overview of Kahneman's lifework, but upon closer inspection it offers much more. Kahneman synthesizes the research of the past forty years to give the reader a more or less complete answer to the question: how rational are we? He also explains the special cases where humans resort to alternative heuristics in their decision-making.

The thick book is split into five parts. Part I provides the reader with the view, today more or less accepted in psychology circles,

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that the brain has two systems to aid it making choices. System 1 includes the automatic and instinctive reactions that we rely on (without knowing it) for many natural responses. We often cannot explain the reasons for a choice when system 1 is operative. System 2 forms our mind's controlled operations, the ones we exercise that we typically associate with reasoning.

Parts II and III cover interactions and conflicts that these two systems have with each other, and the cognitive biases that result. When scientists propose that humans act rationally, what they have in mind is that all decisions are undertaken by system 2—reasoned, deliberated, and correct given the facts at hand. As research now makes clear, system 2 is not always operative, even when we think it is. Kahneman provides the reader a great service by not only outlining this point, but also describing the conditions that make our minds favor relying on system 1, such as when we are tired, overconfident, or when our mood is relaxed or upbeat.

Parts IV and V are where the book gets interesting for the economist. In these sections the reader is served an array of ways in which biases enter and skew our decision-making. In part IV Kahneman outlines what choices we can expect to see individuals make when they are prone to biases. In part V he gives the reader the model he thinks social scientists should invoke when discussing rationality.

How applicable is this alternative model of “rationality” that Kahneman puts forward? Before answering the question, reflect upon the state of affairs that existed when Kahneman was a young scholar at the Oregon Research Institute in Eugene, Oregon, during the early 1970s. At that time it was becoming increasingly self-evident to psychologists that humans were neither fully rational nor completely selfish. Consider his astonishment upon discovering for the first time that his neighbors—the economists—use an economic agent that is “rational, selfish, and [whose] tastes do not change” (p. 269). The contrast between *homo economicus* and real humans would provide the springboard from which Kahneman launched his life's work, focusing on biases in choice.

Recognition of such “irrational” biases would later give rise to the two types of economic agents popularized by Richard Thaler as “Econs” and “Humans.” Unlike their Econ counterparts, Humans

have a System 1 and are subsequently open to cognitive biases. Yet, as much as this economist agrees with the conclusions that led Kahneman to develop an alternative to Econs, he cannot agree with all of the rationales. That humans seem to fit poorly into a fully rational model of man seems evident, yet some of the listed cognitive biases seem misplaced.

Take two examples provided by Kahneman. In explaining that effort is greater when trying to avoid a loss than making a gain, Kahneman cites a golf study. Golfers are more successful putting for par (avoiding a loss) than for birdie (securing a gain), and this is taken by Kahneman as evidence that we exert more effort to avoid a loss than to earn a gain. Yet this study seem to lack an important *ceteris paribus* condition—any putt for birdie has a one stroke advantage in getting to the pin and the resultant shot must be easier, thus increasing its success rate.

In another example, Kahneman gives the reader a choice between two bets:

Bet A: Toss a coin. It comes up heads you win \$100, and if it comes up tails you win nothing.

Bet B: Get \$46 for sure.

When asked between the safe and riskier bet, safety prevails and those questioned regularly choose the safer bet B. This is one of various similar examples that Kahneman gives to argue that we are not fully rational (or at least not utility maximizing) when making even simple choices. It is also the base example that led Amos Tversky and him to develop Prospect Theory—the idea that choices are evaluated based on the potential gain or loss a decision creates, rather than the final outcome.

Yet important problems exist with these structured scenarios. For example, the statistics that result from these games are meaningless outside long series of repeated trials. The reason B is preferred to A is clear if one considers that the expected payoff of A will only obtain under repeated trials—something precluded in the game as played. If the game is structured to allow only a single bet, there are two possible payoffs—nothing or \$100—and either is as likely as the other. The bettor given such a choice is uncertain as to what the expected payoff is—uncertain in the sense that he cannot quantify what the outcome will be: *could* be nothing, but it could just as

easily be \$100. The one thing that he will be certain of, however, is that the payoff from a single bet will not be \$50. As such, the choice is not a binary one between a risky yet expected value of \$50 and a certain \$46, but between the certain bet and the perceived likelihood (and expected utility) of gaining nothing *or* \$100.

In his conclusion, Kahneman treads in what he realizes are controversial waters when he advocates for libertarian paternalism. Market-oriented ideals err, according to him, because of their over-reliance on agents' system 2 functions, while ignoring those circumstances when system 1 takes over. In this he falls prey to his own cognitive bias—this one in thinking his own preferred ends are superior to those of others.

Kahneman feels that for ends that are “socially beneficial,” such as high savings rates, governments can positively nudge their citizens in the right direction by properly incentivizing them. This reviewer is not so sure. The apparent pretense of knowledge is in knowing what end is preferred. While an increased savings rate is fairly innocent, what if the government decided that increased home ownership would enhance social welfare, and that policies should be designed around this end. We have already seen how that act played out during this recession, and I am sure that readers can think of other policies equally well intentioned that could go awry.

In conclusion, this reviewer cannot help but feel Kahneman goes too far with his use of system 1 in advocating the use of Humans over Econs. While many agree that there are problematic aspects with economists using an overly rational Econs model of man, replacing this with a frequently biased Humans model seems equally dangerous. While humans may not be natural statisticians, they are capable of reasoning facts in many circumstances. If the economist is to use Humans as a model, he must also accept that this change will allow for only special theories to be sought after. Without a general model for how humans act irrespective of time or place, the economist will be resigned to developing specialized theories, cognizant of the biases and errors their subject commits under specific conditions. This approach seems unwarranted.

A more fruitful, if difficult approach lies in recognizing that humans are rational within the confines placed on them. Attention would be better directed not on irrationalities *qua* cognitive biases,

but rather on constraints that act as common denominators limiting all actions—the limited and imperfect knowledge set available. That this limited knowledge involves both the data necessary to make a choice and also the cognitive ability to decipher some results of these choices allows for the results that Kahneman outlines in *Thinking, Fast and Slow*, while still maintaining a general theory of rationality. Such an approach, in distinction to Kahneman's and other behavioral economists', allows for economics to remain a science with universal validity, without getting sidetracked down spurs that relate to specific theories, with limited applicability outside the realm of their own constraints. Cognitive biases do a good job at illustrating shortcomings of an overly-rational *homo economicus*, but fail to provide a better alternative.