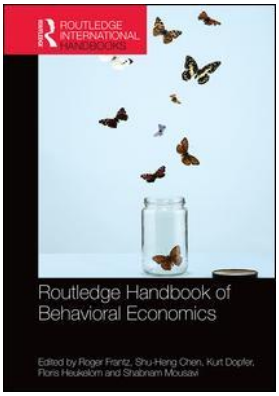

Routledge Handbook of Behavioral Economics

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Behaviorally Informed Regulation, part 1

Publication details
https://test.routledgehandbooks.com/doi/10.4324/9781315743479.ch15
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Published online on: 27 Jul 2016

PART II

Specific domains of behavioral economics

Introduction

Modern economics has extensive influence across many disciplines. Its clear and straightforward methods of valuation allow for quantification of costs and benefits associated with both individual and collective choices. Thus legislators, regulators, and policy makers can benefit from economics principles in making their decisions, as can the firms, households, and individuals that are affected by those decisions. The first part of this handbook introduced scientists whose work has bearing on the field of behavioral economics. In the second part of this handbook, each chapter magnifies a specific domain of behavioral economics. Whether emotions, regulations, computation, or morality, all aspects of human cognition and environment play a role in the resulting observed behavior. By collecting these in one place, we aim to portray a holistic picture of these varied aspects.

The first two chapters provide an overview of cognitive studies pertinent to the design of effective regulatory structures. Sunstein argues that the assumed consequences and impact of regulations have been transformed through lawmakers' recent awareness of cognitive science. Following the architecture of cognition proposed by Kahneman (in his Nobel Prize lecture), Sunstein proposes a choice architecture view of social behavior in the regulatory environment. He provides an overview of findings and practices whereby public policy making has been informed by this view, warns of potential traps along the way, and shares his vision of what lies ahead in this trend.

Humans ignore information pertinent to the consequences of their choices either freely or because they cannot reliably specify the outcomes. Roy and Zeckhauser define this state in which some outcomes cannot be identified, as in Knightian uncertainty, as *ignorance*. They provide a review of their joint research focused on the human desire to forecast the future, demonstrated in the likes of hunches and prophecies. In their view, expected utility theory is unable to capture such phenomena, whereas their conceptualization of ignorance constitutes a promising direction for behavioral decision-making studies in economics and beyond.

In their chapter, Chen, Chie, and Tai question whether smart (or digital) societies make better decisions. Their elaborate literature review concludes that concerns about information and choice overload still persist. However, their review also reveals that smart societies promote prosocial behavior, as evident in phenomena such as crowdsourcing. The reason is that digital

societies are better equipped to match teams. Moreover, members of smart societies strive for even higher aspirations because higher goals appear more achievable once tackled by a team rather than an individual.

The animal spirit of Keynes has left lasting traces in our ways of understanding, teaching, and formulating macroeconomic phenomena. In an artfully composed piece, Baddeley interweaves the old idea of animal spirit with current attention in the field to optimism and then uses the role of time as a central constraint in the making of decisions to deliver ways in which behavioral macroeconomics can complement its neoclassical foundation in a coherent manner while incorporating psychological insight.

Has behavioral economics ignored relevant psychology findings? This is what Mousavi, Gigerenzer, and Kheirandish consider when introducing the fast-and-frugal heuristics study program. They provide an overview of the way heuristics can be analyzed and modeled according to their ecological—as opposed to neoclassical—rationality and walk the reader through the steps of building a testable heuristic model that accounts for long-lasting anomalies such as the Allais paradox.

Chen, Kao, and Venkatachalam investigate the role of machines and computation in the analysis of human behavior while noting the more qualitative notions of psychology that enhance understanding of human cognition. Machine learning and human behavior share the use of heuristics in problem solving. Starting from this overlap, they take the reader on a journey to explore how developments in machine learning can be employed to make sense of intelligent human behavior. Their discussion of the challenges of analyzing human behavior by coding and computation points out our technical limits and raises exciting questions and areas of exploration for the computationally inclined.

Ever since Hume wrote his treatise the role of emotions in human action has been acknowledged by empiricists, and nowadays by game theorists such as Ken Binmore. Bandelj, Kim, and Tufail take a leap into the heart of the human psyche by directly linking emotions to economics. They provide an account of the growing number of studies over the past two decades on both the role of emotions in individual and organizational decision making and the economics of happiness.

In the eighteenth century, Adam Smith moved beyond the wealth of nations to ponder on moral sentiments. His introspections and inferences have been highly influential in the formation of modern economics. In his chapter, Friedman takes a formal approach to morality, strictly attempting to formulate it as a constraint in the study of economic behavior. Using the conception of morality as a variable constraint to self-interest, Friedman elaborates on the coevolution of moral systems and market-oriented institutions.

Although economics declared independence from political economy as a discipline a good while ago, the ties were never completely severed. Foster and Frijters courageously introduce the long neglected yet most powerful human emotion of love into the equations of economics and political science. In their framework, love is the counterpart to greed, where greed constitutes individual wealth maximization. They work out a way to think about behavioral political economy, where politics emerge from group interactions, by using love as the catalyst.

How do we learn and teach? This question lies at the heart of all academic inquiries, and is also a most debated topic in both household and government decision making. Leaver develops a behaviorally informed framework that moves beyond mere cost-benefit analysis to include essential psychological factors such as identity and self-control in the economy of education and also in the evaluation of students and educational systems.

Advances in all areas are almost always owed, at least in part, to innovation. Governments and private institutions alike promote it, and entrepreneurs move the markets in unseen directions

with their innovations. Potts takes a systematic approach to reconcile the psychological and economic aspects of innovation within a theoretical framework that he calls behavioral innovation economics.

Agent-based modeling is an increasingly growing field that connects computation with the study of behavior in complex systems. It offers accuracy and techniques for the analysis of economic markets without having to deal with traditional methods of optimization and equilibrium solutions. Mueller and Pyka demonstrate how agent-based modeling accommodates the actual complexity of human behavior and thus has the potential to generate insights that were not deliverable in the traditional framework that is limited by too many simplifying assumptions about humans as a consequence of making models tractable.

Labor economists do not consider their field as a segment of macroeconomics but as a field on its own merit. The mechanisms of the labor market sufficiently differ from other markets to justify such independence. Wang provides a comprehensive overview of deviations from neoclassical labor models inspired and fueled by behavioral phenomena and presents the resulting policy implications.

The chapters stand alone and can be read in any order. Clearly, the future of economics involves considerable interactions and exchanges between scholars across many fields of study. Our collection offers but a glimpse at such potentials. We hope that this handbook inspires many more interactions and look forward to hearing your feedback and thoughts. Enjoy!

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BEHAVIORALLY INFORMED REGULATION, PART 1

Cass R. Sunstein

Introduction

In recent decades, cognitive psychologists and behavioral economists have been incorporating empirical findings about human behavior into economic models. These findings have transformed our understanding of regulation and its likely consequences. They are also providing instructive lessons about the appropriate design of "nudges"— low-cost, choice-preserving, behaviorally informed approaches to regulatory problems, including disclosure requirements, default rules, and simplification (Thaler & Sunstein, 2008).

The most general lesson is that *choice architecture*, understood as the background against which decisions are made, has major consequences for both decisions and outcomes. Small, inexpensive policy initiatives, making modest design changes, can have large and highly beneficial effects in areas that include health, energy, the environment, savings, education, and much more. The purpose of this chapter is to explore relevant evidence, to catalogue behaviorally informed practices and reforms, and to discuss some implications for regulatory policy.

I write in part on the basis of my experience as Administrator of the White House Office of Information and Regulatory Affairs, where I was privileged to serve between 2009 and 2102. In that period, a number of people in the Obama Administration took the findings of behavioral economics quite seriously. We adopted a large number of initiatives that count as nudges. One of my main goals here is to catalogue those initiatives and to explore their implications for the future.

In the United States, regulatory efforts have been directly informed by behavioral findings, and behavioral economics has played an unmistakable role in numerous domains. The relevant initiatives enlist tools such as disclosure, warnings, norms, and default rules, and they can be found in multiple areas, including fuel economy, energy efficiency, environmental protection, health care, and obesity. As a result, behavioral findings have become an important reference point for regulatory and other policymaking in the United States. In 2015, President Barack Obama issued a historic Executive Order, directing the agencies of his government to incorporate behavioral insights in their work (see Appendix).

In the United Kingdom, Prime Minister Cameron created a Behavioural Insights Team, starting in 2010, with the specific goal of incorporating an understanding of human behavior into policy initiatives. The official website states that its "work draws on insights from the growing body of academic research in the fields of behavioral economics and psychology which show how

often subtle changes to the way in which decisions are framed can have big impacts on how people respond to them" (Cabinet Office, n.d.). The team has used these insights to promote initiatives in numerous areas, including smoking cessation, energy efficiency, organ donation, consumer protection, and compliance strategies in general (Halpern, 2015). A great deal of money is being saved. In 2013, the United States created a Behavioral Insights Team of its own, which President Obama formally institutionalized, and made permanent, in 2015. Other nations have expressed keen interest in such work, and are adopting, or considering adopting, similar initiatives. In 2014, Germany created its own team to explore behavioral insights.

Behavioral economics has drawn attention in Europe more broadly. The Organization for Economic Development and Cooperation (OECD) has published a Consumer Policy Toolkit that recommends a number of initiatives rooted in behavioral findings (OECD, 2010). In the European Union, the Directorate-General for Health and Consumers has also shown the influence of behavioral economics (DG SANCO, 2010). A report from the European Commission, called *Green Behavior*, enlists behavioral economics to outline policy initiatives to protect the environment (European Commission, 2012; inudgeyou.com, n.d.). Private organizations are making creative use of behavioral insights to promote a variety of environmental, health-related, and other goals (see inudgeyou.com, n.d.; see also greeNudge.no).

It is clear that behavioral findings are having a large impact on regulation, law, and public policy all over the world and with increasing global interest in low-cost regulatory tools, that impact will inevitably grow over the next decades. In these circumstances, it is particularly important to have a sense of what we know, what we do not know, and how emerging understandings can inform sensible policies and reforms.

I. What we know

A. Findings

For purposes of regulation, the central findings of behavioral research fall in four categories. What follows is not meant to be a comprehensive account; the focus is on those findings that have particular importance to regulatory policy.

1. Inertia and procrastination

A) DEFAULT RULES OFTEN HAVE A LARGE EFFECT ON SOCIAL OUTCOMES

Both private and public institutions often establish "default rules"—rules that determine the result if people make no affirmative choice at all. In part because of the power of inertia, default rules can be extremely important. In the domain of retirement savings, for example, the default rule has significant consequences. When people are asked whether they want to opt in to a retirement plan, the level of participation is far lower than if they are asked whether they want to opt out. Automatic enrollment significantly increases participation.

More generally, people may decline to change from the status quo, even if the costs of change are low and the benefits substantial. In the context of energy and the environment, for example, we might predict that people might neglect to switch to fuel-efficient alternatives even when it is in their interest to do so. It follows that complexity can have serious adverse effects, by increasing the power of inertia, and that ease and simplification (including reduction of paperwork burdens) can produce significant benefits. These benefits include increased compliance with law and

greater participation in public programs. Often people do not act in advisable ways, not because they do not want to do so, but because the best path is obscure or difficult to navigate.

B) PROCRASTINATION CAN HAVE SIGNIFICANT ADVERSE EFFECTS

According to standard economic theory, people will consider both the short term and the long term. They will take account of relevant uncertainties; the future may be unpredictable, and significant changes may occur over time. They will appropriately discount the future; it may be better to have money, or a good event, a week from now than a decade from now. In practice, however, some people procrastinate or neglect to take steps that impose small short-term costs but that would produce large long-term gains. They may, for example, delay enrolling in a retirement plan, starting to exercise, ceasing to smoke, or using some valuable, cost-saving technology.

When procrastination is creating significant problems, automatic enrollment in relevant programs might be helpful. Moreover, complex requirements, inconvenience, and lengthy forms are likely to make the situation worse and perhaps unexpectedly so.

C) WHEN PEOPLE ARE INFORMED OF THE BENEFITS OR RISKS OF ENGAGING IN CERTAIN ACTIONS, THEY ARE FAR MORE LIKELY TO ACT IN ACCORDANCE WITH THAT INFORMATION IF THEY ARE SIMULTANEOUSLY PROVIDED WITH CLEAR, EXPLICIT INFORMATION ABOUT HOW TO DO SO (LEVENTHAL, SINGER, & JONES, 1965; NICKERSON & ROGERS, 2010)

For example, those who are informed of the benefits of a vaccine are more likely to become vaccinated if they are also given specific plans and maps describing where to go (Leventhal, Singer, & Jones, 1965). Similarly, behavior has been shown to be significantly affected if people are informed, not abstractly of the value of "healthy eating," but specifically of the advantages of buying 1 percent milk (as opposed to whole milk) (Heath & Heath, 2010). In many domains, the identification of a specific, clear, unambiguous path or plan has an important effect on social outcomes; complexity or vagueness can ensure inaction, even when people are informed about risks and potential improvements. What appears to be skepticism or recalcitrance may actually be a product of ambiguity.

2. Framing and presentation

A) PEOPLE ARE INFLUENCED BY HOW INFORMATION IS PRESENTED OR "FRAMED" (LEVIN, SCHNEIDER, & GAETH, 1998)

If, for example, people are informed that they will *gain* a certain amount of money by using energy efficient products, they may be less likely to change their behavior than if they are told that they will *lose* the same amount of money by not using such products. When patients are told that 90 percent of those who have a certain operation are alive after five years, they are more likely to elect to have the operation than when they are told that after five years, 10 percent of patients are dead (Redelmeier, Rozin, & Kahneman, 1993). It follows that a product that is labeled "90 percent fat-free" may well be more appealing than one that is labeled "10 percent fat." It also follows that choices are often not made based solely on their consequences; assessments may be affected by the relevant frame.

B) INFORMATION THAT IS VIVID AND SALIENT USUALLY HAS A LARGER IMPACT ON BEHAVIOR THAN INFORMATION THAT IS STATISTICAL AND ABSTRACT

With respect to public health, vivid displays can be more effective than abstract presentations of statistical risks. This point bears on the design of effective warnings. Attention is a scarce resource, and vivid, salient, and novel presentations may trigger attention in ways that abstract or familiar ones cannot.

In particular, salience greatly matters. Why, for example, do people pay bank overdraft fees? One of the many possible answers is that such fees are not sufficiently salient to people, and the fees are incurred as a result of inattention or inadvertent mistakes. One study suggests that limited attention is indeed a source of the problem, and that once overdraft fees become salient, they are significantly reduced (Stango & Zinman, 2011). When people take surveys about such fees, they are less likely to incur a fee in the following month, and when they take a number of surveys, the issue becomes sufficiently salient that overdraft fees are reduced for as much as two years. In many areas, the mere act of being surveyed can affect behavior by, for example, increasing use of water treatment products (thus promoting health) and the take-up of health insurance. One reason for this is that being surveyed increases the salience of the action in question (Zwane et al., 2011).

A more general point is that many costs (or benefits) are less salient than purchase prices; they are "shrouded attributes" to which some consumers do not pay much attention. Such "add-on" costs may matter a great deal but receive little consideration, because they are not salient.

C) PEOPLE DISPLAY LOSS AVERSION; THEY MAY WELL DISLIKE LOSSES MORE THAN THEY LIKE CORRESPONDING GAINS (THALER, KAHNEMAN, & KNETSCH, 1991; MCGRAW, LARSEN, KAHNEMAN, & SCHKADE, 2010; CARD & DAHL, 2011)

Whether a change counts as a loss or a gain depends on the *reference point*, which can be affected by mere description or by policy decisions, and which is often the status quo. A small tax—for example, on grocery bags—can have a large effect on behavior, even if a promised bonus has no effect at all; one reason is loss aversion. It follows that very small charges or fees can be a surprisingly effective policy tool. In part as a result of loss aversion, the initial allocation of a legal entitlement can affect people's valuations. Those who have the initial allocation may value a good more than they would if the allocation were originally elsewhere, thus showing an *endowment effect*.

3. Social influences

A) IN MULTIPLE DOMAINS, INDIVIDUAL BEHAVIOR IS GREATLY INFLUENCED BY THE PERCEIVED BEHAVIOR OF OTHER PEOPLE (HIRSHLEIFER, 1995; DUFLO & SAEZ, 2003)

With respect to obesity, proper exercise, alcohol consumption, smoking, becoming vaccinated, and much more, the perceived decisions of others have a significant influence on individual behavior and choice. The behavior of peers has been found to have a significant effect on risky behavior among adolescents, including tobacco smoking, marijuana use, and truancy (Card & Giuliano, 2011; Bisin, Moro, & Topa, 2011).

In particular, food consumption is greatly affected by the food consumption of others, and indeed the body type of others in the relevant group can affect people's responses to their food choices, with a greater effect from those who are thin than those who are heavy (McFerran et al., 2011). Perception of the norm in the pertinent community can affect risk taking, safety, and health.

The norm conveys significant information about what ought to be done; for that reason, those who lack private information may follow the apparent beliefs and behavior of relevant others, sometimes creating *informational cascades*.

In addition, people care about their reputations, and for that reason, they may be influenced by others so as not to incur their disapproval. In some contexts, social norms can help create a phenomenon of *compliance without enforcement*—as, for example, when people comply with laws forbidding indoor smoking or requiring buckling of seat belts, in part because of social norms or the expressive function of those laws. These points bear on the value and importance, in many domains, of private–public partnerships.

B) IN PART BECAUSE OF SOCIAL INFLUENCES, PEOPLE ARE MORE LIKELY TO COOPERATE WITH ONE ANOTHER, AND TO CONTRIBUTE TO THE SOLUTION OF COLLECTIVE ACTION PROBLEMS, THAN STANDARD ECONOMIC THEORY PREDICTS (CAMERER, 2003)

People's willingness to cooperate is partly a product of an independent commitment to fairness; but it is partly a product of a belief that others will see and punish a failure to cooperate or to act fairly. Norms of reciprocity can be exceedingly important. In many contexts, the result is a situation in which people cooperate on the assumption that others are cooperating as well—and might punish those who fail to do so.

4. Difficulties in assessing probability

A) IN MANY DOMAINS, PEOPLE SHOW UNREALISTIC OPTIMISM (JOLLS, 1998; SHAROT, 2011)

The "above average" effect is common (Weinstein, 1987); many people believe that they are less likely than others to suffer from various misfortunes, including automobile accidents and adverse health outcomes. One study found that while smokers do not underestimate statistical risks faced by the population of smokers, they nonetheless believe that their personal risk is less than that of the average smoker (Slovic, 1998). Unrealistic optimism has neurological foundations, with people incorporating good news far more readily than bad news (see Sunstein, 2013, for an overview). A predictable result of unrealistic optimism is a failure to take appropriate precautions.

B) PEOPLE OFTEN USE HEURISTICS, OR MENTAL SHORTCUTS, WHEN ASSESSING RISKS (KAHNEMAN & FREDERICK, 2002)

For example, judgments about probability are often affected by whether a recent event comes readily to mind (Tversky & Kahneman, 1973). If an event is cognitively "available," people may well overestimate the risk. If an event is not cognitively available, people might well underestimate the risk. In short, "availability bias" can lead to inaccurate judgments about the probability of undesirable outcomes.

C) PEOPLE SOMETIMES DO NOT MAKE JUDGMENTS ON THE BASIS OF EXPECTED VALUE, AND THEY MAY NEGLECT OR DISREGARD THE ISSUE OF PROBABILITY, ESPECIALLY WHEN STRONG EMOTIONS ARE TRIGGERED (LOEWENSTEIN ET AL., 2001)

When emotions are strongly felt, people may focus on the outcome and not on the probability that it will occur (Rottenstreich & Hsee, 2001). (This point obviously bears on reactions to

extreme events of various sorts.) Prospect theory, which does not depend on emotions at all, suggests that for low and moderate changes, people may be risk averse with respect to gains but risk seeking with respect to losses; for very large changes, people may be risk seeking with respect to gains but risk averse for losses (Kahneman & Tversky, 1979).

B. Incentives and choice architecture

These various findings are hardly inconsistent with the conventional economic emphasis on the importance of material incentives; actual and perceived costs and benefits certainly matter. When the price of a product rises, or when it becomes clear that use of a product imposes serious health risks, the demand for the product is likely to fall (at least, and this is a significant qualification, if these effects are salient). But apart from strictly material incentives of this kind, evidence suggests the independent importance of (1) the social environment and (2) prevailing social norms. If, for example, healthy foods are prominent and easily accessible, then people are more likely to choose them; one study finds an 8 to 16 percent decrease in intake simply by making food more difficult to reach (as, for example, by varying its proximity by ten inches or altering the serving utensil) (Rozin et al., 2011). The problem of childhood obesity is, at least in part, a result of the easy availability of unhealthy foods. The same point bears on smoking and alcohol abuse.

In fact small nudges can have surprisingly large effects. For example, automatic enrollment in savings programs can have far larger effects than significant economic incentives—a clear testimonial to the potential power of choice architecture and its occasionally larger effect than standard economic tools (Chetty et al., 2012). Some evidence suggests that if people are asked to sign forms first rather than last—an especially minor change—the incidence of honesty increases significantly (Shu et al., 2012). Reminders and warnings can make a large difference.

Here is another way to put the point. The existing social environment and current social norms provide the backdrop for many outcomes. Consumer products are accompanied by default rules of various sorts; consider, for example, rental car and cell phone agreements, where it is possible to opt in or to opt out of a range of features, and where the default rule may much matter. With respect to water quality, air quality, sewage treatment, immunization, and health care, the social environment provides relevant background, which is often taken for granted, and which need not, for many people much of the time, become a serious source of deliberation and choice. In particular for people who are well-off, the relevant background, which need not be an object of reflection, is highly desirable and may be taken for granted without causing harm. For others, the background is not so benign, and it should in any case be an object of reflection and choice.

II. Concerns

A. Are predictions possible?

It is tempting to respond that these diverse findings might point in different directions, even for the same subpopulation faced with the same problem, and hence that clear predictions cannot be made in particular cases. For example, will people save too little or too much? Will they take optimal, excessive, or insufficient precautions against the risks associated with poor diet?

By itself and in the abstract, an understanding of loss aversion, the availability heuristic, and social influences does not produce clear answers. Such an understanding could, on plausible assumptions, suggest that people may save too much or take excessive precautions, or on other plausible assumptions, suggest the opposite conclusions. And it may well be the case that loss aversion, unrealistic optimism, the availability heuristic, and social influences are simultaneously

at work and will point in different directions, making predictions difficult or impossible. For example, unrealistic optimism may lead people to underestimate certain risks, while the availability heuristic may lead people to overestimate the same risks. And although procrastination will cause delay, loss aversion may lead people to act promptly.

It is true that if these findings are taken as a whole and in the abstract, they will not lead to a clear or unique prediction about behavior. Particular situations must be investigated in detail in order to understand likely outcomes. Predictions often cannot and should not be made in the abstract. For the purposes of this chapter, it is not necessary to engage these questions in detail. We know that automatic enrollment usually has a large effect, and we know when it does not (Sunstein, 2013; see also Chetty et al., 2012). Low-cost regulatory policies, such as disclosure, reminders, and simplification, may be justified even if we do not have a clear understanding, in the abstract, of whether relevant behavior is affected by loss aversion or social influences. Of course it is also true that the design of a disclosure policy should be based on an understanding of how people process information, and that a sensible approach to simplification will require an understanding of whether and why complexity can create problems and of what kinds of simplification can eliminate those problems.

B. Markets, government, and the vexing problem of paternalism

It is natural to wonder whether an understanding of the findings outlined above justify paternalism, or operate as a defense of "more" regulation. With respect to paternalism in particular, it is true that some of the relevant findings supplement the standard accounts of market failures, suggesting that in some settings, markets may fail, in the sense that they may not promote social welfare even in the presence of perfect competition and full information. We are now in a position to identify a series of *behavioral market failures*, and these do appear to justify regulatory controls. Responses to behavioral market failures might be counted as paternalistic.

If, for example, people focus on short-term costs and neglect long-term benefits, then it is possible that disclosure policies that specifically emphasize the long-term, or even regulatory requirements (involving, for example, energy efficiency), may be justified. It is also possible to identify "internalities"—problems of self-control and errors in judgments that produce within-person harms, as, for example, when smoking behavior leads to serious risks because of the victory of short-term considerations over the longer view. These too count as behavioral market failures, and responses may be paternalistic in character.

Richard Thaler and I have argued in defense of "libertarian paternalism" (Thaler and Sunstein, 2008; see also Sunstein, 2013), understood as approaches that preserve freedom of choice while also steering people in directions that will make their lives go better (by their own lights). And it would be possible to think that at least some behavioral market failures justify more coercive forms of paternalism.

But even if the standard accounts of potential market failures are supplemented, it does not necessarily follow that paternalism, or more regulation, is justified. Perhaps markets will eventually address the problem better than regulators would, and for multiple reasons, the cure might be worse than the disease. And indeed, many behaviorally informed approaches should be seen as an effort to increase *navigability*. Those efforts need not be characterized as paternalistic at all.

Indeed, some of the findings might argue in favor of less rather than more regulation and less rather than more paternalism. When, for example, people are able to solve collective action problems on their own, government is not needed. In certain circumstances, automatic enrollment is preferable to mandates and bans. Moreover, market forces can provide a great deal of help in the face of human error. For example, the private sector has relied increasingly on automatic

enrollment in savings plans, and countless companies attempt to promote better diet and more exercise (perhaps expecting to obtain more customers as a result).

It should not be necessary to emphasize that public officials are subject to error as well. Indeed, errors may result from one or more of the findings traced above; officials are human and capable of error too. The dynamics of the political process may or may not lead in the right direction. It would be absurd to say that behaviorally informed regulation is more aggressive than regulation that is not so informed, or that an understanding of recent empirical findings calls for more regulation rather than less. The argument is instead that such an understanding can help to inform the design of regulatory programs.

With respect to the particular concerns, it would be valuable to have a better understanding of how the relevant findings apply within heterogeneous groups; the findings are far from uniform within the population, and for purposes of policy, heterogeneity may matter. It would also be valuable to have a better understanding of actual conduct within diverse settings—for example, the decision whether or not to purchase fuel-efficient cars and appliances in the face of short-term costs and long-term benefits. We have good reason to believe that many people do not buy energy efficient products even when it would be in their economic interest to do so, but the conceptual and empirical issues are complex and have not been fully sorted out.

But even at this stage, existing research offers helpful lessons for regulatory policy, which helps account for both the popularity and the impact of recent initiatives. Relevant research suggests that four such approaches have particular promise: (1) using disclosure as a regulatory tool, especially if disclosure policies are designed with an appreciation of how people process information; (2) simplifying and easing choices through appropriate default rules, reminders, reduction of complexity and paperwork requirements, and related strategies; (3) increasing the salience of certain factors or variables; and (4) enlisting or promoting social norms through private–public partnerships and other approaches that operate in the service of agreed-upon public goals. Behaviorally informed approaches of this kind are already in place, including a large set of reforms in both the United Kingdom and the United States (Halpern, 2015; White House Social and Behavioral Sciences Team, 2015).

Acknowledgments

This chapter and the following draw heavily, and are largely based, on Cass R. Sunstein, Empirically Informed Regulation, 78 U. Chi. L. Rev. 1349 (2011), and readers interested in relevant details might consult that discussion. There are, however, some significant additions, revisions, and changes in emphasis. I am grateful to Cassie Chambers for excellent research assistance.

Bibliography

Bisin, A., Moro, A., & Topa, G. (2011). The Empirical Content of Models with Multiple Equilibria in Economies with Social Interactions (Working Paper No. 17196, June 2011). Retrieved from the National Bureau of Economic Research website: www.newyorkfed.org/research/economists/topa/multimay11b.pdf.

Camerer, C. F. (2003). Behavioral game theory: Experiments in strategic interaction. Princeton: Princeton University Press.

Card, D. and Dahl, G. B. (2011). Family violence and football: The effect of unexpected emotional cues on violent behavior. Quarterly Journal of Economics, 126(4), 1879–907.

Card, D. and Giuliano, L. (2011). Peer effects and multiple equilibria in the risky behavior of friends (NBER Working Paper No. 17088) Retrieved from the National Bureau of Economic Research website: www.nber.orgers/w17088.pdf.

Chetty, R., Friedman, J., Leth-Petersen, S., Nielsen, T, and Olsen, T. (2012). Active vs. Passive Decisions and Crowdout in Retirement Savings Accounts: Evidence from Denmark (NBER Working Paper No. 18565) Retrieved from the National Bureau of Economic Research website: www.nber.org/papers/w18565

DG SANCO (2010). Consumer affairs. Retrieved from http://ec.europa.eu/consumers/docs/1dg-sanco-brochure-consumer-behavior-final.pdf.

Duflo, E., & Saez, E. (2003). The role of information and social interactions in retirement plan decisions: Evidence from a randomized experiment. Quarterly Journal of Economics, 118(3), 815–42.

European Commission (2012). Science for environment policy, Future brief: Green behavior. Retrieved from http://ec.europa.eu/environment/integration/research/newsalert/pdf/FB4.pdf.

Halpern, D. (2015). Inside the Nudge Unit. London: W.H. Allen.

Heath, C., & Heath, D. (2010). Switch: How to change things when change is hard. New York: Broadway.

Hirshleifer, D. (1995). The blind leading the blind: Social influence, fads, and informational cascades. In M. Tommasi and K. Ierulli (Eds.) The new economics of human behavior Cambridge, UK: Cambridge University Press, 188–215.

Jolls, C. (1998). Behavioral economics analysis of redistributive legal rules, Vanderbilt Law Review, 51(6), 1653188–21577.

Kahneman, D., & Frederick, S. (2002). Representativeness revisited: Attribute substitution in intuitive judgment. In T. Gilovich, D. Griffin, and D. Kahneman (Eds.) Heuristics and biases. Cambridge, UK: Cambridge University Press, 49–81.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. Econometrica, 47(2), 263–92.

Leventhal, H., Singer, R. & Jones, S. (1965). Effects of fear and specificity of recommendation upon attitudes and behavior. Journal of Personality and Social Psychology, 2(1), 20–9.

Levin, I. P., Schneider, S. L., & Gaeth, G. J. (1998). All frames are not created equal: A typology and critical analysis of framing effects. Organizational Behavior and Human Decision Processes, 76(2), 149–88.

Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings, Psychological Bulletin, 127(2), 267–86.

McFerran, B. et al. (2011). How the body type of others impacts our food consumption. In R. Batra, P. Keller, and V. Strecher (Eds.) Leveraging consumer psychology for effective health communications. Armonk, NY: M.E. Sharpe, 151–70.

McGraw, P., Larsen, J., Kahneman, D., & Schkade, D. (2010). Comparing gains and losses. Psychological Science, 21(10), 1438–45.

Nickerson, D. W., & Rogers, T. (2010). Do you have a voting plan? Implementation intentions, voter turnout, and organic plan making. Psychological Science, 21(2), 194–9.

Organization for Economic Cooperation and Development (2010). Consumer policy toolkit. Retrieved from www.oecd.org/sti/consumerpolicy/consumerpolicytoolkit.htm.

Redelmeier, D. A., Rozin, P. & Kahneman, D. (1993). Understanding patients' decisions: Cognitive and emotional perspectives. Journal of the American Medical Association, 270(1), 72–6.

Rottenstreich, Y. & Hsee, C. K. (2001). Money, kisses, and electric shocks: On the affective psychology of risk. Psychological Science, 12, 185–90.

Rozin, P. et al., (2011). Nudge to nobesity I: Minor changes in accessibility decrease food intake, Judgment and Decision Making, 6(4), 323–32.

Sharot, T. (2011). The optimism bias: A tour of the irrationally positive brain. New York, NY: Knopf Publishing.

Shu, L., Mazar, N., Gino, F., Ariely, D., & Bazerman, M. (2012). Signing at the beginning makes ethics salient and decreases dishonest self-reports in comparison to signing at the end. PNAS 109: 15197–200.

Slovic, P. (1998). Do adolescent smokers know the risks? Duke Law Journal, 47(6), 1133–41.

Stango V. & Zinman, J. (2011). Limited and varying consumer attention: Evidence from shocks to the salience of bank overdraft fees (Working Paper No. 11–17) Retrieved from Federal Reserve Bank of Philadelphia website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1817916.

Sunstein, C. R. (2013). Simpler. New York, NY: Simon & Schuster.

Thaler, R. H., & Sunstein, C. R. (2008). Nudge. New Haven: Yale University Press.

Thaler, R. H., Kahneman, D. & Knetsch, J. L. (1991). Experimental tests of the endowment effect and the Coase theorem, in R. H. Thaler (Ed.) Quasi rational economics. New York: Russell Sage, 167–88.

Tversky, A. & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. Cognitive Psychology, 5(2), 207–32.

Weinstein, N. (1987). Unrealistic optimism about susceptibility to health problems: Conclusions from a community-wide sample, Journal of Behavioral Medicine, 10(5), 481–500.
White House Social and Behavioral Sciences Team. (2015). Annual Report. Available at www.whitehouse.gov/sites/default/files/microsites/ostp/sbst_2015_annual_report_final_9_14_15.pdf
Zwane, A. P. et al. (2011). Being surveyed can change later behavior and related parameter estimates. Proceedings of the National Academy of Sciences, 108(5), 1821–6.

Appendix: Executive Order: using behavioral science insights to better serve the American people

A growing body of evidence demonstrates that behavioral science insights—research findings from fields such as behavioral economics and psychology about how people make decisions and act on them—can be used to design government policies to better serve the American people.

Where Federal policies have been designed to reflect behavioral science insights, they have substantially improved outcomes for the individuals, families, communities, and businesses those policies serve. For example, automatic enrollment and automatic escalation in retirement savings plans have made it easier to save for the future, and have helped Americans accumulate billions of dollars in additional retirement savings. Similarly, streamlining the application process for Federal financial aid has made college more financially accessible for millions of students.

To more fully realize the benefits of behavioral insights and deliver better results at a lower cost for the American people, the Federal Government should design its policies and programs to reflect our best understanding of how people engage with, participate in, use, and respond to those policies and programs. By improving the effectiveness and efficiency of Government, behavioral science insights can support a range of national priorities, including helping workers to find better jobs; enabling Americans to lead longer, healthier lives; improving access to educational opportunities and support for success in school; and accelerating the transition to a low-carbon economy.

Now, therefore, by the authority vested in me as President by the Constitution and the laws of the United States, I hereby direct the following:

Section 1. Behavioral Science Insights Policy Directive.

a Executive departments and agencies (agencies) are encouraged to:

- i identify policies, programs, and operations where applying behavioral science insights may yield substantial improvements in public welfare, program outcomes, and program cost effectiveness;
- ii develop strategies for applying behavioral science insights to programs and, where possible, rigorously test and evaluate the impact of these insights;
- iii recruit behavioral science experts to join the Federal Government as necessary to achieve the goals of this directive; and
- iv strengthen agency relationships with the research community to better use empirical findings from the behavioral sciences.

b In implementing the policy directives in section (a), agencies shall:

- i identify opportunities to help qualifying individuals, families, communities, and businesses access public programs and benefits by, as appropriate, streamlining processes that may otherwise limit or delay participation—for example, removing administrative hurdles, shortening wait times, and simplifying forms;

ii improve how information is presented to consumers, borrowers, program beneficiaries, and other individuals, whether as directly conveyed by the agency, or in setting standards for the presentation of information, by considering how the content, format, timing, and medium by which information is conveyed affects comprehension and action by individuals, as appropriate;

iii identify programs that offer choices and carefully consider how the presentation and structure of those choices, including the order, number, and arrangement of options, can most effectively promote public welfare, as appropriate, giving particular consideration to the selection and setting of default options; and

iv review elements of their policies and programs that are designed to encourage or make it easier for Americans to take specific actions, such as saving for retirement or completing education programs. In doing so, agencies shall consider how the timing, frequency, presentation, and labeling of benefits, taxes, subsidies, and other incentives can more effectively and efficiently promote those actions, as appropriate. Particular attention should be paid to opportunities to use nonfinancial incentives.

c For policies with a regulatory component, agencies are encouraged to combine this behavioral science insights policy directive with their ongoing review of existing significant regulations to identify and reduce regulatory burdens, as appropriate and consistent with Executive Order 13563 of January 18, 2011 (Improving Regulation and Regulatory Review), and Executive Order 13610 of May 10, 2012 (Identifying and Reducing Regulatory Burdens).

Sec. 2. Implementation of the Behavioral Science Insights Policy Directive.

a The Social and Behavioral Sciences Team (SBST), under the National Science and Technology Council (NSTC) and chaired by the Assistant to the President for Science and Technology, shall provide agencies with advice and policy guidance to help them execute the policy objectives outlined in section 1 of this order, as appropriate.

b The NSTC shall release a yearly report summarizing agency implementation of section 1 of this order each year until 2019. Member agencies of the SBST are expected to contribute to this report.

c To help execute the policy directive set forth in section 1 of this order, the Chair of the SBST shall, within 45 days of the date of this order and thereafter as necessary, issue guidance to assist agencies in implementing this order.