

The rationality debate, simmering in Stockholm

By Robert J. Shiller

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Are people really rational in their economic decision making? That question divides the economics profession today, and the divisions were evident at the Nobel Week events in Stockholm last month.

There were related questions, too: Does it make sense to suppose that economic decisions or market prices can be modeled in the precise way that mathematical economists have traditionally favored? Or is there some emotionality in all of us that defies such modeling?

This debate isn't merely academic. It's fundamental, and the answers affect nearly everyone. Are speculative market booms and busts — like those that led to the recent financial crisis — examples of rational human reactions to new information, or of crazy fads and bubbles? Is it reasonable to base theories of economic behavior, which surely has a rational, calculating component, on the assumption that only that component matters?

The three of us who shared the Nobel in economic science — Eugene F. Fama, Lars Peter Hansen and I — gave very different answers in our Nobel lectures. Mr. Fama's speech summarized his many years of research in strong support for the notion of economic rationality. He marshaled evidence suggesting that share prices respond almost perfectly to information about stock splits and that interest rates "contain rational forecasts of inflation."

Mr. Hansen seemed to occupy a centrist position in the debate. In his lecture, he spoke of "distorted beliefs" that he said help account for some otherwise incongruous empirical evidence about financial markets' behavior. He emphasized mathematical models that contain elements of rationality but also take into account features like animal spirits, beliefs

about rare events, and overconfidence, all of which I view as being more or less irrational.

My own talk seemed to put me at one extreme, with Mr. Fama occupying the other. I said that aggregate stock price movements were mostly irrational, but I don't believe I was as radical as some might imagine, because I still advocated a free-market system, with innovations to make it work better.

I was the most willing of the three of us to incorporate ideas about nonrational or irrational behavior from other social sciences: psychology, sociology, political science and anthropology.

I've been studying Nobel lectures of our predecessors, and the debate doesn't seem new. Judging from their words, many laureates — including Herbert Simon in 1978, Maurice Allais in 1988, Daniel Kahneman in 2002, Vernon Smith in 2002, Elinor Ostrom in 2009 and Oliver Williamson in 2009 — have questioned whether economic actors are rationally pursuing self-interest, as traditional economic theory assumes.

It is hard to sum up all this discussion, however, because of a basic problem: defining "rational." Christopher Sims, a Nobel laureate in 2011, has proposed that inattention to the facts can be rational, if you define the word broadly. Rational people know that their time is limited and realize that they cannot know everything. They must choose what they pay attention to.

Mr. Sims's argument suggests that it may be rational for busy people not to balance their checkbooks if they feel they don't have the time, though they know they will make mistakes as a result.

But if people feel that the work of balancing a checkbook is just too unpleasant, it's less

obvious how to classify their behavior. Some kinds of inattention are even harder to categorize. What about people who decide they don't have the time to read the news thoughtfully enough to consider whether they will buy a house during a boom, and thus make decisions based on nothing more than hearsay and emotions?

Such questions aren't confined to economics. Political science has a similar conflict. People often seem emotionally involved — even irrational — when talking politics. In their 1996 book, “Pathologies of Rational Choice Theory,” Donald Green and Ian Shapiro, two political scientists, describe their colleagues’ “highly charged debates about the merits of rational choice theory.”

Other sciences are approaching such questions in novel ways. Brain-imaging techniques are improving our understanding of the cognitive neuroscience of attention, revealing the physical structures that allow us to process information as well as we do, and giving material form to some of the abstract notions in Mr. Sims's theory of rational inattention. This research, identifying physical structures that underlie our thinking, has a welcome concreteness.

Neuroscience is also showing important links between people's emotions and behavior they consider rational. In his 1994 book “Descartes' Error,” the neuroscientist Antonio Damasio

considered the admonition of the philosopher Descartes to keep emotions away from our rational thinking. Mr. Damasio examined research finding that emotional pathways in the brain are interlinked with our calculating, ostensibly rational counterparts.

The neuroeconomist Ernst Fehr at the University of Zurich — who I hope will someday become a Nobel laureate himself — has used functional magnetic resonance imaging, or fMRIs, to study people playing games involving economics and finance. His summary of his and many colleagues' research shows unequivocally that there are links between rational and emotional decision-making. When a game player makes an apparently calculated, rational decision to take an aggressive action against his opponent, emotional and social pathways light up as well, suggesting that the decision wasn't entirely rational.

The question is not simply whether people are rational. It's about how best to describe their complex behavior. A broader notion of irrationality may someday be reconciled with one of rationality, and account for actual human behavior. My bet is that real progress will come from outside economics — from other social sciences, and even from information sciences and computer engineering.

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