

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/305377222>

Behavioral Economics

Chapter · January 2016

DOI: 10.1007/978-3-319-09483-0_37

CITATIONS

2

READS

18,703

3 authors, including:



Jennifer E Miller

NYU Langone Medical Center

43 PUBLICATIONS 540 CITATIONS

[SEE PROFILE](#)



Elinor Amit

Tel Aviv University

17 PUBLICATIONS 686 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Good Pharma Scorecard: Benchmarking the ethics, governance and transparency of new drugs & pharma companies [View project](#)

Behavioral Economics

Jennifer E. Miller¹, Elinor Amit^{2,3} and Ann-Christin Posten³

¹Division of Medical Ethics, Department of Population Health, NYU Langone Medical Center, New York, NY, USA

²Harvard Medical School, Harvard University, Boston, MA, USA

³Edmond J. Safra Center for Ethics, Harvard University, Cambridge, MA, USA

Abstract

Behavioral economics explores what affects people's economic decisions and the consequences of those decisions for market prices, returns, and resource allocation. Traditional economic research assumes that people's economic decisions are based on the rule of maximizing utility. Behavioral economics, in contrast, neither assumes that people are good in utility maximization nor that it is people's only goal. Using empirical tools, behavioral economists have shown rather that people have psychological biases, limited cognitive resources, and care about other values such as fairness, all of which might undermine their utility maximization behavior. Behavioral economic research and insights began slowly influencing the study and practice of business ethics in the 1990s, but have not yet had a substantial and widespread impact

on the field of bioethics. Further study is needed on the intersections of bioethics and behavioral ethics to better understand the implications and impact each field can have on the other.

Keywords

Behavioral economics; Behavioral ethics; Nudging; Business ethics; Behavioral bioethics

Introduction

Traditional economic research assumes that people's economic decisions are based on the rule of maximizing utility. Behavioral economics differs from this traditional approach in two ways. First, behavioral economics neither assumes that people are good in utility maximization nor that it is their only goal. Rather, according to this approach, people have psychological biases such as loss aversion, they have limited cognitive resources, and they care about values such as fairness, all of which might undermine their utility maximization behavior. The second difference between traditional economic research and behavioral economics is that the former relies on theoretical models, whereas the latter relies on empirical tools to test hypotheses. In sum, behavioral economics explores what affects people's economic decisions and the consequences of

those decisions for market prices, returns, and resource allocation.

The History and Theories of Behavioral Economics

Adam Smith was one of the first to acknowledge in the eighteenth century that human economic decision-making is imperfect and is affected by values of fairness and justice (Ashraf et al. 2005). Fisher and Pareto revisited this idea during the Great Depression in the twentieth century, trying to account for the stock market crash of 1929 by highlighting the human factor in economic decision-making. In 1955, the economist Herbert Simon coined the term “bounded rationality,” arguing that people do not possess infinite decision-making capabilities, but rather are limited by the amount of information and time they have relevant to the decision, as well as other computational limitations (Simon 1982). In 1979, Kahneman and Tversky published a seminal paper, which presented their “prospect theory” (Kahneman and Tversky 1979; Messick and Tenbrunsel 1996). According to prospect theory, people suffer from cognitive biases that affect their economic decision-making. For example, they are risk averse in choices involving sure gains and risk seeking in choices involving sure losses.

In recent years, a group of theories, collectively called “dual process theories,” gained growing prominence in the research of behavioral economics (e.g., Kahneman 2011). Dual-process theories suggest that there are two distinct types of reasoning. One type, often termed “system 2,” includes a rational way of information processing. In it, deliberative and reflective thinking takes place, and information is systematically considered and processed in a rule-based fashion. It is needless to say that “system 2” is effortful and requires significant cognitive resources. The other type of reasoning, often termed “system 1,” includes an automatic way of information processing. Heuristics are used to help form judgments and decisions promptly and enable the individual to act fast upon them. This type of

reasoning requires little cognitive capacity and may still be in action when large amounts of cognitive resources are already bound by concurrent cognitive tasks. Notably, it does not necessarily impair decision accuracy. System 2 processing is widely in line with original economic accounts that construe the individual as a rational actor, and thus, most economic research is in line with this account. However, system 1 – the automatic type of processing – has been long neglected in economic research and only recently gained some prominence.

Apart from investigating different ways of how information is processed within a human mind, another line of behavioral economic research has focused on how human behavior is guided by other individuals’ decisions. In their “theory of equity, reciprocity, and competition,” Bolton and Ockenfels (2000) use various economic games to explain that human behavior is not only motivated by pecuniary outcomes that one receives, but also by the relation of one’s own outcome to the outcomes of others. This assumption gets readily apparent in classic economic ultimatum games. In these two-player games, one player, the proposer, receives a certain amount of money that he or she can distribute between the two players. The other player, the responder, can then accept or reject the offer. Rejecting the offer results in a payoff of zero for both players. Standard economic game theory assumes that – in accordance with trying to maximize utility – more money is preferred over less. This standard economic assumption would result in the predictions that the responder should accept any offer that leaves him or her with an amount larger than zero. Assuming this, the proposer should offer the smallest possible amount to the responder. However, empirical data suggests differently: Responders do not accept all offers larger than zero. Small offers are frequently rejected. Proposers seem to anticipate this behavior and typically send amounts that are larger than minimal. The ultimatum game clearly demonstrates that human economic decisions are social and affected by the relation of one’s own outcome to the outcome of others. They strongly depend on (a) responders’

concerns for equity as well as (b) strategic considerations of proposers.

The social influence on economic decisions is not only evident in the small cosmos of direct comparisons of one's own outcome to the outcome of others, but can also be detected on a larger scale, through the influence of norms. In the example of the ultimatum game described above, equity and fairness norms influence proposers' and responders' expectations and behaviors. Norms that are typically held within societies and tell individuals in a prescriptive manner what they should or in a proscriptive manner what they should not do are called *injunctive norms*. Individuals typically follow these norms for social reasons such as building and maintaining interpersonal relationships. Interestingly, apart from such injunctive norms, the mere description of what other individuals do in specific situations also forcefully shapes human behavior (Cialdini et al. 1990).

A second type of norms, so-called *descriptive norms*, provides information about the prevalence of different behaviors within a society. They tell individuals how other people behave under certain circumstances and can be considered as decision-making heuristics that provide information about how to behave effectively in a certain situation. In one classic experiment, for example, Cialdini et al. (1990) observed the littering behavior of individuals in a public environment that was either clean or full of litter. In the clean environment, the absence of litter described that no littering was the norm. Contrary, in the fully littered environment, the litter suggested that littering was the norm. The results showed that, overall, individuals littered more in environments that were full of litter compared to environments that were clean. This effect was even stronger, when the participants' awareness was drawn to the prevailing littering or no-littering norm by seeing a person who littered in the clean versus fully littered environment. In the clean environment, seeing a person littering led individuals to litter less. However, in the littered environment, seeing a person littering fostered the participants' littering behavior. This finding constitutes one example of how

prevailing descriptive norms can guide human behavior.

Drawing the attention of individuals to existing descriptive norms, thus, increases the overall norm-conforming behavior. This principle is easily applicable to health-improving behavior. For instance, drawing the attention of individuals to the norm that a majority of people get vaccinated against a certain disease should increase the overall percentage of people who decide in favor of getting vaccinated. Hence, actively providing individuals with information about other people's behavior is a powerful nudging tool to change people's health behavior. Knowing that many other relevant individuals behave in a certain way may easily influence whether oneself will engage in healthier food consumption, engage in cancer-risk reducing behaviors such as sunscreen use, reduce alcohol consumption and smoking behavior, or engage in precautionary activities such as cancer screenings or vaccinations. In one study, for instance, adolescents who were informed that a majority of their peers try to consume sufficient fruit consumed more fruit in the following days than adolescents in two control groups who did not receive information about the behavioral intentions of peers (Stok et al. 2014).

On the same page, not only knowing about others' behavior but also about others' outcomes may affect how individuals act. On a large scale, this may result in impactful societal effects. For instance, after several clinics in Germany violated rules and procedure for fairly allocating human organs to patients in 2010, several relatives of potential donors withdrew their approval to donate the potential donor's organs and on a societal level the amount of donated organs continuously decreased. The number of postmortal organ donors continuously declined about one third from the original amount of 1296 organs donated in 2010 to 864 organs donated in 2014, as the German Organ Transplantation Foundation (Deutsche Stiftung Organtransplantation) reported.

However, it is important to note that the effects of behavioral interventions may vary across cultures. Even the basic perception of

fairness, which appears to come naturally to individuals, varies across cultures. This difference is, for example, observable in children's behavior. Whereas in Western cultures children distribute joint gains according to the productivity of the contributing members, in some African cultures children do not distribute profit according to effort at all, but rather according to egalitarian principles (Schäfer et al. 2015). Similarly, one of the key variables in human economic decision-making, namely, risk preference, varies not only between individuals but also between countries and cultures. Specifically, in countries with higher gross domestic product (GDP), people are more risk averse when it comes to gains, but more risk seeking when it comes to losses (Rieger et al. 2015). The cultural variation in attitudes toward fairness and risk preference may critically determine which outcomes behavioral interventions may foster in different cultures.

Furthermore, changing behavior through nudging is clearly linked to the values associated with the different behavior options. In the case of vaccination, nudging people to get vaccinated go hand in hand with the opinion that getting vaccinated is in line with the benefit of society and, thus, the desirable behavior. Many people might agree that this is indeed the case. However, people differ in their ideologies regarding this question, and certainly not everyone would agree that getting vaccinated is a desirable outcome. Nudging people is therefore often seen as paternalistic in nature because it is associated with an assumption about which behavior is (or is not) desirable (for an overview of criticism and a response, see Sunstein 2015). Because values for desirable outcomes may vary across different groups, societies, and cultures, arguments regarding the value dependence of nudging highlight that the direction of the nudging influence is strongly dependent on cultural goals and values.

Behavioral Economics and Bioethics

It was not until the 1990s that the lessons learned from behavioral economics slowly migrated into the field of ethics. Business ethicists were the

early adopters, seeking better ways to understand the causes and remedies for prominent ethics scandals in large corporations like Enron. The scandals showed the inadequacy of traditional approaches to business ethics which, up until then, had largely focused on what people *should* do as well as which principles, virtues, and values should guide their decisions. Behavioral ethics, in contrast, adds understandings and descriptions of how decisions are actually made by people and why good people sometimes do bad things despite exposure to normative ethics training.

The precise definition for the field of behavioral ethics varies. Bazerman and Gino (2012) summarize the field as examining “the determinants of ethical and unethical behavior.” Its concepts were translated into business ethics in large part because of a 1996 book edited by Messick and Tenbrunsel called *Codes of Conduct: Behavioral Research into Business Ethics*.

Bioethics has been even slower than business ethics to adopt behavioral ethics concepts. It, like business ethics, has been dominated by debates over which normative theory is better for guiding decision-making and the moral duties that result from various ethics frameworks like utilitarianism, deontology, principlism, personalism, and virtue theory. Many bioethicists still regularly argue that ethical competency and moral decision-making can be mostly learned, cultivated, and developed over time.

Bioethicists tend to ignore empirical evidence showing that many moral decisions are based far less on rational deliberations than on unconscious subliminal stimuli and situational forces. These forces and stimuli can affect both the way people make decisions, for example, whether they use a utilitarian or deontological framework, as well as their decision outcomes. For example, using the words “we” and “us” over “you” and “them” in conversations can unconsciously elicit higher levels of trust from people and alter decision outcomes. Similarly, visual representations, in contrast to verbal representations of information, can prompt people to make deontological versus utilitarianism moral judgments (Amit and Greene 2012). While many ethicists acknowledge blameworthiness is related to intentionality and

activation of the will, they still underestimate the volume of stimuli that can decrease a person's rational deliberation and spark more emotional, uncontrollable, and automatic processing.

Even the ordering of expressed opinions or information objects can anchor and affect group and individual decision-making. For instance, a person can be manipulated into choosing healthy food over junk food from a cafeteria line, simply by manipulating where the food is placed in relation to the other. If the healthy food is placed at the beginning of the food options and the junk food at the end, the person will be more likely to unconsciously select the healthy option.

Similar strategies can be implemented for nudging people to use the stairs over elevators for health benefits, to donate their organs and tissues, or to choose the best insurance plan. Take some countries in Europe that use an opt-out system for organ and tissue donations. In contrast, the United States asks for people to opt in and volunteer to donate their organs. Some bioethicists argue the United States should switch to an opt-out model to increase the donor pool as people generally keep the status quo default option. This raises questions about the ethicality of intentionally manipulating people's choice architecture to elicit specific decision outcomes, even good outcomes (Thaler and Sunstein 2009). Thaler and Sunstein call this type of nudging a form of libertarian paternalism.

Situational forces do not just affect the decision-making of individuals; they also affect how we judge the decisions of others. People tend to blame others less if an intermediary carries out a harmful action, rather than if the harmful outcome is done directly (Paharia et al. 2009). For example, imagine a large drug company (called Company X) has two cancer drugs used by patients who really need them. The prices for both drugs go up. But, in one instance, the drug price was raised directly by Company X, whereas in the second case the drug was sold to Company Y and Company Y raised the price (which Company X knew was going to happen). People are generally more lenient on Company X in the second case, where Company Y raised the price, despite equal outcomes in both situations and the

fact that Company X sold the drug knowing the price would increase. This case hints that if a pharmaceutical company aims to increase its profits while protecting its reputation, it should license its drug and let someone else raise the price, rather than raise the price itself and make the same profit.

Conclusion

Traditional approaches to economics assume that people's economic decisions are based on the rule of maximizing utility. In contrast, behavioral ethics neither assumes people are good at utility maximization nor that it is their only goal. Using empirical tools, behavioral ethics shows people have psychological biases (such as loss aversion), limited cognitive resources, and care about other values (such as fairness), which can weaken their utility maximization behavior. These lessons have slowly found their way into the business ethics literature. However, bioethics scholars have been slower to adopt behavioral ethics concepts. Further study is needed on the intersections of bioethics and behavioral ethics to better understand the implications and impact each field can have on the other.

Cross-References

- [Business Ethics](#)
- [Professional Ethics](#)

References

- Amit, E., & Greene, J. D. (2012). You see, the ends don't justify the means visual imagery and moral judgment. *Psychological Science*, 23(8), 861–868.
- Ashraf, N., Camerer, C. F., & Loewenstein, G. (2005). Adam Smith, behavioral economist. *Journal of Economic Perspectives*, 19, 131–145.
- Bazerman, M., & Gino, F. (2012). *Behavioral ethics: Toward a deeper understanding of moral judgment and dishonest* (Working Paper 12–054). Harvard Business School.

- Bolton, G. E., & Ockenfels, A. (2000). ERC: A theory of equity, reciprocity, and competition. *American Economic Review*, 90, 166–193.
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58, 1015–1026.
- Kahneman, D. (2011). *Thinking fast and slow*. New York: Farrar, Straus and Giroux.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 47, 263–291.
- Messick, D. M., & Tenbrunsel, A. E. (1996). *Codes of conduct: Behavioral research into business ethics*. New York: Russel Sage.
- Paharia, N., Kassam, K. S., Greene, J. D., & Bazerman, M. H. (2009). Dirty work, clean hands: The moral psychology of indirect agency. *Organizational Behavior and Human Decision Processes*, 109, 134–141.
- Rieger, M. O., Wang, M., & Hens, T. (2015). Risk preferences around the world. *Management Science*, 61, 637–648.
- Schäfer, M., Haun, D. B. M., & Tomasello, M. (2015). Fair is not fair everywhere. *Psychological Science*, 26, 1252–1260.
- Simon, H. A. (1982). *Models of bounded rationality: Empirically grounded economic reason* (Vol. 3). Cambridge: MIT Press.
- Stok, F. M., De Ridder, D. T. D., de Vet, E., & de Wit, J. B. F. (2014). Don't tell me what I should do, but what others do: The influence of descriptive and injunctive peer norms on fruit consumption in adolescents. *British Journal of Health Psychology*, 19, 52–64.
- Sunstein, C. R. (2015). Nudges, agency, and abstraction: A reply to critics. *Review of Philosophy and Psychology*, 6, 511–529.
- Thaler, R. H., & Sunstein, C. R. (2009). *Nudge*. New York: Penguin Books.

Further Readings

- Evans, J. S. B. T. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology*, 59, 255–278.
- Sloman, S. A. (1996). The empirical case for two systems of reasoning. *Psychological Bulletin*, 119, 3–22.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131.