

University of Michigan Law School

University of Michigan Law School Scholarship Repository

Book Chapters

Faculty Scholarship

2009

The Case for Behaviorally Informed Regulation

Michael S. Barr

University of Michigan Law School, msbarr@umich.edu

Sendhil Mullainathan

Harvard University, mullain@fas.harvard.edu

Eldar Shafir

Princeton University, shafir@princeton.edu

Available at: https://repository.law.umich.edu/book_chapters/3

Follow this and additional works at: https://repository.law.umich.edu/book_chapters



Part of the [Banking and Finance Law Commons](#), [Consumer Protection Law Commons](#), [Law and Psychology Commons](#), and the [Law and Society Commons](#)

Publication Information & Recommended Citation

Barr, Michael S. "The Case for Behaviorally Informed Regulation." S. Mullainathan and E. Shafir, co-authors. In *New Perspectives on Regulation*, edited by D. Moss and J. Cisternino, 25-61. Cambridge, MA: The Tobin Project, 2009.

This Book Chapter is brought to you for free and open access by the Faculty Scholarship at University of Michigan Law School Scholarship Repository. It has been accepted for inclusion in Book Chapters by an authorized administrator of University of Michigan Law School Scholarship Repository. For more information, please contact mlaw.repository@umich.edu.

The Case for Behaviorally Informed Regulation

Michael S. Barr, Sendhil Mullainathan, Eldar Shafir

Policymakers approach human behavior largely through the perspective of the “rational agent” model, which relies on normative, a priori analyses of the making of rational decisions. This perspective is promoted in the social sciences and in professional schools, and has come to dominate much of the formulation and conduct of policy. An alternative view, developed mostly through empirical behavioral research, provides a substantially different perspective on individual behavior and its policy implications. Behavior, according to the empirical perspective, is the outcome of perceptions, impulses, and other processes that characterize the impressive machinery that we carry behind the eyes and between the ears. These proclivities, research has shown, intrude upon and shape behavior, often quite independently of deliberative intent, and in contrast with normative ideals that people endorse upon reflection. The results are systematic behaviors that are unforeseen and misunderstood by classical policy thinking. A more nuanced behavioral perspective, such research suggests, can yield deeper understanding and improved regulatory insight.

For example, while the causes of the recent mortgage crisis are myriad, a central problem was that many borrowers took out loans that they did not understand and could not afford. Their behavior is inconsistent with a model of rational agents with perfect information and perfect foresight, and good regulation ought to take their rather common behavior into account. As discussed below, an opt-out home mortgage plan, such as one that provides a standard fixed-rate loan with straightforward terms, could be a start. A person could then choose to opt out in favor of another mortgage plan, but only after being shown comprehensible disclosures about the risks involved. Lenders will have an incentive to make such disclosures properly because they will bear greater liability or other costs in the case of default among those who have opted out. In what follows, we outline the main tenets of the behavioral perspective, we provide some examples of relevant policy applications, and we discuss the implications of this analysis for the conduct of policy, particularly in the context of a market economy.

I. Human Behavior

In contrast with the rational agents of the classical theory, who make well informed, carefully considered, and fully controlled choices, behavioral research has shown that the availability of data does not always lead to effective communication and knowledge; understanding and intention do not necessarily lead to a desired action; and purportedly inconsequential contextual nuances can shape behavior and alter choices, often in ways that people themselves agree diminish their well-being in unintended ways.

I.1 Context

Human behavior turns out to be heavily context dependent, a function of both the person and the situation. One of the major lessons of modern psychological research is the impressive power that the situation exerts, along with a persistent tendency among people to underestimate that power relative to the presumed influence of intention, education, or personality traits. Various studies have documented the stunning capacity of situational factors to influence behaviors that are typically seen to reflect deep-seated personal predispositions. In his now-classic obedience studies, for example, Milgram (1974) showed how decidedly mild situational pressures sufficed to generate persistent willingness on the part of regular people to administer what they believed to be grave levels of electric shock to innocent subjects. Along similar lines, Darley and Batson (1973) recruited seminary students to deliver a practice sermon on the parable of the Good Samaritan. While half the seminarians were told they had plenty of time, others were led to believe they were running late. On their way to give the talk, all participants passed an ostensibly injured man slumped and groaning in a doorway. Whereas the majority of those with time to spare stopped to help, a mere 10 percent of those who were running late stopped, the remaining 90 percent stepping over the victim and rushing along. In contrast with these participants' ethical training and scholarship, the contextual nuance of a minor time constraint proved decisive in the decision not to stop and help a suffering man. As we analyze further below, the heavier-than-anticipated impact of context on behavior increases the importance and responsibility of effective regulation.

I.2 Decisional Conflict

On a less dramatic note, but of substantial policy relevance, are findings regarding the contextual impact of decisional conflict. People's preferences are typically constructed, not merely revealed, during the decision-making process (Lichtenstein and Slovic 2006), and the construction of preferences can be heavily

influenced by the nature and the context of decision, which can have nontrivial regulatory implications, particularly as regards the proliferation of alternatives.

The classical view of decision making does not anticipate nor does it consider the implications of decisional conflict. Each option according to this view is assigned a subjective value, or “utility,” and the person then proceeds to choose the option assigned the highest utility. A direct consequence of this account is that offering more alternatives is a good thing, since the more options there are, the more likely the consumer is to find one that proves attractive.

In contrast, since preferences tend to be constructed in the context of a decision, choices often prove difficult to make. People often search for a compelling rationale for choosing one option over another, and whereas sometimes a compelling reason can be articulated, at other times no easy rationale presents itself, rendering the conflict between options hard to resolve. Such conflict can lead people to postpone the decision or to select a “default” option, and can generate preference patterns that are fundamentally different from those predicted by accounts based on value maximization. In particular, the addition of options can complicate (and, thus, “worsen”) the decision outcome while the normative assumption is that added options only make things better.

Decisional conflict, for example, has been shown to yield a greater tendency to search for alternatives when better options are available but the decision is difficult than when relatively inferior options are available and the decision is easy, even when expectations are otherwise the same (Tversky and Shafir 1992). More generally, as choices become difficult, consumers naturally tend to defer decisions, often indefinitely (Iyengar and Lepper 2000; Shafir, Simonson, and Tversky 1993; Tversky and Shafir 1992). In one study, expert physicians had to decide about medication for a patient with osteoarthritis. These physicians were more likely to decline prescribing a new medication when they had to choose between two new medications than when only one new medication was available (Redelmeier and Shafir 1995); the difficulty of choosing between the two medications presumably led some physicians to recommend not starting either one. A similar pattern was documented with shoppers in an upscale grocery store, where tasting booths offered the opportunity to taste six different jams in one condition, or any of twenty-four jams in the second. Of those who stopped to taste, 30 percent proceeded to purchase a jam from the six-jams selection, whereas only 3 percent purchased a jam from the twenty-four-jam selection (Iyengar and Lepper 2000).

Bertrand, Karlan, Mullainathan, Shafir, and Zinman (2008) conducted a field experiment with a local lender in South Africa to assess the relative importance of various subtle psychological manipulations in the decision to take up a loan

offer. Clients were sent letters offering large short-term loans at randomly assigned interest rates. In addition, several psychological features on the offer letter were also independently randomized, one of which was the number of sample loans shown: the offer letters displayed either one example of a loan size and term, along with respective monthly repayments, or it displayed four such examples. In contrast with standard economic prediction and in line with conflict-based predictions, higher take-up was observed under the one-example description than under the multiple-example version. The magnitude of this effect was large: the simple (one-example) description of the offer had the same positive effect on take-up as dropping the monthly interest on these loans by more than two percentage points. In a related finding, Iyengar, Jiang, and Huberman (2004) show that employees' participation in 401(k) plans drops as the number of fund options proposed by their employer increases.

Adherence to the default or status quo has also been observed in naturally occurring "experiments." One concerning insurance decisions occurred when New Jersey and Pennsylvania both introduced the option of a limited right to sue, entitling automobile drivers to lower insurance rates. The two states differed in their default option: New Jersey motorists needed to acquire the full right to sue (transaction costs were minimal: a signature), whereas in Pennsylvania, the full right to sue was the default, which could then be forfeited in favor of the limited alternative. Whereas only about 20 percent of New Jersey drivers chose to acquire the full right to sue, approximately 75 percent of Pennsylvania drivers chose to retain it (Johnson *et al* 1993). A second naturally occurring "experiment" was recently observed in Europeans' decisions about being potential organ donors (Johnson and Goldstein 2003). In some European nations drivers are, by default, organ donors unless they elect not to be, whereas in other European nations they are, by default, not donors unless they choose to be. Observed rates of organ donors are almost 98 percent in the former nations and about 15 percent in the latter—a remarkable difference, given the low transaction costs and the significance of the decision.

These and other studies show that minor contextual changes can alter what consumers choose in ways that are unlikely to relate to their ultimate utility. It suggests that a proliferation of alternatives, which is where consumer markets are typically headed, needs to be addressed and handled with care, rather than be seen as an obvious advantage. It also suggests that the determination of a default outcome, for example, rather than being conceived as a mere formality that can be effortlessly circumvented, needs to be chosen thoughtfully, since it acquires a privileged status. In effect, when multiple options or the status quo are inappropriately handled (intentionally or not) this can decrease social welfare.

1.3 Mental Accounting

In their intuitive mental accounting schemes, people compartmentalize wealth and spending into distinct budget categories, such as savings, rent, and entertainment, and into separate mental accounts, such as current income, assets, and future income (Thaler 1985; 1992). Contrary to standard assumptions of fungibility, people exhibit different degrees of willingness to spend from their various accounts, which yields consumption patterns that are overly dependent on current income and sensitive to labels so that, for example, people save and borrow (often at a higher interest rate) at the same time (Ausubel 1991).

An understanding of such proclivities may help design instruments that bring about more desirable outcomes. For example, given that people are susceptible to faulty planning, distraction, and procrastination, studies have shown that saving works best as a default. Participation in 401(k) plans is significantly higher when employers offer automatic enrollment (Madrian and Shea 2001), and because participants tend to retain the default contribution rates, savings can be increased if they agree to increased default deductions following future raises (Benartzi and Thaler 2004).

1.4 Construal

A simple but fundamental tension between classical economic analyses and modern behavioral research is captured by the role of psychological “construal.” Agents in classical economic analyses are presumed to choose among objective options in the world. People, however, do not typically contemplate objective circumstances; rather, stimuli are mentally construed, interpreted, represented, and then acted upon. Behavior is directed not toward actual states of the world, but toward our mental representation of those states, and mental representations do not bear a one-to-one relationship to the thing they represent, nor do they necessarily constitute faithful renditions of actual circumstances. As a result, many well-intentioned policy interventions can fail, or succeed, because of the way in which they are construed by the targeted group. For example, people who are rewarded for a behavior they find interesting and enjoyable can come to attribute their interest in the behavior to the reward and, consequently, come to view the behavior as less attractive (Lepper, Greene, and Nisbett 1973). In one classic study, for example, children who were offered a “good player award” to play with magic markers—which they had previously done with great relish in the absence of extrinsic rewards—subsequently showed little interest in the markers when these were introduced as an unawarded classroom activity (in contrast with children who had not received an award and showed no decrease in interest.) Similarly, decisions can be changed when preceded by a

related act that leads to differential construal of one's preferences. Several "foot-in-the-door" and "lowball" techniques are based on the premise that initial compliance with a small request leads people to be then more likely to comply with a larger one. In this vein, Freedman and Fraser (1966) have shown that subjects are more likely to put up a large DRIVE CAREFULLY sign on their lawn if they have already complied with a request to put up a smaller one or to sign a petition regarding careful driving, even when the requests were made by different people. Similarly, Cialdini, Cacioppo, Bassett, and Miller's (1978) subjects were more likely to go pick up United Way posters if they had initially agreed to display them, as compared to a group that had not first considered the more modest request.

Other behavioral factors can influence the outcomes of decisions in ways that standard analysis is likely to miss; however, a full summary is beyond our present purview. To list just a few, people often are not very good at predicting their future tastes or at learning from past experience (Kahneman 1994), and their choices can be influenced by anticipated regret (Bell 1982), by costs already incurred (Arkes and Blumer 1985; Gourville and Soman 1998), by overly optimistic planning (Buehler, Griffin, and Ross 1994) and by the effects of temporal separation, where high discount rates for future as compared to present outcomes can yield dynamically inconsistent preferences (Loewenstein and Elster 1992; Loewenstein and Thaler 1992). Contrary to standard assumptions, the psychological carriers of value are gains and losses, rather than anticipated final states of wealth, and attitudes toward risk tend to shift from risk aversion in the face of gains to risk seeking for losses (Kahneman and Tversky 1979). Also, people are loss averse (the loss associated with giving up a good is substantially greater than the utility associated with obtaining it (Tversky and Kahneman 1991)). This, in turn, leads to a general reluctance to depart from the status quo, because what needs to be renounced is valued more highly than the anticipated benefits (Knetsch 1989; Samuelson and Zeckhauser 1988).

1.5 Knowledge and Attention

Standard theory assumes that consumers are attentive and knowledgeable, and typically able to avail themselves of important information. In contrast, there appears to be a rampant ignorance of options, program rules, benefits, and opportunities, and not only among the poor or the uneducated. Surveys show that fewer than one-fifth of investors (in stocks, bonds, funds, or other securities) can be considered "financially literate" (Alexander, Jones, and Nigro 1998), and similar findings describe the understanding shown by participants in pension plans—meaning, mostly, 401(k)s (Schultz 1995). Indeed, even older beneficiaries

often do not know what kind of pension they are set to receive, or what mix of stocks and bonds they are invested in.

The amount of information people attend to is limited, and cognitive load has been shown to affect performance in everyday tasks. To the extent that consumers find themselves in challenging situations that are unfamiliar, distracting, or tense, all of which consume cognitive resources, fewer resources will be available to process the information that is relevant to the decision at hand. This, in turn, can make decision making even more dependent on situational cues and immaterial considerations. Furthermore, this is likely to be even more true for “low literate” participants, whose even more limited knowledge and understanding can lead them to experience difficulties with effort-versus-accuracy tradeoffs, to rely excessively on peripheral cues in product advertising and packaging, and even to withdraw systematically from market interactions (Adkins and Ozanne 2005, and references therein.) In summary, for participants with limited cognitive resources, whose decisions are heavily dependent on perceived norms, automatic defaults, and other minor contextual nuances, regulation merits even greater attention.

1.6 Context and Institutions

The substantial influence of context on behavior naturally implies that institutions will come to play a central role in shaping how people think and what they do. Among other things:

Institutions Shape Defaults

Institutions normally define defaults. Moreover, it is well established that defaults can have a profound influence on the outcomes of individual choices. Data available on decisions ranging from retirement savings and portfolio choices to the decision to be a willing organ donor illustrate the substantial increase in market share of default options (Johnson and Goldstein 2003; Johnson *et al* 1993). Although the default in an abstract sense appears to be merely one among a number of alternatives, in reality defaults benefit not only from confusion, procrastination, forgetting, and other sources of inaction, but they may also be perceived as the most popular option (this often becomes a self-fulfilling prophesy), or the option implicitly recommended.

Institutions Shape Behavior

Many low-income families are, in fact, savers, whether or not they resort to banks (Berry 2004). Without the help of a financial institution, however, their

savings are at risk (including theft, impulse spending, and the needs of household members), savings will grow more slowly, and may not be readily available to support access to reasonably priced credit in times of need. Institutions provide safety and control. In circumstances of momentary need, temptation, distraction, or limited self-control, those savers who are unbanked are likely to find it all the more difficult to succeed on the path to long-term prosperity. A recent survey conducted by the American Payroll Association shows that “American employees are gaining confidence in direct deposit as a reliable method of payment that gives them greater control over their finances, and that employers are recognizing direct deposit as a low-cost employee benefit that can also save payroll processing time and money.”¹ The employers of the poor, in contrast, often neither require nor propose electronic salary payments. Instead, they prefer not to offer direct deposit to hourly, nonexempt employees, temporary or seasonal employees, part-timers, union employees, and employees in remote locations—all categories that correlate with being low paid. The most frequently stated reasons for not offering direct deposit to these employees include lack of processing time to meet standard industry (“Automatic Clearing House”) requirements, high turnover, and union contract restrictions. All this creates a missed opportunity to offer favorable defaults to needy individuals, whose *de facto* default consists of going after hours to cash their check for a hefty fee.

Institutions Provide Implicit Planning

As it turns out, a variety of institutions provide implicit planning, often in ways that address potential behavioral weaknesses. Credit card companies send customers timely reminders of due payments, and clients can elect to have their utility bills automatically charged, allowing them to avoid late fees if occasionally they do not get around to paying in time. The low-income buyer, on the other hand, without the credit card, the automatic billing, or the Web-based reminders, risks missed payments, late fees, disconnected utilities (followed by high reconnection charges), etc. Interestingly, context can also be detrimental by providing debt too easily. Temporal discounting in general and present bias in particular can be exploited to make cash now more attractive than future costs appear menacing.

A behavioral analysis yields new appreciation for the impact and responsibility of financial institutions, which should be considered not merely from a financial cost-saving point of view, but, instead, should be understood to affect people’s lives, by easing their planning, facilitating their intended actions, or enabling their resistance to temptation.

II. Interaction with Markets

The perspective outlined above, and the regulation it triggers, need to be embedded in the logic of markets. A framework is required that takes into account firm incentives and responses to behaviorally motivated regulation. This perspective produces two dimensions to consider. First, the psychological biases of individuals can either help or hurt the firms they interact with; hence firms' and public-minded regulators' interests are sometimes misaligned and sometimes not. Consider a consumer who does not understand the profound effects of the compounding of interest. Such a bias would lead the individual both to undersave, and to overborrow. Society would prefer that the individual did not have such a bias in both contexts. Firms, however, would prefer that the individual not have the bias to undersave, so that funds intended for investment and fee generation would not diminish (abstracting from fee structures), but, at least over the short term, firms would be perfectly content to see the same individual overborrow (abstracting from collection costs). Because people are fallible and easily misled, transparency does not always pay off and firms sometimes have strong incentives to *exacerbate* psychological biases by hiding borrowing costs. Regulation in this case faces a much more difficult challenge than in the savings situation. The market response to individual failure can profoundly affect regulation. In attempting to boost participation in 401(k) retirement plans, the regulator faces at worst indifferent and at best positively inclined employers seeking to boost employee retention and to comply with federal pension rules.² In forcing disclosure of hidden prices of credit, by contrast, the regulator often faces noncooperative firms, whose interests are to find ways to work around or undo interventions.

A second implication of our equilibrium model of firms in particular markets interacting with individuals with specific psychologies is that the mode of regulation chosen should take account of this interaction. We might think of the regulator as holding two different levers, which we describe as changing the rules and changing the scoring.³ When forcing disclosure of the APR, for example, the regulator effectively changes the "rules" of the game: what a firm must say. A stronger form of rule change is product regulation: changing what a firm must do. Behavioral rule changes, such as creating a favored starting position or default, falls between these two types. When changing liability or providing tax incentives, by contrast, the regulator changes the way the game is "scored." Typically, changing the rules of the game (without changing the scoring, as through liability changes) maintains the firms' original incentives to help or hurt consumer bias, channeling the incentive into different behaviors by firms or individuals, while changing the scoring of the game can alter those incentives.

This perspective highlights the care that must be taken when transferring, for example, the insights of defaults in 401(k) participation to other domains. According to the present analysis, changing the rules on retirement saving (by introducing defaults) works well because employers’ incentives align (or do not misalign) with regulatory efforts to guide individual choice. In other words, under current conditions, employers are either unaffected or may even be hurt by individuals’ propensity to undersave in 401(k) plans.⁴ They thus will not oppose an attempt to fix that problem. In other applications, where firms’ incentives misalign with regulatory intent, changing the rules alone may not work well since firms may have the ability to work creatively around those rule changes. Interestingly, such circumstances may lead to regulations (“changing the scoring”) which, though deeply motivated by behavioral insights, are not themselves particularly psychological in nature. That is, given market responses, psychological rules such as defaults or framing may be too weak, and changes in liability rules or other measures may be necessary, as we explain below.

This distinction in market responses to individual psychology is central to our framework and is illustrated in table 1. In some cases, the market is either neutral or wants to overcome consumer fallibility. In other cases, the market would like to exploit or exaggerate consumer fallibility. Thus, when consumers misunderstand compounding of interest in the context of *saving*, banks have incentives to reduce this misunderstanding so that they can increase their deposits. When consumers misunderstand compounding in the context of *borrowing*, lenders have little incentive to remove this misunderstanding, as it can only

Table 1. The Firm and the Individual

Behavioral Fallibility	Market neutral and/or wants to overcome consumer fallibility	Market exploits consumer fallibility
Consumers misunderstand compounding	Consumers misunderstand compounding in <i>savings</i> <ul style="list-style-type: none"> • Banks would like to <i>reduce</i> this to increase savings base 	Consumers misunderstand compounding in <i>borrowing</i> <ul style="list-style-type: none"> • Banks would like to <i>exploit</i> this to increase borrowing
Consumers procrastinate	Consumers procrastinate in signing up for EITC <ul style="list-style-type: none"> • Tax filing companies would like to <i>reduce</i> this so as to increase number of customers 	Consumers procrastinate in returning rebates <ul style="list-style-type: none"> • Retailers would like to <i>exploit</i> this to increase revenues

decrease the debts they are able to issue.⁵ When consumers procrastinate in signing up for the EITC (and hence in filing for taxes) private tax preparation firms have incentives to discourage such procrastination so as to increase their customer base. When consumers procrastinate in returning rebates (but make retail purchases as if they are going to get a rebate), retailers benefit. Note the parallelism in these examples: firm incentives to alleviate or exploit a bias are not an intrinsic feature of the bias itself. Instead, they are a function of how the bias plays itself out in the particular market structure.

In the consumer credit market, we worry that many interactions between individuals and firms are of the kind in which firms seek to exploit rather than alleviate bias. If true, this raises the concern of overextrapolating from the 401(k) defaults example to credit products. To the extent that 401(k) defaults work because optimal behavior is largely aligned with market incentives, other areas, such as credit markets, might be more difficult to regulate with mere defaults. Furthermore, if the credit market is dominated by “low-road” firms offering opaque products that “prey” on human weakness, it is more likely that regulators of such a market will be captured because “high-road” interests are too weak to push back against low-road players; that market forces will defeat positive defaults sets; and that low-road players will continue to dominate. Many observers, for example, believe that the credit card markets are, in fact, currently dominated by such low-road firms (*see*, for example, Mann 2007; Bar-Gill 2004) and that formerly high-road players have come to adopt the sharp practices of their low-road competitors. If government policymakers want to attempt to use defaults in such contexts, they might need to deploy “stickier” defaults or more aggressive policy options.

In our approach to the issue of regulatory choice the regulator can either change the rules of the game or change the scoring of the game. Setting a default is an example of changing the rules of the game, as is disclosure regulation. Specifically, the rules of the game are changed when there is an attempt to change the nature of the interactions between individuals and firms, as when the regulation attempts to affect what can be said, offered, or done. Changing the scoring of the game, by contrast, changes the payoffs a firm will receive for particular outcomes. This may be done without a particular rule about how the outcome is to be achieved. For example, pension regulation that penalizes firms whose 401(k) plan enrollment is top-heavy with highly paid executives is an example of how scoring gives firms *incentives* to enroll low-income individuals without setting particular rules on how this is done. Changing rules and changing scoring often accompany each other, but they are conceptually distinct.

The discussion below illustrates how policies in the top right corner of table 2 face a particular challenge. Changing the rules of the game alone will be

difficult when firms are highly motivated to find workarounds. As such, when we suggest opt-out policies in mortgages below, the challenge will be to find ways to make these starting positions “sticky” so that firms do not simply undo their default nature. In our judgment, both achieving a good default and figuring out how to make it work requires separating low-road from high-road firms and making it profitable for high-road firms to offer the default product (for a related concept, *see* Kennedy 2005). For that to work, the default must be sufficiently attractive to consumers, sufficiently profitable for high-road firms to succeed in offering it, and penalties associated with deviations from the default must be sufficiently costly so as to make the default “stick” even in the face of market pressures from low-road firms. It may be that in some credit markets, low-road firms have become so dominant that sticky defaults will be ineffectual. Moreover, achieving such a default is likely more costly than making defaults work when market incentives align, not least because the costs associated with the stickiness of the default involve greater deadweight losses given that there will be higher costs to opt out for those for whom deviating from the default is optimal. These losses would need to be weighed against the losses from the current system, as well as against losses from alternative approaches, such as disclosure or product regulation. Nonetheless, given the considerations above, it seems worth exploring whether such sticky defaults can help to transform consumer financial markets.

Table 2. Behaviorally Informed Regulation

	Market neutral and/or wants to overcome consumer fallibility	Market exploits consumer fallibility
Rules	Public education on saving Direct deposit/auto-save Licensing	Sticky defaults (opt-out mortgage or credit card) Information de-biasing on debt (full information disclosure, payoff time for credit cards)
Scoring	Tax incentives for savings vehicles IRS Direct Deposit Accounts	Ex post liability standard for truth in lending Broker fiduciary duty and/or changing compensation (Yield Spread Premiums)

The lessons of a more nuanced behavioral perspective are twofold. On the one hand, people's behavior is idiosyncratic, context dependent, and nuanced in ways that render simple normative assumptions misleading and, in general, complicate policy design. On the other hand, because behavior follows its own rules, policymakers have an added responsibility to concern themselves with appropriate context and detail, and a reason to hope that attention will lead to improved outcomes.

As noted above, because of likely market responses to psychological factors in different contexts, regulation may need to take a variety of forms, including some that while informed by psychology are not designed to affect behavioral change, but rather to alter the structure of the market in which relevant choices are made. In what follows, we consider behaviorally informed regulation in the context of mortgage, credit card, and banking markets, with specific proposals that fall into each bin. Given the complexities involved, our purpose is not to champion the specific policies below. Rather, we illustrate how a behaviorally informed regulatory analysis may lead to a deeper understanding of the costs and benefits, and to potentially improved designs, of specific policies.

III. Behaviorally Informed Policies

III.1 Behaviorally Informed Home Mortgage Regulation

Full Information Disclosure to De-bias Borrowers

With the advent of nationwide credit reporting systems and the refinement of credit scoring and modeling, creditors and brokers themselves, including not just their credit scores, but their likely performance regarding a particular set of loan products. Creditors will know whether borrowers could qualify for better, cheaper loans, as well as how likely it is that borrowers will meet their obligations under an existing mortgage, or become delinquent, refinance, default, or go into foreclosure. Yet lenders are not required to reveal this information to borrowers. At the same time, the lack of disclosure of such information is likely exacerbated by consumer beliefs. Consumers likely have false background assumptions regarding what brokers and creditors reveal to them about their borrowing status. What if consumers believe the following?

Creditors reveal all information about me and the loan products I am qualified to receive. Brokers work for me in finding me the best loan for my purposes, and lenders offer me the best loans for which I qualify. I must be qualified for the loan I have been offered, or the lender would not have validated the choice by offering me the loan. Because I am qualified for the loan that must mean that the lender thinks that I can repay the loan. Why else would they lend me the money? Moreover,

the government tightly regulates home mortgages; they make the lender give me all these legal forms. Surely the government must regulate all aspects of this transaction.

In reality, the government does not regulate as borrowers believe, and lenders do not necessarily behave as borrowers hope. Instead, information is hidden from borrowers, information that would improve market competition and outcomes. Given consumers' probably false background assumptions and the reality of asymmetric information favoring lenders and brokers, we suggest that creditors be required to reveal useful information to borrowers at the time of a mortgage loan offer, including disclosure of borrowers' credit scores, and borrowers' qualifications for all of lenders' mortgage products. Brokers could even be required to reveal the wholesale rate sheet pricing—the rates at which lenders would be willing to lend to each type of borrower. Such an approach corresponds to the use of de-biasing information, in the top right of table 2.

The goal of these disclosures would be to put pressure on creditors and brokers to be honest in their dealings with applicants. The additional information might improve comparison shopping and perhaps outcomes. Of course, revealing such information would also reduce broker and creditor profit margins. But if the classic market competition story relies on full information, and assumes rational behavior based on understanding, we can view this proposal as simply attempting to remove market frictions from information failures, and move the market competition model more toward its ideal. By reducing information asymmetry, full information disclosure would help to de-bias consumers and lead to better competitive outcomes.

Ex Post Standards-based Truth in Lending

Optimal disclosure will not simply occur in all markets through competition alone. Competition under a range of plausible scenarios will not necessarily generate psychologically informative and actionable disclosure, as the current crisis in the subprime mortgage sector suggests may have occurred. If competition does not produce informative disclosure, disclosure regulation might be necessary. But simply because disclosure regulation is needed does not mean it will work. Regulating disclosure appropriately is difficult and requires substantial sophistication by regulators, including psychological insight.

A behavioral perspective could focus on improving disclosures themselves. The goal of disclosure should be to improve the quality of information about contract terms in meaningful ways. That would suggest, for example, that simply adding information is unlikely to work. Disclosure policies are effective to the extent that they present a frame—a way of perceiving the disclosure—that is both well understood and conveys salient information that helps the decision

maker act optimally. It is possible, for example, that information about the failure frequency of particular products might help (for example, *Two out of ten borrowers who take this kind of loan default*), but proper framing can be difficult to achieve and to maintain consistently, given that it may vary across situations. Moreover, the attempt to improve decision quality through an improvement in consumers' understanding, which is presumed to change consumers' intentions to act, and finally their actual actions, is fraught with difficulty. There is often a gap between understanding and intention, and particularly between intention and action.

Furthermore, even if meaningful disclosure rules can be created, sellers can undermine whatever before-the-fact or ex ante disclosure rule is established, in some contexts simply by "complying" with it: *Here's the disclosure form I'm supposed to give you, just sign here*. For example, with rules-based ex ante disclosure requirements for credit, such as the Truth in Lending Act of 1968 (TILA), the rule is set up first, and the firm (the discloser) moves last. While an ex ante rule provides certainty to creditors, whatever gave the discloser incentives to confuse consumers remains in the face of the regulation. While disclosers may officially comply with a given rule, they will nonetheless remain susceptible to market pressure to find other means to avoid the salutary effects on consumer decisions that the disclosure is intended to achieve.

In light of the difficulties of addressing such issues ex ante, we propose that policymakers consider shifting away from sole reliance on a rules-based, ex ante regulatory structure for disclosure embodied in TILA and toward integration of an ex post, standards-based disclosure requirement as well. Rather than a rule, we would deploy a standard, and rather than an ex ante decision about content, we would permit the standard to be enforced after loans are made. In essence, courts or expert agencies would determine whether the disclosure would, under common understanding, have effectively communicated the key terms of the mortgage to the typical borrower. This approach could be similar to ex post determinations of reasonableness of disclaimers of warranties in sales contracts under UCC 2-316 (*see* White and Summers 1995). This type of policy intervention would correspond to a change in "scoring," in the lower right of table 2.

In our judgment, an ex post version of truth in lending based on a reasonable-person standard to complement the fixed disclosure rule under TILA might permit innovation—both in products themselves and in strategies of disclosure—while minimizing rule evasion. An ex post standard with sufficient teeth could change the incentives of firms to confuse and would be more difficult to evade. Under the current approach, creditors can easily "evade" TILA, by simultaneously complying with its actual terms and making the required

disclosures regarding the terms effectively useless in the context of the borrowing decisions of consumers with limited attention and understanding. TILA, for example, does not block a creditor from introducing a more salient term (*Lower monthly cost!*) to compete with the APR for borrowers' attention. Under an ex post standards approach, by contrast, lenders could not plead compliance with TILA as a defense. Rather, the question would be one of objective reasonableness: whether the lender meaningfully conveyed the information required for a typical consumer to make a reasonable judgment about the loan. Standards would also lower the cost of specification ex ante. Clarity of contract is hard to specify ex ante but easier to verify ex post. Over time, through agency action, guidance, model disclosures, "no action" letters, and court decisions, the parameters of the reasonableness standard would become known and predictable.

While TILA has significant shortcomings, we do not propose abandoning it. Rather, TILA would remain (with whatever useful modifications to it might be gleaned from our increased understanding of consumers' emotions, thought processes, and behaviors). Quite recently, for example, the Federal Reserve Board unveiled major and useful changes to its disclosure rules, based in part on consumer research.⁶ TILA would still be important in permitting comparison-shopping among mortgage products, one of its two central goals. However, some of the burden of TILA's second goal, to induce firms to reveal information that would promote better consumer understanding, would be shifted to the ex post standard.

Of course, there would be significant costs to such an approach, especially at first. Litigation or regulatory enforcement would impose direct costs and the uncertainty surrounding enforcement of the standard ex post might deter innovation in the development of mortgage products. The additional costs of compliance with a disclosure standard might reduce lenders' willingness to develop new mortgage products designed to reach lower-income or minority borrowers who might not be served by the firms' plain-vanilla products. The lack of clear rules might also increase consumer confusion regarding how to compare innovative mortgage products to each other, even while it increases consumer understanding of the particular mortgage products being offered. Even if we couple the advantages of TILA for mortgage comparisons with the advantages of an ex post standard for disclosure in promoting clarity, the net result may simply be greater confusion with respect to cross-loan comparisons. That is, if consumer confusion results mostly from firm obfuscation, then our proposal will likely help a good deal. By contrast, if consumer confusion in this context results mostly from market complexity in product innovation, then the proposal is unlikely to make a major difference, and other approaches

focused on loan comparisons might be warranted (*see*, for example, Thaler and Sunstein 2008).

Despite the shortcomings of an *ex post* standard for truth in lending, we believe that such an approach is worth pursuing. To limit the costs associated with our approach, the *ex post* determination of reasonableness could be significantly confined. For example, if courts are to be involved in enforcement, the *ex post* standard for reasonableness of disclosure might be limited to providing a (partial) defense to payment in foreclosure or bankruptcy, rather than being open to broader enforcement through affirmative suit. Alternatively, rather than court enforcement, the *ex post* standard might be enforced by the bank regulators or another expert consumer agency,⁷ through supervision and enforcement actions. The *ex post* exposure might be significantly reduced through *ex ante* steps. For example, regulators might develop safe harbors for reasonable disclosures, issue model disclosures, use “no action” letters to provide certainty to lenders, and the like. Moreover, firms might be tasked with conducting regular surveys of borrowers or conducting experimental design research to validate their disclosures, with positive results from the research providing rebuttable presumptions of reasonableness, or even safe harbors from challenge. The key is to give the standard sufficient teeth without deterring innovation. The precise contours of enforcement and liability are not essential to the concept, and weighing the costs and benefits of such penalties is beyond the scope of what we hope to do in introducing the idea here. Further work will be required to detail the design for implementation.

“Sticky” Opt-Out Mortgage Regulation

While the causes of the mortgage crisis are myriad, a central problem was that many borrowers took out loans that they did not understand and could not afford. Brokers and lenders offered loans that looked much less expensive than they really were, because of low initial monthly payments and costly hidden features. Families commonly make mistakes in taking out home mortgages because they are misled by broker sales tactics, misunderstand the complicated terms and financial tradeoffs in mortgages, wrongly forecast their own behavior and misperceive their risks of borrowing. How many homeowners really understand how the teaser rate, introductory rate, and reset rate relate to the London interbank offered rate plus some specified margin, or can judge whether the prepayment penalty will offset the gains from the teaser rate?

Improved disclosures might help. Altering the rules of the game of disclosure, and altering the “scoring” for seeking to evade proper disclosure, may be sufficient to reduce the worst outcomes. However, if market pressures and consumer confusion are sufficiently strong, such disclosure may not be enough. If market

complexity is sufficiently disruptive to consumer choice, product regulation might prove most appropriate. For example, by barring prepayment penalties, we could reduce lock-in to bad mortgages; by barring short-term ARMs and balloon payments, we could reduce refinance pressure; in both cases, more of the cost of the loan would be pushed into interest rates and competition could focus on a consistently stated price in the form of the APR. Price competition would benefit consumers, who would be more likely to understand the terms on which lenders were competing. Product regulation would also reduce cognitive and emotional pressures related to potentially bad decision making by reducing the number of choices and eliminating loan features that put pressure on borrowers to refinance on bad terms. However, product regulation may stifle beneficial innovation and there is always the possibility that government may simply get it wrong.

For that reason, we propose a new form of regulation. We propose that a default be established with increased liability exposure for deviations that harm consumers. For lack of a better term, we call this a sticky opt-out mortgage system. As with opt-out regulation generally, a sticky opt-out system would fall, in terms of stringency, somewhere between product regulation and disclosure; however, for reasons we explain below, market forces would likely swamp a pure opt-out regime—that's where the need for stickiness comes in. This approach corresponds to a combination of changing the rules of the game, in the top right of table 2, and changing liability rules, at the bottom right of that table.

The proposal is grounded in our equilibrium model of firm incentives and individual psychology. Borrowers may be unable to distinguish among complex loan products and act optimally based on such an understanding (*see*, for example, Ausubel 1991). We thus deploy an opt-out strategy to make it easier for borrowers to choose a standard product, and harder for borrowers to choose a product that they are less likely to understand. At the same time, lenders may seek to extract surplus from borrowers because of asymmetric information about future income or default probabilities (*see* Musto 2007), and, in the short term, lenders and brokers may benefit from selling borrowers loans they cannot afford. Thus, a pure default would be undermined by firms, and regulation needs to take account of this market pressure by pushing back.

In our model, lenders would be required to offer eligible borrowers a standard mortgage (or set of mortgages), such as a fixed-rate, self-amortizing thirty-year mortgage loan, according to reasonable underwriting standards. The precise contours of the standard set of mortgages would be set by regulation. Lenders would be free to charge whatever interest rate they wanted on the loan, and, subject to the constraints outlined below, could offer whatever other loan products they wanted outside of the standard package. Borrowers, however, would

get the standard mortgage offered, unless they chose to opt out in favor of a nonstandard option offered by the lender, after honest and comprehensible disclosures from brokers or lenders about the terms and risks of the alternative mortgages. An opt-out mortgage system would mean that borrowers would be more likely to get straightforward loans they could understand.

But for the reasons cited above, a plain-vanilla opt-out policy is likely to be inadequate. Unlike the savings context, where market incentives align well with policies to overcome behavioral biases, in the context of credit markets, firms often have an incentive to hide the true costs of borrowing. Given the strong market pressures to deviate from the default offer, we would need to require more than a simple opt-out to make the default sticky enough to make a difference in outcomes. Deviation from the offer would require heightened disclosures and additional legal exposure for lenders in order to make the default sticky. Under our plan, lenders would have stronger incentives to provide meaningful disclosures to those whom they convince to opt out, because they would face increased regulatory scrutiny, or increased costs if the loans did not work out.

Future work will need to explore in greater detail the enforcement mechanism. For example, under one potential approach to making the opt-out sticky, if default occurs when a borrower opts out, the borrower could raise the lack of reasonable disclosure as a defense to bankruptcy or foreclosure. Using an objective reasonableness standard akin to that used for warranty analysis under the Uniform Commercial Code, if the court determined that the disclosure would not effectively communicate the key terms and risks of the mortgage to the typical borrower, the court could modify or rescind the loan contract.⁸ Another alternative would be to have the banking agencies (or another expert consumer agency) enforce the requirement on a supervisory basis, rather than relying on the courts. The agency would be responsible for supervising the nature of disclosures according to a reasonableness standard, and would impose a fine on the lender and order corrective actions if the disclosures were found to be unreasonable. The precise nature of the stickiness required and the tradeoffs involved in imposing these costs on lenders would need to be explored in greater detail, but in principle, a sticky opt-out policy could effectively leverage the behavioral insight that defaults matter with the industrial-organizational insight that certain market incentives work against a pure opt-out policy.

An opt-out mortgage system with stickiness might provide several benefits over current market outcomes. Under the plan, a plain-vanilla set of default mortgages would be easier to compare across mortgage offers. Information would be more efficiently transmitted across the market. Consumers would be likely to understand the key terms and features of such standard products better than they would alternative mortgage products. Price competition would more likely

become salient once features are standardized. In behavioral terms, when alternative products are introduced, consumers would be made aware that such alternatives represent deviations from the default, helping to anchor consumers in the terms of the default product and providing some basic expectations for what ought to enter into their choices. Framing the mortgage choice as one between accepting a standard mortgage offer and needing affirmatively to choose a nonstandard product should improve consumer decision making. Creditors will be required to make heightened disclosures about the risks of the alternative loan products for the borrower, subject to legal sanction in the event of failure to reasonably disclose such risks; the legal sanctions should deter creditors from making highly unreasonable alternative offers with hidden and complicated terms. Consumers may be less likely to make significant mistakes. In contrast to a pure product regulation approach, the sticky default approach would allow lenders to continue to develop new kinds of mortgages, but only when they can adequately explain key terms and risks to borrowers.

Moreover, requiring a default to be offered, accompanied by required heightened disclosures and increased legal exposure for deviations, may help to make high-road lending more profitable than low-road lending—at least if deviations resulting in harm are appropriately penalized. If offering an opt-out mortgage product helps to split the market between high- and low-road firms, and rewards the former, the market may shift (back) toward firms that offer home mortgage products that better serve borrowers. For this to work effectively, the default—and the efforts to make the default sticky—would need to enable the consumer easily to distinguish the typical “good” loan, benefiting both lender and borrower, and which would be offered as the default, from a wide range of “bad” loans: for example, those that benefit the lender with higher rates and fees but harm the borrower; those that benefit the borrower but harm the lender; and those that harm the borrower and lender but benefit third parties, such as brokers.

There will be costs associated with requiring an opt-out home mortgage. For example, the sticky defaults may not be sticky enough to alter outcomes, given market pressures. The default could be undermined, as well, through the firm’s incentive structures for loan officers and brokers, which could provide greater rewards for nonstandard loans. Implementation of the measure may be costly and the disclosure requirement and uncertainty regarding enforcement of the standard might reduce overall access to home mortgage lending. There may be too many cases in which alternative products are optimal, so that the default product is in essence “incorrect,” and comes to be seen as such. The default would then matter less over time, and forcing firms and consumers to go through the process of deviating from it would become increasingly just another burden

(like existing disclosure paperwork) along the road to getting a home mortgage loan. Low-income, minority, or first-time homeowners who have benefited from more flexible underwriting and more innovative mortgage developments might see their access reduced if the standard set of mortgages does not include products suitable to their needs.

We could improve these outcomes in a variety of ways. For example, the opt-out regulation could require that the standard set of mortgages include a thirty-year fixed mortgage, a five- or seven-year adjustable-rate mortgage, and straightforward mortgages designed to meet the particular needs of first-time, minority, or low-income homeowners. We might develop “smart defaults,” based on key borrower characteristics, such as income and age. With a handful of key facts, an optimal default might be offered to an individual borrower. The optimal default would consist of a mortgage or set of mortgages that most closely align with the set of mortgages that the typical borrower with that income, age, and education would prefer. For example, a borrower with rising income prospects might appropriately be offered a five-year adjustable-rate mortgage. Smart defaults might reduce error costs associated with the proposal and increase the range of mortgages that can be developed to meet the needs of a broad range of borrowers, including lower-income or first-time homeowners; however, smart defaults may add to consumer confusion. Even if the consumer (with the particular characteristics encompassed by the smart default) only faces one default product, spillover from too many options across the market may make decision making more difficult. Moreover, it may be difficult to design smart defaults consistent with fair lending rules.

Another approach to improve the standard mortgage choice set and to reduce enforcement costs over time would be to build in banking agency supervision as well as periodic required reviews of the defaults, with consumer experimental design or survey research to test both the products and the disclosures, so that the disclosures and the default products stay current with updated knowledge of outcomes in the home mortgage market. Indeed, lenders might be required to conduct such research and to disclose the results to regulators and the public upon developing a new product and its related disclosures. In addition, regulators might use the results of the research to provide safe harbors for disclosures that are shown to be reasonable *ex ante* through these methods. Regulators could also issue “no-action” letters regarding disclosures that are deemed to be reasonable through such research. The appropriate federal and state supervisory agencies could be required to conduct ongoing supervision and testing of compliance with the opt-out regulations and disclosure requirements. The federal and state banking agencies could easily adapt to this additional role with respect to depositories, while the FTC, a new expert consumer finance agency, or state

agencies would need to be provided with the authority and resources to conduct ongoing supervisory and testing functions for nondepositories, instead of relying solely on enforcement actions. Through these no-action letters, safe harbors, supervision, and other regulatory guidance, the regulators can develop a body of law that would increase compliance across the diverse financial sectors involved in mortgage lending, while reducing the uncertainty facing lenders from the new opt-out requirement, and providing greater freedom for financial innovation.

Restructure the Relationship Between Brokers and Borrowers

An alternative approach to addressing the problem of market incentives to exploit behavioral biases would be to focus directly on restructuring brokers' duties to borrowers and reforming compensation schemes that provide incentives to brokers to mislead borrowers. Mortgage brokers have dominated the subprime market. Brokers generally have been compensated with "yield spread premiums" (YSPs) for getting borrowers to pay higher rates than those for which the borrower would qualify. Such YSPs have been used widely.⁹ In loans with yield spread premiums, unlike other loans, there is wide dispersion in prices paid to mortgage brokers. As Howell Jackson has shown, within the group of borrowers paying yield spread premiums, African Americans paid \$474 more for their loans, and Hispanics \$590 more, than white borrowers; thus, even if minority and white borrowers could qualify for the same rate, in practice minority borrowers are likely to pay much more.¹⁰

Brokers cannot be monitored sufficiently by borrowers (*see* Jackson and Burlingame 2007), and it is dubious that additional disclosures would help borrowers be better monitors (*see*, for example FTC 2007), in part because brokers' disclosures of potential conflicts of interest may paradoxically increase consumer trust (Cain *et al* 2005). Thus, if the broker is required to tell the borrower that the broker works for himself, not in the interest of the borrower, the borrower's trust in the broker may increase—after all, the broker is being honest! Moreover, evidence from the subprime mortgage crisis suggests that while in theory creditors and investors have some incentives to monitor brokers, they do not do so effectively.

It is possible to undertake an array of structural changes regarding the broker-borrower relationship. For example, we could alter the incentives of creditors and investors to monitor mortgage brokers by changing liability rules to make it clear that broker misconduct can be attributed to lenders and creditors in suits by borrowers (*see* Engel and McCoy 2007). We could directly regulate mortgage brokers through licensing and registration requirements (as is done elsewhere; for example, in the U.K.); recent U.S. legislation now mandates licensing and reporting requirements for brokers. In addition, the *ex post*

disclosure standard we suggest might have a salutary effect by making it more costly for lenders when brokers evade disclosure duties; this may lead to better monitoring of brokers.

We also believe it is worth considering fundamentally altering the duties of brokers by treating mortgage brokers as fiduciaries *to borrowers*, and subjecting them to requirements similar to those that govern investment advisors under the Investment Advisors Act. This would, of course, require vast changes to the brokerage market, including to the ways in which mortgage brokers are compensated, and by whom. We would need to shift from a lender-compensation system to a borrower-compensation system, and we would need a regulatory system and resources to police the fiduciary duty. An interim step with much lower costs, and potentially significant benefits, would be to ban yield spread premiums. Banning YSPs could reduce some broker abuses by eliminating a strong incentive for brokers to seek out higher-cost loans for customers. In fact, quite recently a number of lenders have moved away from YSPs to fixed fees with some funds held back until the loan has performed well for a period of time, precisely because of broker conflicts of interest in seeking higher YSPs rather than sound loans. Banning YSPs now would reinforce these high-road practices and protect against a renewed and profitable low-road push for using YSPs to increase market share once stability is restored to mortgage markets. Banning YSPs would constitute a form of scoring change, corresponding to regulation in the bottom right of table 2, because it affects the payoff brokers receive for pursuing different mortgage outcomes.

III.2 Behaviorally Informed Credit Card Regulation

Using Framing and Salience in Disclosures to Encourage Good Credit Card Behavior

Credit card companies have fine-tuned product offerings and disclosures in a manner that appears to be systematically designed to prey on common psychological biases—biases that limit consumer ability to make rational choices regarding credit card borrowing.¹¹ Behavioral economics suggests that consumers underestimate how much they will borrow and overestimate their ability to pay their bills in a timely manner.¹² Credit card companies can then price their credit cards and compete on the basis of these fundamental human failings.¹³ Nearly 60 percent of credit card holders do not pay their bills in full every month (Bucks *et al* 2006). Moreover, excessive credit card debt can lead to personal financial ruin. Credit card debt is a good predictor of bankruptcy.¹⁴ Ronald Mann has argued that credit card companies seek to keep consumers

in a “sweat box” of distressed credit card debt, paying high fees for as long as possible before finally succumbing to bankruptcy.¹⁵

The 2005 bankruptcy legislation¹⁶ focused on the need for improved borrower responsibility but paid insufficient attention to creditor responsibility for borrowing patterns. Credit card companies provide complex disclosures regarding teaser rates, introductory terms, variable rate cards, penalties, and a host of other matters. Both the terms themselves and the disclosures are confusing to consumers.¹⁷ Credit card companies are not competing, it appears, to offer the most transparent pricing.

Going forward, regulatory and legislative steps could help prod the credit card industry into better practices. The Office of the Comptroller of the Currency intervened to require national banks to engage in better credit card practices and to provide greater transparency on minimum payments,¹⁸ and the Federal Reserve recently released proposed changes to its regulations under TILA, in part in the wake of TILA amendments contained in the bankruptcy legislation.¹⁹ Under the proposals, for example, creditors would need to disclose that paying only the minimum balance would lengthen the payoff time and interest paid on the credit card; describe a hypothetical example of a payoff period paying only the minimum balance; and provide a toll-free number for the consumer to obtain an estimate of actual payoff time.²⁰ Although the very length and complexity of the board’s proposal hints at the difficulty of the task of using complex disclosure to alter consumer understanding and behavior, such improved disclosures might nevertheless help.

But we could do much better. Congress could require that minimum payment terms be accompanied by clear statements regarding how long it would take, and how much interest would be paid, if the customer’s *actual* balance were paid off only in minimum payments, and card companies could be required to state the monthly payment amount that would be required to pay the customer’s actual balance in full over some reasonable period of time, as determined by regulation. These tailored disclosures use framing and salience to help consumers, whose intuitions regarding compounding and timing are weak, to make better-informed payment choices based on their specific circumstances. Such an approach would correspond to changing the rules in order to de-bias consumers with behaviorally informed information disclosure, in the top right of table 2. Although credit card companies have opposed such ideas in the past, disclosures based on the customer’s actual balances are not overly burdensome.

Disclosures regarding the expected time to pay off actual credit card balances are designed to provide a salient frame intended to facilitate more optimal behavior. But such disclosures may not be strong enough to matter. The

disclosures are geared toward influencing borrowers' intention to alter their behavior; however, even if the disclosure succeeds in shaping intention, we know that there is often a large gap between intention and action (Buehler *et al* 2002; Koehler and Poon 2005). In fact, borrowers would need to change behavior in the face of strong inertia and marketing by credit card companies propelling them to make no more than minimum payments. More generally, once such disclosure requirement were enacted, market players opposed to them would promptly attempt to undermine them with countervailing marketing and other policies.

An Opt-Out Payment Plan for Credit Cards

A more promising approach, geared more directly toward shaping behavior rather than influencing intentions, would be to develop an “opt-out payment plan” for credit cards, under which consumers would be required automatically to make the payment necessary to pay off their existing balance over a relatively short period of time unless the customer affirmatively opted out of such a payment plan and chose an alternative payment plan with a longer (or shorter) payment term.²¹ Such an approach corresponds to changing the rules through opt-out policies, as in the top right of table 2. Given what we know about default rules and framing, such a payment plan may be followed by many consumers. The payment plan would create expectations about consumer conduct and in any event inertia would cause many households simply to follow the plan. Increasing such behavior would mean lower rates of interest and fees paid, and lower incidence of financial failure. In any event, confronting an optimal payment plan may force cardholders to confront the reality of their borrowing, and this may help to alter their borrowing behavior, or their payoff plans. Moreover, credit card industry players would find it difficult to argue publicly against reasonable opt-out payment plans and, in the face of such plans, to continue using a pricing model based on borrowers going into financial distress.

Of course, an opt-out payment plan will impose costs. Some consumers who, in the absence of the opt-out payment plan, would have paid off their credit cards much faster than the plan provides, might now follow the slower payment plan offered as the default, thus incurring higher costs from interest and fees, and possibly even facing a higher chance of financial failure. Alternatively, some consumers might follow the opt-out payment plan when it is unaffordable for them, consequently reducing necessary current consumption such as medical care or sufficient food, or incurring other costly forms of debt. While there are undoubtedly problems with such an approach, public debate over the proposal would at least have the virtue of engaging all relevant players in an important conversation about fundamental changes in market practice.

Regulate Late Fees

A narrower intervention based on behavioral insights about credit card customers would seek to change the behavior of credit card firms rather than consumers. One problem with the pricing of credit cards is that credit card firms can charge late and overlimit fees with relative impunity because consumers typically do not believe *ex ante* that they will pay such fees. In principle, firms need to charge late and overlimit fees to the extent that they wish to provide incentives to customers not to pay late or go over their credit card limits. In practice, given the fees they charge, credit card firms are perfectly content to let consumers pay late and go over their card limits, in order to obtain fee revenue from them.

We would change the scoring of the game (corresponding to a regulatory choice in the bottom right of table 2). Under our proposal, firms could deter consumers from paying late or going over their credit card limits with whatever fees they deemed appropriate, but the bulk of such fees would be placed in a public trust to be used for financial education and assistance to troubled borrowers. Firms would retain a fixed percentage of the fees to pay for their actual costs incurred from late payments or overlimit charges, or for any increased risks of default that such behavior presages. The benefit of such an approach is that it permits firms to deter “bad conduct” by consumers, but prevents firms from taking advantage of the psychological insight that consumers predictably misforecast their own behavior with respect to paying late and borrowing over their limit. Firm incentives to overcharge for late payments and overlimit borrowing would be removed, while firms would retain incentives appropriately to deter these consumer failures.

As with our other proposals, there would be costs as well: in particular, the reduced revenue stream to lenders from these fees would mean that other rates and fees would be adjusted to compensate, and there is little reason to believe that the adjustments would be in consumers’ favor. Moreover, taxing late and overlimit fees in this manner might be seen as a significant interference with contractual relationships beyond the form and content of disclosures required under TILA for credit card agreements.

Opt-Out Credit Card

As a last option to consider in the credit card market, we might think about a regulation requiring firms to offer a standard opt-out credit card. Elizabeth Warren (2007) has argued that private sector firms should offer “clean” credit cards with straightforward terms and honest pricing. We agree with her that this would be a significant achievement and would set an important example for others. Looking at the structure of the market, we might wonder whether

such a high-road firm offering a clean credit card could win market share and remain profitable. Given predictable consumer biases, such firms will have a hard time competing with low-road players offering less transparent and seemingly “better” offers. We thus wonder whether regulation might be designed to reward high-road credit card firms while penalizing low-road firms offering products designed to take advantage of consumer failings.

Warren’s innovative suggestion in this regard is for the creation of a consumer financial safety commission that could review credit card offers.²² Perhaps an entity such as this could specify terms and conditions that are “safe” and qualify for being offered as a standard credit card. As with the home mortgage idea discussed earlier, consumers would be offered credit cards that meet the definition of “safe.” They could opt for another kind of credit card, but only after meaningful disclosure. And credit card firms would face increased liability risk if the disclosure were found to have been unreasonable. As with our earlier concept, the precise details of liability determination and consequences would need to be carefully calibrated. In essence, the proposal would permit firms to continue to innovate in credit card practices, but with strong pressure to adopt straightforward practices and with the risk of increased consequences to firms when consumers opt out and wind up in trouble. This type of sticky opt-out provision, as with our proposal for an opt-out home mortgage, would correspond to changing both the rules and the scoring of the game on the right side of table 2.

III.3 Increasing Saving Among LMI Households

Savings is an area ripe for further behavioral attention. So far, much of behaviorally informed saving policy has focused on using defaults to improve retirement saving. For many low- and moderate-income households, however, there is a much greater need to focus on basic banking services and short-term savings options, services which, for this population, may require a different mix of governmental responses than those envisioned in the context of retirement savings for middle- and upper-income households.

Many low- and moderate-income (LMI) individuals lack access to the sort of financial services that middle-income families take for granted, such as checking accounts or easily utilized savings opportunities. High-cost financial services, barriers to savings, lack of insurance, and credit constraints increase the economic challenges faced by LMI families. In the short run, it is often hard for these families to deal with fluctuations in income that occur because of job changes, instability in hours worked, medical illnesses or emergencies, changes in family composition, or myriad other factors that can cause abrupt

changes in economic inflows and outflows. At low income levels, small income fluctuations may create serious problems in paying rent, utilities, or other bills. Moreover, the high costs and low utility of the financial transaction services used by many low-income households extract a daily toll on take-home pay. Limited access to mainstream financial services reduces ready opportunities to save and thus limit families' ability to build assets and to save for the future.

In theory, opt-out policies ought to work well here, as in the retirement world, in encouraging saving by such households. However, while in general the market pulls in the same direction as policy for saving, market forces weaken or break down entirely with respect to encouraging saving for low-income households. This is simply because the administrative costs of collecting small-value deposits are high in relation to banks' potential earnings on the relatively small amounts saved, unless the bank can charge high fees; with sufficiently high fees, however, it is not clear that having a bank account makes economic sense for LMI households. Indeed, the current structure of bank accounts is one of the primary reasons why LMI households do not have them.

With respect to transaction accounts, high minimum-balance requirements, high fees for overdraft protection or bounced checks, and delays in check clearance dissuade LMI households from opening or retaining bank accounts. Moreover, banks use the private ChexSystems to screen out households who have had difficulty with accounts in the past. Behaviorally insightful tweaks are unlikely to suffice in this context; rather, we need to devise methods to change the nature of the products being offered and, with them, the behavior of the consumers who open and maintain the accounts.

In this area, we need to figure out how to increase scale and offset costs for the private sector, in addition to increasing saving by low- and moderate-income families. As explained more fully below, we propose two options: a new tax credit to financial institutions for offering safe and affordable bank accounts, and a proposal under which the IRS would direct deposit tax refunds into "opt-out" bank accounts automatically set up through private sector financial institutions at tax time. Both proposals are designed to induce the private sector to change their account offerings by offering tax subsidies or government bundling to reach scale, as well as to alter consumer behavior through the structure of the accounts offered. The proposals pertain to changing the rules and the scoring on the left hand side of table 2, where markets may prove neutral to, or even positively inclined toward, the potential overcoming of consumer fallibility. In particular, the tax credit and government backing change the scoring to firms for offering such products, while the opt-out nature of the proposal changes the starting rules.

Tax Credit to Financial Institutions for Offering Safe and Affordable Bank Accounts

To overcome the problem of the high fixed costs of offering sensible transaction accounts to low-income individuals with low savings levels, Congress could enact a pay-for-performance tax credit for financial institutions that offer safe and affordable bank accounts to LMI households (*see* Barr 2004, 2007). With such a tax credit, financial institutions would be entitled to claim tax credits for a fixed amount per account opened by LMI households. The bank accounts eligible for the tax credit could be structured and priced by the private sector, but according to essential terms required by regulation. For example, costly and inefficient checking accounts with high risk of overdraft or costly hidden features would be eschewed in favor of low-cost, low-risk accounts with only debit-card access. In particular, bank accounts would be debit-card based, with no check-writing capability, no overdrafts permitted, and no ChexSystems rejections for past account failures, in the absence of fraud or other meaningful abuse.

The power of the tax credit initiative could be significantly increased if it were coupled with a series of behaviorally informed efforts to improve take-up of the accounts and savings outcomes for account holders. For example, banks could reach out to employers to encourage direct deposit and automatic savings plans to set up default rules that would increase savings outcomes. With an automatic savings plan, accounts could be structured so that holders could designate a portion of their paycheck to be deposited into a savings “pocket”; the savings feature would rely on the precommitment device of automatic savings, and funds would be somewhat more difficult to access than those in the regular bank account, in order to make the commitment more likely to stick. To provide necessary access to emergency funds in a more cost effective manner than usually available to LMI households, the bank account could also include a six-month consumer loan with direct deposit and direct debit, using relationship banking and automated payment systems to provide an alternative to costly payday loans. With direct deposit of income and direct debit of interest and principal due, the loan should be relatively costless to service and relatively low-risk for the bank. With a longer payment period than usual for payday lending, the loan should be more manageable for consumers living paycheck to paycheck, and would likely lead to less repeated borrowing undertaken to stay current on past payday loans. Moreover, the loan repayment features could also include a provision that consumers “pay themselves first,” by including a savings deposit to their account with every payment. Such a precommitment device could overcome the tendency to procrastinate in savings and reduce the likelihood of needing future emergency borrowing. All these efforts could increase take-up of the banking product and lead to improved savings outcomes.

An Opt-Out Bank Account for Tax Refunds

Congress could also enact a new, opt-out “tax refund account” plan to encourage savings and expanded access to banking services, while reducing reliance on costly refund loans (*see* Barr 2007). Under the plan, unbanked low-income households who file their tax returns would have their tax refunds directly deposited into a new account. Banks agreeing to offer safe and affordable bank accounts would register with the IRS to offer the accounts, and a fiscal agent for the IRS would draw from a roster of banks offering these services in the taxpayer’s geographic area in assigning the new accounts. On receiving the account number from its fiscal agent, the IRS would directly deposit EITC (and other tax refunds) into those accounts. Taxpayers could choose to opt out of the system if they did not want to directly deposit their refund, but we would expect the accounts to be widely accepted since they would significantly reduce the costs for taxpayers of receiving their tax refunds. Once the tax refund account is set up through the IRS mechanism at tax time, households would receive their tax refund in the account, weeks earlier than if they had to wait for a paper check. Moreover, once it is established, the account could continue to be used long past tax time. Households could also use the account just like any other bank account—to receive their income, to save, to pay bills, and the like.

By using an opt-out strategy and reaching households at tax time, this approach could help to overcome consumer biases to procrastinate in setting up accounts. By reducing the time it takes to receive a refund, setting up such accounts could help to reduce the incentives to take out costly refund loans, incentives that are magnified by temporal myopia and widespread misunderstanding of the costs of credit. This system could dramatically, efficiently, and quickly reach millions of LMI households and bring them into the banking system. A complementary approach (Koide 2007) would reach sufficient scale by using prepaid debit cards and pooled accounts offered by a single vendor chosen by the IRS, rather than individual bank accounts offered by a large number of financial institutions. In this manner, the private sector vendor would be assured a large scale of operations. In either event, opt-out strategies and government incentives would be coupled to reach low-income households with essential banking services.

IV. Concluding Remarks

We propose a different approach to regulation. Whereas the classical perspective assumes that people generally know what is important and knowable, plan with insight and patience, and carry out their plans with wisdom and self-control, the central gist of the behavioral perspective is that people often fail to know

and understand things that matter; that they misperceive, misallocate, and fail to carry out their intended plans; and that the context in which people function has great impact on their behavior, and, consequently, merits careful attention and constructive work. In our framework, successful regulation requires integrating this richer view of human behavior with our understanding of markets. Firms will operate on the contour defined by this psychology and will respond strategically to regulations. As we describe above, because firms have a great deal of latitude in issue framing, product design, and so on, they have the capacity to affect behavior and circumvent or pervert regulatory constraints. Ironically, firms' capacity to do so is *enhanced* by their interaction with "behavioral" consumers (as opposed to the hypothetically rational actors of neoclassical economic theory), since so many of the things a regulator would find very hard to control (for example, frames, design, complexity, etc.) can greatly influence consumers' behavior. The challenge of behaviorally informed regulation, therefore, is to be well designed and insightful both about human behavior and about the behaviors that firms are likely to exhibit in response to both consumer behavior and regulation.

With that in mind, we have outlined ten ideas: (1) full information disclosure to de-bias home mortgage borrowers; (2) a new standard for truth in lending; (3) a "sticky" opt-out home mortgage system; (4) restructuring the relationship between brokers and borrowers; (5) using framing and salience to improve credit card disclosures; (6) an opt-out payment plan for credit cards; (7) an opt-out credit card; (8) regulating of credit card late fees; (9) a tax credit for banks offering safe and affordable accounts; and (10) an opt-out bank account for tax refunds. These examples, we hope, will serve to encourage more behaviorally informed regulation in years to come.

Notes

- 1 For more details, *see*: http://legacy.americanpayroll.org/pdfs/paycard/DDsurv_results0212.pdf.
- 2 We recognize that there are significant compliance issues regarding pensions and retirement plans, disclosure failures, fee churning and complicated and costly fee structures, conflicts of interest in plan management, as well as problems with encouraging employers to sign up low-wage workers for retirement plans. We do not mean to suggest that these failings are trivial—far from it. We only mean to suggest that, as a comparative matter, market incentives to overcome psychological biases in order to encourage saving are more aligned with optimal social policy than market incentives to exacerbate psychological biases that encourage borrowing.
- 3 We use this bimodal framework of regulatory choice to simplify the exploration of how our model of individual psychology and firm incentives affects regulation. We acknowledge that the regulatory choice matrix is more complex (*see* Barr 2005).

- 4 This is largely because of the existing regulatory framework: pension regulation gives employers incentives to enroll lower-income individuals in 401(k) programs. Absent this, it is likely that firms would be happy to discourage enrollment since they often must pay the match for these individuals. This point is interesting because it suggests that even defaults in savings only work because some other regulation “changed the scoring” of the game.
- 5 This example abstracts from collection costs (which would reduce firms’ incentives to hide borrowing costs) and instead focuses on the short-term behavior generally exhibited by firms, as in the recent home mortgage crisis.
- 6 See Federal Reserve Board, Final Rule Amending Regulation Z, 12 CFR part 226 (July 14, 2008); Summary of Findings: Consumer Testing of Mortgage Broker Disclosures, submitted to the Board of Governors of the Federal Reserve System, July 10, 2008; Federal Reserve Board, Proposed Rule Amending Regulation Z, 12 CFR part 226 (June 14, 2007), Federal Register 72, no. 114: 32948; Design and Testing of Effective Truth in Lending Disclosures, Submitted to the Board of Governors of the Federal Reserve System, May 16, 2007.
- 7 Elizabeth Warren, for example, has proposed a new Financial Product Safety Commission. See Warren 2007.
- 8 A more aggressive approach would be to permit class-action litigation on an affirmative basis. In this paper, we are not yet able to balance the costs of class-action litigation against the benefits of stronger enforcement.
- 9 See Jackson and Burlingame 2007, p. 127. While in principle yield-spread premiums could permit lenders legitimately to pass on the cost of a mortgage broker fee to a cash-strapped borrower in the form of a higher interest rate rather than in the form of a cash payment, the evidence suggests that yield-spread premiums are in fact used to compensate brokers for getting borrowers to accept higher interest rates, prepayment penalties, and other loan terms.
- 10 Ibid.: 125; see also Guttentag 2000.
- 11 See generally Bar-Gill 2004: 1373.
- 12 Ibid.: 1395–96.
- 13 Ibid.: 1394–95.
- 14 Mann 2006: 60–69.
- 15 Mann 2007: 375.
- 16 See Bankruptcy Abuse Prevention and Consumer Protection Act of 2005, Pub L. no. 109-8, 119 Stat. 23 (codified at 11 U.S.C. § 101 *et seq* [2005]).
- 17 See, for example U.S. General Accounting Office, “Credit Cards: Increased Complexity in Rates and Fees Heightens the Need for More Effective Disclosures to Consumers,” Report 06-929, 2006.

- 18 *See*, for example, Office of the Comptroller of the Currency, OCC Bull. 2003-1, “Credit Card Lending: Account Management and Loss Allowance Guidance” (2003); Office of the Comptroller of the Currency, OCC Advisory Letter 2004-4, “Secured Credit Cards” (2004), available at <http://www.occ.treas.gov/ftp/advisory/2004-4.doc>; Office of the Comptroller of the Currency, OCC Advisory Letter 2004-10, “Credit Card Practices” (2004), available at <http://www.occ.treas.gov/ftp/advisory/2004-10.doc>.
- 19 *See* press release, Federal Reserve Board, Proposed Amendments to Regulation Z, available at <http://www.federalreserve.gov/BoardDocs/Press/bcreg/2007/20070523/default.htm> (May 23, 2007).
- 20 Federal Reserve Board, Proposed Rule, 12 C.F.R. 226, proposed §.7(b)(12), implementing 15 U.S.C. §1637(b)(11).
- 21 Barr (2007). For a related proposal, *see* Gordon and Douglas 2005 (arguing for an opt-out direct-debit arrangement for credit cards).
- 22 *Ibid*.

References

- Adkins, Natalie Ross, and Julie L. Ozanne. “The Low Literate Consumer.” *Journal of Consumer Research* 32 (2005): 93–105.
- Alexander, Gordon J., Jonathan D. Jones, and Peter J. Nigro. “Mutual Fund Shareholders: Characteristics, Investor Knowledge and Sources of Information.” *Financial Services Review* 7 (1998): 301–16.
- Arkes, Hal Richard, and Catherine Blumer. “The Psychology of Sunk Cost.” *Organizational Behavior and Human Decision Processes* 351 (1985): 124–40.
- Ausubel, Lawrence M. “The Failure of Competition in the Credit Card Market.” *American Economic Review* (March 1991): 50–81.
- Bar-Gill, Oren “Seduction by Plastic.” *Northwestern University Law Review* 98, no. 4 (2004): 1373–434.
- Barr, Michael S. “Banking the Poor.” *Yale Journal on Regulation* 21, no. 1 (2004): 121–237.
- . “Modes of Credit Market Regulation.” In Nicolas Retsinas and Eric Belsky, eds. *Building Assets, Building Credit*. Washington, DC: Brookings Institution Press, 2005.
- . “An Inclusive, Progressive National Savings and Financial Services Policy.” *Harvard Law and Policy Review* 1, no. 1 (2007): 161–84.
- Barr, Michael S., Sendhil Mullainathan, and Eldar Shafir. “Behaviorally Informed Financial Services Regulation.” White paper. Washington: New America Foundation, 2008.

- Bell, David E. "Regret in Decision Making Under Uncertainty." *Operations Research* 30 (1982): 961–81.
- Benartzi, Shlomo and Richard H. Thaler. "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving." *Journal of Political Economy* 112, no. 1, 2 (2004): 164–187.
- Berry, Christopher. "To Bank or Not to Bank? A Survey of Low-Income Households." Working Paper Series. Cambridge, MA: Joint Center for Housing Studies, 2004.
- Bertrand, Marianne, Dean Karlan, Sendhil Mullainathan, Eldar Shafir, and Jonathan Zinman. "What's Advertising Content Worth? Evidence from a Consumer Credit Marketing Field Experiment." (Manuscript, 2008).
- Bucks, Brian K., *et al.* "Recent Changes in U.S. Family Finances: Evidence from the 2001 and 2004 Survey of Consumer Finances." Federal Reserve Bulletin A1, 2006. Available at <http://www.federalreserve.gov/pubs/bulletin/2006/financesurvey.pdf>.
- Buehler, Roger, Dale Griffin, and Michael Ross. "Inside the Planning Fallacy: The Causes and Consequences of Optimistic Time Predictions." In Thomas Gilovich, Dale Griffin, and Daniel Kahneman, eds. *Heuristics and Biases: The Psychology of Intuitive Judgment*. Cambridge: Cambridge University Press, 2002.
- . "Exploring the 'Planning Fallacy': Why People Underestimate Their Task Completion Times." *Journal of Personality and Social Psychology* 67 (1994): 366–81.
- Cain, Daylain M., George Lowenstein, and Don A. Moore. "The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest." *Journal of Legal Studies* 34, no. 1 (2005): 1–25.
- Cialdini, Robert B., John T. Cacioppo, Rodney Bassett, and John A. Miller. "Low-ball Procedure for Producing Compliance: Commitment Then Cost." *Journal of Personality and Social Psychology* 36 (1978): 463–476.
- Darley, John M., and C. Daniel Batson. "From Jerusalem to Jericho: A study of Situational and Dispositional Variables in Helping Behavior." *Journal of Personality and Social Psychology* 27 (1973): 100–08.
- Design and Testing of Effective Truth in Lending Disclosures, Submitted to the Board of Governors of the Federal Reserve System, May 16, 2007.
- Engel, Kathleen C. and Patricia A. McCoy. "Turning a Blind Eye: Wall Street Finance of Predatory Lending." *Fordham Law Review* 75 (2007): 2039.
- Freedman, Jonathan L., and Scott C. Fraser. "Compliance Without Pressure: The Foot-in-the-Door Technique." *Journal of Personality and Social Psychology* 4 (1966): 195–203.

- Federal Trade Commission. "Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms." Washington, DC: Bureau of Economics Staff Report, Federal Trade Commission, 2007. Available at <http://www.ftc.gov/os/007/06/PO25505mortgagedisclosurereport.pdf>.
- Gordon, Robert, and Derek Douglas. "Taking Charge." *The Washington Monthly*. December 2005.
- Gourville, John T., and Dilip Soman. "Payment Depreciation: The Behavioral Effects of Temporally Separating Payments from Consumption." *Journal of Consumer Research* 25 (1998): 160–74.
- Guttentag, Jack. "Another View of Predatory Lending." Working Paper 01-23-B. Philadelphia, PA: Wharton Financial Institutions Center, 2000. Available at <http://fic.wharton.upenn.edu/fic/papers/01/0123.pdf>.
- Iyengar, Sheena S., Wei Jiang, and Gur Huberman. "How Much Choice is Too Much: Determinants of Individual Contributions in 401K Retirement Plans." In Mitchell, Olivia S., and Stephen Utkus, eds. *Pension Design and Structure: New Lessons from Behavioral Finance*. Oxford: Oxford University Press, 2004.
- Iyengar, Sheena S., and Mark R. Lepper. "When Choice is Demotivating: Can One Desire Too Much of a Good Thing?" *Journal of Personality and Social Psychology* 79 (2000): 995–1006.
- Jackson, Howell E., and Laurie Burlingame. "Kickbacks or Compensation: The Case of Yield Spread Premiums." *Stanford Journal of Law, Business and Finance* 12, no. 2 (2007): 289–361.
- Johnson, Eric J., and Daniel Goldstein. "Do Defaults Save Lives?" *Science* 302 (2003): 1338–339.
- Johnson, Eric J., John Hershey, Jacqueline Meszaros, and Howard Kunreuther. "Framing, Probability Distortions, and Insurance Decisions." *Journal of Risk and Uncertainty* 7 (1993): 35–51.
- Kahneman, Daniel. "New Challenges to the Rationality Assumption." *Journal of Institutional and Theoretical Economics* 150 (1994): 18–36.
- Kahneman, Daniel, and Amos Tversky. "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica* 47 (1979): 263–91.
- Kennedy, Duncan. "Cost-Benefit Analysis of Debtor Protection Rules in Subprime Market Default Situations." In *Building Assets, Building Credit*, Nicolas Retsinas and Eric Belsky, eds. Washington, DC: Brookings Institution Press, 2005.
- Knetsch, Jack L. "The Endowment Effect and Evidence of Nonreversible Indifference Curves." *American Economic Review* 79 (1989): 1277–284.
- Koehler, Derek J., and Connie S. K. Poon. "Self-Predictions Overweight Strength of Current Intentions." *Journal of Experimental Social Psychology* 42, no. 4 (2005): 517–24.

- Koide, Melissa. "The Assets and Transaction Account." Washington, DC: New America Foundation, 2007. Available at http://www.newamerica.net/publications/policy/assets_and_transaction_account.
- Lepper, Mark R., David Greene, and Richard E. Nisbett. "Undermining Children's Intrinsic Interest with Extrinsic Reward: A Test of the 'Overjustification' Hypothesis." *Journal of Personality and Social Psychology* 28 (1973): 129–37.
- Lichtenstein, Sarah, and Paul Slovic, eds. *The Construction of Preference*. Cambridge, MA: Cambridge University Press (2006).
- Loewenstein, George, and Jon Elster, eds. *Choice Over Time*. New York: Russell Sage Foundation, 1992.
- Loewenstein, George, and Richard H. Thaler. "Intertemporal Choice." In R. H. Thaler, ed., *The Winner's Curse: Paradoxes and Anomalies of Economic Life*. New York: Free Press, 1992.
- Madrian, Brigitte C., and Dennis F. Shea. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics*, 116, no. 4 (2001): 1149–187.
- Mann, Ronald. *Charging Ahead: The Growth and Regulation of Payment Card Markets*. Cambridge: Cambridge University Press, 2006.
- . "Bankruptcy Reform and the Sweat Box of Credit Card Debt." *University of Illinois Law Review* 2007, no. 1: 375–403.
- Milgram, Stanley. *Obedience to Authority*. New York: Harper and Row, 1974.
- Musto, David K. "Victimizing the Borrowers: Predatory Lending's Role in the Subprime Mortgage Crisis." Philadelphia, PA: Wharton working paper, 2007. Published February 20, 2008, on Knowledge@Wharton: <http://knowledge.wharton.upenn.edu/article.cfm?articleid=1901>.
- Redelmeier, Donald A., and Eldar Shafir. "Medical Decision Making in Situations That Offer Multiple Alternatives." *Journal of the American Medical Association* 273, no. 4 (1995): 302–305.
- Samuelson, William, and Richard J. Zeckhauser. "Status Quo Bias in Decision Making." *Journal of Risk and Uncertainty* 1 (1988): 7–59.
- Schultz, Ellen. "Helpful or Confusing? Fund Choices Multiply for Many Retirement Plans." *The Wall Street Journal* (December 22, 1995): C1, C25.
- Shafir, Eldar, Itamar Simonson, and Amos Tversky. "Reason-Based Choice." *Cognition* 49 (1993): 11–36.
- . "A Behavioral Perspective on Consumer Protection." *Competition and Consumer Law Journal* 15, no. 3 (2008): 302–17.
- Thaler, Richard H. "Mental Accounting and Consumer Choice." *Marketing Science* 4 (1985): 199–214.

- . *The Winner's Curse: Paradoxes and Anomalies of Economic Life*. New York: Free Press, 1992.
- . "Mental Accounting Matters." *Journal of Behavioral Decision Making* 12, no. 3 (1999): 183–206.
- Thaler, Richard H., and Cass R. Sunstein. *Nudge: Improving Decisions About Health, Wealth, and Happiness*. New Haven, CT: Yale University Press, 2008.
- Tversky, Amos, and Daniel Kahneman. "Loss Aversion in Riskless Choice: A Reference Dependent Model." *Quarterly Journal of Economics* 106 (1991): 1039–61.
- Tversky, Amos, and Eldar Shafir. "Choice Under Conflict: "The Dynamics of Deferred Decision." *Psychological Science* 3 (1992): 358–61.
- Warren, Elizabeth. "Unsafe at Any Rate." *DEMOCRACY: A Journal of Ideas* 8 (2007).
- White, James J. and Robert S. Summers. *Uniform Commercial Code*, 4th ed. Practitioner Treatise Series. St. Paul, MN: West Publishing, 1995.

This work is distributed under a Creative Commons Attribution–Noncommercial–No Derivative Works 3.0 license. Readers are free to share, copy, distribute, and transmit the work under the following conditions: All excerpts must be attributed to: Moss, David, and John Cisternino, eds. *New Perspectives on Regulation*. Cambridge, MA; The Tobin Project, 2009. The authors and individual chapter titles for all excerpts must also be credited. This work may not be used for commercial purposes, nor may it be altered, transformed, or built upon without the express written consent of the Tobin Project, Inc. For any reuse or distribution, the license terms of this work must always be made clear to others: the license terms are available at <http://creativecommons.org/licenses/by-nc-nd/3.0/us/>.

Copyright © 2009 The Tobin Project, Inc.

All rights reserved. For information address

The Tobin Project, One Mifflin Place, Cambridge, MA 02138.