

**Joint Center for Housing Studies  
Harvard University**

## **Behaviorally Informed Home Mortgage Credit Regulation**

**Michael S. Barr, Sendhil Mullainathan and Eldar Shafir**

**April 2008**

**UCC08-12**

© by Michael S. Barr, Sendhil Mullainathan and Eldar Shafir. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Any opinions expressed are those of the author and not those of the Joint Center for Housing Studies of Harvard University or of any of the persons or organizations providing support to the Joint Center for Housing Studies.



## **I. Introduction**

Choosing a mortgage is one of the biggest financial decisions an American consumer will make. Yet it can be a complicated one, especially in today's environment where mortgages vary in dimensions and unique features. This complexity has raised regulatory issues. Should some features be regulated? Should product disclosure be regulated? And most basic of all, is there a rationale for regulation or will the market solve the problem? Current regulation of home mortgages is largely stuck in two competing models of regulation—disclosure and usury or product restrictions. This paper seeks to use insights from both psychology and economics to provide a framework for understanding both these models as well as to suggest fundamentally new models.

Disclosure regulation, embodied in the Truth in Lending Act, presumes one market failure: the market will fail to produce a clear and *comparable* disclosure of all product information needed by consumers. That is, TILA responds, potentially, to two types of problems: First, firms will not reveal all information that borrowers should understand and analyze to make determinations regarding taking out a loan. Second, firms will not reveal information in a way to facilitate comparability across products. The first concern speaks to consumer understanding, “solving” the problem with information; the second to consumer decision-making, “solving” the problem through coordination of terms and definitions.

Though it presumes one form of market failure—the lack of comparable and full disclosure—*homo economics* is very much the intellectual basis for disclosure regulation. “Freedom of Contract” is the dominant background assumption for disclosure regulation—and the dominant intellectual paradigm more generally over the last 30 years. It relies on fully rational agents who make intelligent choices about their options. We argue below that a richer model of human behavior also enriches our understanding of disclosure, and that neoclassical assumptions are misplaced and in many contexts consequential. Among other things, we discuss the fact that the availability of data does not always lead to communication and knowledge; that understanding and intention do not necessarily lead to action; and that contextual nuances can lead to poor choices.

By contrast to disclosure regulation, usury laws, doctrines of substantive unconscionability,<sup>1</sup> and product restrictions start from the idea that certain prices or products are inherently unreasonable, that consumers need to be protected from making bad choices. Moreover, the presumption is that the market will not weed out such products (or may even provide them very easily).

Product regulations and related doctrines of unconscionability appear to build on a model other than *homo economicus*, yet we argue below that even this framework could benefit from a richer view of human behavior. The central concerns with such laws are three-fold. First, we reiterate the traditional economic argument that product restrictions may diminish access to credit or reduce innovation of financial products. Second, we argue that for certain types of individuals, some limitations may themselves increase consumer confusion regarding what rules apply to which products, and what products may be beneficial or harmful to them. Third, firms will likely develop ways around such product restrictions, undermining the core rule, increasing costs and confusing consumers.

The core of our analysis is the interaction between individual psychology and market competition. The classic model works through emphasizing the interaction between rational choice and market competition. Because rational agents choose well, firms compete to provide products that improve welfare. Because rational agents process information well, firms compete to provide information which improves decision quality. The introduction of richer psychology complicates the impact of competition. Now, firms compete based on how actual individuals will respond to products in the marketplace, and actual competitive outcomes may not always and in all contexts closely align with increasing consumer welfare.

In the home mortgage market, for example, the standard model assumes that people evaluate options well, and that the more options people have, the better. Firms will thus provide more options, people will pick the best ones, and competition will drive out bad options. In reality, people drown in too many options and make mistakes, often in predictable ways. Borrowers, for example, might pick the most salient dimension (lowest monthly cost) rather than focusing on the long-term cost of credit—or the fact that taxes and insurance will not be escrowed and are not included in the monthly cost. Consequently, firms can and will introduce

---

<sup>1</sup> Claims of unconscionability are relatively rare, and until this decade, plaintiff victories based on unconscionability were also relatively rare. There was an uptake of cases, and of the portion won by plaintiffs, in the 2000s. (Data on file with authors).

options that reflect these behaviors, and people will pick options that they themselves would find sub-optimal upon further reflection and analysis, or as to which the likelihood of personal failure is much higher than they think. Consumers, moreover, are likely misled by false beliefs about regulation itself, such as whether the law provides that mortgage brokers work in the interests of borrowers; (it generally does not) (see Jackson, this volume). These behavioral insights suggest that disclosure of information alone will often be insufficient to provide consumers with what is needed to optimize their understanding and decision-making, and the resulting outcomes.

Our work is clearly related to the emerging literature on behaviorally informed policy-making. This literature produces novel considerations in the design and implementation of regulation, including features such as the framing of information, the setting of defaults or “opt-out” rules, the provision of warnings, and other strategies to alter individual behavior.<sup>2</sup> While we ourselves have written about framing and defaults as policy strategies, our focus in this paper is to embed this thinking more deeply in the logic of markets. Specifically, we rely on a framework which more directly accounts for firm incentives to respond to behaviorally motivated regulation. We understand outcomes as an equilibrium interaction between individuals with specific psychologies and firms that respond to those psychologies within specific markets. Regulation must then account for failures in this equilibrium.

This perspective produces two dimensions to consider. First, sometimes the psychological biases of individuals either help or hurt the firms they interact with; and hence firms’ and regulators’ interests are sometimes mis-aligned and sometimes not. Let us take the example of the consumer who does not understand the profound effects of the compounding of interest. Such a bias would lead the individual to under-save, and to over-borrow. 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 under-save, but would be perfectly content to see the same individual over-borrow. The market response to individual bias can profoundly affect regulation. Thus, 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. In forcing disclosure of hidden prices of credit, by contrast, the regulator faces non-cooperative firms, whose interests are to find ways to

---

<sup>2</sup> These strategies have been called variously “Asymmetric Paternalism,” “Libertarian Paternalism,” and “Debiasing Through Law,” see, e.g., Camerer et al., Sunstein & Thaler, Sunstein & Jolls.

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. In particular, the regulator holds two different levers, which we describe as changing the rules and changing the scoring rules. When forcing disclosure of the APR, for example, the regulator effectively changes the “rules” of the game: what a firm must do or say. When changing liability rules, the regulator changes the way the game is “scored”. This distinction is important because changing the rules of the game maintains the firms’ original incentives to help or hurt consumer bias, while changing the scoring of the game can alter those incentives.

This perspective illustrates that one must be careful when transferring the insights of the most prominent example of behavioral regulation—defaults in 401(k) participation—to other examples. We suggest that changing the rules on retirement saving (introducing defaults) work well because employers’ incentives align (or do not mis-align) with regulatory efforts to guide individual choice. In other words, employers are either unaffected or hurt by individual’s propensity to under-save in 401(k). They thus will not lean against an attempt to fix that problem. In other applications, for example, 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, this logic leads to regulations (“changing the scoring”) which, though deeply motivated by behavioral insights, are not themselves particularly psychological in nature. We provide specific examples of the application of the proposed framework to home mortgage credit markets.

In the next section, we discuss disclosure and product regulation, the two dominant models of consumer protection in credit markets (see Barr 2005). Part III explains how behavioral insights might matter for policy, and how such insights are constrained by the realities of industrial organization. This Part develops our equilibrium model of human behavior and market reaction. In Part IV, we introduce our alternative, “behaviorally informed” mode of home mortgage regulation, encompassing “sticky” opt-out regimes and other strategies based on behavioral insights and market response.

## **II. The Existing Structure of Home Mortgage Credit Market Regulation**

In this section we briefly describe existing home mortgage regulation, encompassing disclosure regulation and product regulation. We explain why both models miss the interaction between individual psychology and market structure.

### **Two Types of Disclosure Regimes**

There are two types of disclosure regimes: consumer-oriented disclosures and public-oriented disclosures. Consumer-oriented disclosures are designed to improve consumers' ability to shop for products and services. The theory is that information in credit markets is imperfect, that firms lack sufficient incentives to coordinate in order to reveal comparable information, and that disclosures lower the cost of acquiring more information. More information, if comparable, should help consumers negotiate better; that in turn leads to more competition and a more efficient market. The Truth in Lending Act embodies this approach. Under the act, creditors have to reveal in a conspicuous and clear manner the annual percentage interest rate and other key costs of credit.

A second type of regime, public-oriented disclosure, uses disclosure to reveal information more generally to the market, the general public, the media, and regulators. Such disclosures are not necessarily designed to improve consumer decision-making but to further the enforcement of other laws or to communicate social norms. For example, the Home Mortgage Disclosure Act requires creditors to reveal information publicly regarding the race, ethnicity, gender, and income of borrowers and applicants for a loan who were turned down. The underlying premise is that financial institutions should not base lending decisions on factors other than creditworthiness and that publicly revealing loan decisions helps outsiders evaluate whether creditors have in fact based their lending decisions solely on that criterion. Public disclosure of this type relies on market reactions, media reporting, consumer and community group activism, legislative oversight, engagement of financial regulators, and other public pressures to alter private sector behavior. The effectiveness of a public disclosure strategy rests not only on the ability to enforce the disclosure requirement through public remedy or private sanction but also on the other laws and social norms that the law is meant to reinforce and on the strength of the groups and institutions that informally work toward compliance with those norms.

## Limits to the Effectiveness of Consumer-Oriented Disclosure Regimes

Two essential problems emerge with consumer-oriented disclosure regimes such as TILA. First, behavioral research teaches the pitfalls of relying on consumer understanding to influence consumer behavior; second, many transactions in the financial marketplace involve both complicated legal rules and complicated product structures that even financially sophisticated parties do not fully understand. Empirical evidence suggests that consumers have a hard time understanding credit disclosures, and research in behavioral economics confirms that often consumers do not act on available information. If consumers are unlikely to understand a financial transaction and in many cases are unlikely to behave fully rationally even in the face of disclosed information, then relying on disclosure alone to address information asymmetries may be an ineffectual response. Still, disclosure might be improved based on behavioral research.<sup>3</sup>

The Truth in Lending Act (TILA) requires disclosures to consumers regarding the cost of loans.<sup>4</sup> This type of disclosure seeks to remedy asymmetric information and improve market competition and efficiency through price disclosure, which would make it easier to comparison shop.<sup>5</sup> TILA disclosure likely improves transparency in the market, and thus efficiency, even if not all consumers understand the disclosures.<sup>6</sup> Yet we should be concerned not only with an efficient market in the aggregate, but also with efficiency within markets serving low- and moderate-income households, and with the consequences of inadequate disclosures for affected consumers. Although TILA facilitates comparison shopping by consumers, in some cases too much information is provided for consumers to use, and in other cases too little. Even outside of the subprime market, there is little reason to think that consumers understand most aspects of

---

<sup>3</sup> See, e.g., Colin Camerer et al., Regulation for Conservatives: Behavioral Economics and the Case for “Asymmetric Paternalism,” 151 U. PA. L. REV. 1211, 1230–37 (2003); Christine Jolls et al., A Behavioral Approach to Law and Economics, 50 STAN. L. REV. 1471, 1533–37 (1998).

<sup>4</sup> See, e.g., 12 C.F.R. pt. 226.17 (2001).

<sup>5</sup> See 15 U.S.C. § 1601 (2000) (“The Congress finds that . . . competition among the various financial institutions and other firms engaged in the extension of consumer credit would be strengthened through informed use of credit. [Furthermore, i]t is the purpose of this subchapter to assure a meaningful disclosure of credit terms so that the consumer will be able to compare more readily the various credit terms available to him . . . .”); Kathleen C. Engel & Patricia A. McCoy, A Tale of Three Markets: The Law and Economics of Predatory Lending, 80 TEX. L. REV. 1255, 1280–81 (2002) (describing opportunities that information asymmetries provide for predatory lenders and brokers); Alan Schwartz & Louis L. Wilde, Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis, 127 U. PA. L. REV. 630, 635 (1979) (“Because more consumers will become informed if information acquisition costs are decreased, reducing these costs is thought to be the preferable response to the problem of imperfect information.” (footnote omitted)).

<sup>6</sup> See Schwartz & Wilde, *supra*, at 630.



mortgage transactions.<sup>7</sup> Decision research suggests a need for simplicity: Individuals faced with complex problems often simplify them to one or two basic decisions.<sup>8</sup> The need for simplicity conflicts, however, with the goal of producing comprehensive disclosures that permit consumers to comparison shop based on the real price of multi-attribute loans.

In addition, borrowers may trust mortgage brokers to provide them with full and accurate information and to provide them with the best loan product. Yet it is in the broker's interest to provide the borrower with the highest rate loan that the broker can convince the borrower to accept. Brokers can earn higher yield spread premiums for placing borrowers into more expensive loans despite being qualified for a lower-cost alternative. Even in competitive retail consumer markets for simple products, price dispersion can persist.<sup>9</sup> In home mortgage transactions, borrower understanding of complicated home mortgage terms is likely to be much lower. Thus, transactions for home mortgages present an even greater possibility for price differentials based on race, sophistication, willingness, and ability to shop for better terms, or other factors.<sup>10</sup> Moreover, with credit scoring, creditors know whether borrowers qualify for less expensive loans under the lenders' pricing schedules, while most borrowers do not realize this about themselves.<sup>11</sup>

Unfortunately, TILA is extraordinarily complex.<sup>12</sup> The efficacy of disclosures is diminished by inadequacies in the nature and timing of disclosures,<sup>13</sup> their limited effect on

---

<sup>7</sup> See BD. OF GOVERNORS OF THE FED. RESERVE SYS. AND THE DEP'T OF HOUS. AND URBAN DEV., JOINT STUDY ON THE TRUTH IN LENDING ACT AND THE REAL ESTATE SETTLEMENT PROCEDURES ACT 9, 17, 62 (1998) (noting consumers' difficulty in understanding mortgage terms with or without disclosure), available at <http://www.federalreserve.gov/boarddocs/RptCongress/tila.pdf>.

<sup>8</sup> See, e.g., JONATHAN BARON, THINKING AND DECIDING 43–68 (3d ed. 2000); ROBIN M. HOGARTH, JUDGMENT AND CHOICE 4–6 (1980); SCOTT PLOUS, THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING 107–88 (1993).

<sup>9</sup> See Dennis Carlton & Jeffrey Perloff, MODERN INDUSTRIAL ORGANIZATION 437–41 (3d ed. 2000).

<sup>10</sup> See Jackson & Berry at 63. Ayres has documented similar price discrimination in automobile sales and other markets. See AYRES, at 19–44.

<sup>11</sup> Credit reports and credit scores are now available to borrowers upon request. See Fair and Accurate Credit Transactions Act of 2003, Pub. L. 108-159, §§ 211–12, 117 Stat. 1952, 1968–69 (2003) (codified as amended at 15 U.S.C. § 1681 (2003)).

<sup>12</sup> See, e.g., *Emery v. Am. Gen. Fin., Inc.*, 71 F. 3d 1343, 1346 (7th Cir. 1995) (describing ineffectiveness of TILA in conveying relevant information and concluding, “[s]o much for the Truth in Lending Act as a protection for borrowers”); Thomas A. Durkin, Consumers and Credit Disclosures: Credit Cards and Credit Insurance, 88 FED. RES. BULL. 201, 208 tbl.9 (2002) (finding that seventy-five percent of respondents either agreed somewhat or agreed strongly that TILA credit card disclosures are complicated).

<sup>13</sup> William N. Eskridge, Jr., One Hundred Years of Ineptitude: The Need for Mortgage Rules Consonant with the Economic and Psychological Dynamics of the Home Sale and Loan Transaction, 70 VA. L. REV. 1083, 1128–30 (1984); Jonathan M. Landers & Ralph J. Rohner, A Functional Analysis of Truth in Lending, 26 UCLA L. REV. 711, 715–16 (1979) (discussing timing problem under prior law). Early disclosure is now required by Regulation Z, 12 C.F.R. § 226.19(b) (2004) (requiring certain disclosures “at the time an application form is provided or before the

consumer behavior, and consumers' cognitive, emotional and behavioral limitations. In fact, TILA disclosure may not actually be noticed, read, or understood.<sup>14</sup> TILA disclosures may also inundate the consumer with too much information to process.<sup>15</sup> Moreover, low-income and minority buyers are the least likely to shop for alternate financing arrangements,<sup>16</sup> and these problems are exacerbated in the subprime market.

TILA plays an important role in improving credit markets, and reforms would likely contribute to improvements in credit markets. But the current structure of the home mortgage market, at least for those borrowing from subprime lenders, suggests that disclosure will not be enough. In addition, financial education can play a role in helping consumers understand disclosures better; however, expenditures for financial education lead to strong externalities, so it is quite difficult to induce private market participants to offer financial education to the borrowing public at anything like the scale it would take to make a difference. Furthermore, most empirical research on financial education concludes that its impact on real outcomes is typically quite modest (see Caskey 2006). (This may be due at least in part to a behavioral tension, pitting intention versus action, which we address in part III).

## **Product Regulation**

Alongside disclosure, governments historically have sought to delineate the terms and conditions of some financial service products. Usury laws are the most common form of such restrictions. In economic terms, one might argue in favor of usury laws to block the granting of credit at high interest rates because the implied default rates would pose unacceptable social externalities. The concern with usury laws is that they often result in credit constraints on poor (or even middle-income) households that could otherwise afford, and benefit from, credit. Usury laws may also drive lending “underground,” to loan sharks, precluding the possibility of effective consumer protection regulation.

---

consumer pays a non-refundable fee, whichever is earlier”); id. § 226.5a (requiring disclosures “on or with a solicitation or an application to open a credit or charge account”); id. § 226.5b (requiring disclosures related to “open-end credit plans secured by the consumer’s dwelling . . . at the time an application is provided to the consumer”), although borrowers will have expended some search effort prior to disclosures.

<sup>14</sup> Elizabeth Renuart, Comment, Toward One Competitive and Fair Mortgage Market: Suggested Reforms in a Tale of Three Markets Point in the Right Direction, 82 TEX. L. REV. 421, 432 (2003).

<sup>15</sup> Eskridge, *supra*, at 1133–35; Landers & Rohner, *supra*, at 722–25.

<sup>16</sup> See, e.g., Jeanne M. Hogarth & Jinkook Lee, Consumer Information for Home Mortgages: Who, What, How Much, and What Else?, 9 FIN. SERVICES REV. 277, 283 (2000).

Another type of product regulation seeks to exclude certain types of loan terms or sales practices. Such restrictions often have two intertwined motivations. On one hand, restrictions on loan terms can enhance price disclosure and competition by focusing borrowers and creditors on the price of credit rather than on other features of the loan that consumers may ill understand. On the other hand, product restrictions may be thought of as a substantive judgment that certain loan terms are inherently unreasonable. In either event, product restrictions are based on the notion that consumers cannot fully understand or act in their own best interests in the face of confusing terms or transactions, or deceptive sales practices to promote these unreasonable terms; moreover, in this view, competition alone is insufficient to drive out such practices.

For example, Congress enacted HOEPA in 1994 to respond to unscrupulous lending practices in the subprime home equity mortgage market.<sup>17</sup> For some “high cost” loans, HOEPA imposes restrictions on certain contract provisions, provides for enhanced disclosures, and enhances remedies for violations. In addition to product regulation, HOEPA provides, directly and indirectly, for enhanced disclosures for borrowers facing high cost loans. Directly, HOEPA enhances disclosure by requiring creditors to disclose mortgage terms three days in advance of closing. Indirectly, HOEPA product restrictions ought to drive more of the cost of the loan into the annual percentage interest rate because lenders cannot use the prohibited mortgage terms to cover costs. With more of the cost of the mortgage reflected in the APR, it should be easier for consumers to understand the costs of the loan and go through effective comparison shopping. Creditors would then tend to compete more on price and less on other factors, which consumers have difficulty evaluating. Thus, product regulation could, under some circumstances, enhance the effectiveness of disclosure regimes.

HOEPA, however, is decidedly under-inclusive: It is designed to address a problem of abusive practices at the fringe of lending, rather than overcoming broader failures. Moreover, as a practical matter, HOEPA’s record has been mixed at best.<sup>18</sup> In response, a Treasury-HUD report proposed a four-part approach to curbing predatory lending.<sup>19</sup> Many other improvements to abusive practice regulation are possible, and may now be forthcoming given the fallout from the subprime mortgage lending crisis. Congress is currently considering anti-

---

<sup>17</sup> Home Ownership and Equity Protection Act of 1994, Pub. L. No. 103-325, § 151, 108 Stat. 2190 (1994) (codified at 15 U.S.C. § 1601 (2000)).

<sup>18</sup> See, e.g., HUD-TREASURY REPORT, *supra*.

<sup>19</sup> See *id.*; Barr, *supra*.

predatory lending legislation.<sup>20</sup>

In addition the federal regulatory landscape, many states have passed new anti-predatory lending laws or enhanced existing ones.<sup>21</sup> Many of these laws are modeled on the federal HOEPA legislation, but increase coverage, enhance restrictions, or bolster enforcement.<sup>22</sup> There is a vigorous debate on whether these state laws diminish access to credit and harm consumers, or whether the laws diminish access to credit that ought not to have been provided, and thus increase consumer welfare. Bostic et al. finds that the broader coverage of these laws tends to increase subprime origination, while increase restrictions and enforcement tend to diminish such originations. The empirical debate over the scope and effectiveness of these provisions is likely to continue.

In principle, overly prescriptive product regulations may diminish financial access and harm product competition and innovation that might serve low-income households. Governments may easily err by restricting products that would be advantageous or creating new consumer confusion in the form of complicated rules regarding product regulation. Financial markets change rapidly, and firms may easily innovate in ways that are not anticipated by government regulators. Such innovations may better serve consumers than government-imposed product regulations, or, conversely, such innovations may help firms evade government regulations to the detriment of consumers. It is difficult to know in advance how market innovations will inter-relate with product regulations, but there are lots of reasons to doubt that government regulators will be able to keep up with these changes. Thus, the tradeoffs inherent in product regulation ought to be considered, as should alternative forms of regulation.

### **III. Psychology and Industrial Organization**

#### **A Deeper Look at Insights from Behavioral Research**

Understanding how firms will respond to regulation requires a deeper understanding of the psychological tendencies that firms respond to in marketing and offering products and services. Such an understanding would give a clearer picture of the contour of market forces and provide a deeper understanding of exactly what problems regulation is attempting to solve.

---

<sup>20</sup> See, e.g., Mortgage Reform and Anti-Predatory Lending Act of 2007, H.R. 3915, 110<sup>th</sup> Cong., 1<sup>st</sup> Sess.

<sup>21</sup> See Bostic et al., State and Local Anti-Predatory Lending Laws: The Effect of Legal Enforcement Mechanisms (2007); Ho & Pennington-Cross (2006); Li & Ernst (2007).

<sup>22</sup> See Bostic et al. (2007).

Behavioral research paints a picture of the average citizen quite different from that typically envisioned in economic policy circles, which significant implications for policy design and implementation. The classical, rational agent model assumes actors with well-ordered preferences and calibrated judgments, who are well informed, maximize their self-interested well-being via tangible rewards, and make coherent and insightful plans, which they pursue with efficiency and self-control. In contrast, the behavioral perspective finds people who are quite different: their preferences are malleable, their judgment prone to predictable heuristics and biases, their interests often neither selfish nor material, and their plans and behaviors often more context dependent than planned and calculating. What is notable about the emerging behavioral picture is that it paints people as not merely often confused and error-prone, but as driven by tendencies that are systematically and profoundly different from those typically envisioned by the rational model. A better understanding of such tendencies, appropriately applied, promises to yield more successful policies. In the words of John Maurice Clark almost 100 years ago, “the economist [policy analyst] may attempt to ignore psychology, but it is sheer impossibility for him to ignore human nature... If the economist [policy analyst] borrows his conception of man from the psychologist, his constructive work may have some chance of remaining purely economic in character. But if he does not, he will not thereby avoid psychology. Rather, he will force himself to make his own, and it will be bad psychology.”

Consider, for example, the central notions of decisional conflict, information, and learning from experience. Each of these plays an important role in influencing behavior, but deviates in important ways from what is typically assumed.

### ***Decisional conflict***

People’s preferences are typically constructed, not merely revealed, during the decision making process, and the construction of preferences is influenced by the nature and context of decision. Consider, for example, the role of decisional conflict: individuals can make bad decisions if the context for choice is not optimal, and more choices can make decision-making worse, and thus do not lead inexorably to higher utility. The classical analysis of choice does not anticipate nor does it consider the implications of decisional conflict. Each option according to the standard view is assigned a subjective value, or “utility,” and the person then proceeds to choose the option assigned the highest utility. As a consequence of this compelling account, it is

universally assumed that having more alternatives is a good thing, since the more options there are, the more likely is the consumer to find one that satisfies her utility function.

In contrast, because preferences tend to be constructed, choices can be hard to make. People often look for a good reason, a compelling rationale, for choosing one option over another. At times, compelling rationales are easy to articulate, whereas other times no easy rationale presents itself, rendering the conflict between options hard to resolve. Such conflict proves aversive and can lead people to postpone decision or to select a “default” option. This can generate preference patterns that are fundamentally different from those predicted by normative accounts based on value maximization.

For example, decisional conflict has been shown to yield a greater tendency to search for alternatives when better options are available but the decision is hard, than when relatively inferior options are available but the decision is easy (Tversky & Shafir 1992). Rather than a plus, a proliferation of alternatives can dissuade consumers from making what may otherwise amount to a favorable choice. In particular, as choices become difficult, consumers naturally tend to defer decisions, often indefinitely (Iyengar & Lepper, 2000; Shafir, Simonson, and Tversky, 1993). These patterns have been documented in decisions ranging from the choice of jams in upscale grocery stores (Iyengar and Lepper, 2000), to decisions to apply for loans equal to roughly a third of one’s income (Bertrand, Karlan, Mullainathan, Shafir, & Zinman (2007), to participation in retirement savings plans, which drops as the number of fund options offered increases (Iyengar, Jiang, and Huberman (2004).

The tendency to refrain from making a choice gives an uncanny advantage to the default, or the perceived status quo. This has been observed in a number of naturally occurring “experiments.” One was in the context of insurance decisions, 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 what was offered as the 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% of New Jersey drivers chose to acquire the full right to sue, approximately 75% of Pennsylvania drivers chose to retain it. The difference in adoption rates had financial repercussions estimated at nearly \$200 million (Johnson, Hershey, Meszaros, & Kunreuther, 1993). A second naturally occurring “experiment”

was recently observed in Europeans' decisions regarding being potential organ donors (Johnson & Goldstein, 2003). In some European nations drivers are by default organ donors unless they elect not to be, whereas in other, comparable European nations they are, by default, not donors unless they choose to be. Observed rates of organ donors are almost 98% in the former nations and about 15% in the latter, a remarkable difference given the low transaction costs and the significance of the decision.

Whereas the addition of options can generate conflict and increase the tendency to refrain from making any decision, options can sometimes be manipulated to lower conflict and increase the likelihood of making a particular choice. *Asymmetric dominance* refers to the fact that in a choice between options A and B, a third option, A', can be added that is clearly inferior to A (but not to B), thereby increasing the choice likelihood of A (Huber, Payne, & Puto, 1982). For example, a choice between \$6 and an elegant pen presents some conflict for participants. But when a less attractive pen is added to the choice set, the superior pen clearly dominates the inferior pen, thus providing a rationale for choosing the elegant alternative, and increasing the percentage of those choosing the elegant pen over the cash. Along related lines, a *compromise effect* has been observed wherein the addition of a third, extreme option makes a previously available option appear as a reasonable compromise, thus increasing its popularity (Simonson, 1989; Simonson & Tversky, 1992).

The systematic documentation of such patterns suggests that minor contextual changes can alter what consumers choose in ways that are unlikely to relate to their ultimate utility. Of course, the fact that consumers are influenced by conflict and context need not immediately imply that choices ought to be taken away, or even that the number of available alternatives ought to be restricted. It does suggest, however, that a proliferation of alternatives needs to be considered with care, rather than seen as an obvious advantage. It also suggests that the choice of a default outcome, for example, rather than a mere formality that can be effortlessly changed, needs to be chosen thoughtfully, since it acquires a privileged status. In effect, when a large array of options, or the status quo, is inappropriately handled (intentionally or not) they can lead to substantial decrement in consumers' welfare. A proliferation of complicated decisions in the mortgage market, for example, can lead to quite bad outcomes for borrowers.

## ***Identities***

Decision-making can be influenced not only by context but also by identity salience (see, e.g., Benjamin, Choi, & Strickland, 2006; LeBoeuf & Shafir, 2006). People derive their identity in large part from the social groups to which they belong (Turner, 1987). In fact, identity-salience has been shown to affect various behaviors, including resistance to persuasion (Kelley 1955), reactions to advertisements (Forehand, Deshpandé, and Reed, 2002), hypothetical choices between items (LeBoeuf, 2002; LeBoeuf & Shafir, 2006), and the rating of consumer products (Reed 2004), and it thus has implications for consumers' decisions.

Similar phenomena occur when stereotypes that involve perceived competence and intellectual or professional ability interfere with consumers' confidence and willingness to engage in various transactions. People targeted by negative stereotypes are more likely to mistrust other people's motives (Crocker, Voelkl, Testa, & Major, 1991; see also Cohen, Steele, & Ross, 1999), may expect to be socially rejected on the basis of the group to which they belong (Mendoza-Denton, Downey, Purdie, Davis, & Pietr-zak, 2002; Shelton & Richeson, 2005), and may experience stereotype threat -- the fear of confirming a negative stereotype about their own group (Aronson, 2002; Steele, 1997; Walton & Cohen, 2007). Adkins & Ozanne (2005) discuss the impact of a low literacy identity on consumers' behavior, and argue that when low literacy consumers accept the low literacy stigma, they perceive market interactions as more risky, engage in less extended problem solving, limit their social exposure, and experience greater stress. In one study, low SES students performed worse than high SES students when the test was presented as a measure of intellectual ability, but performance was comparable when the test was not seen as pertaining to intellectual measures (Croizet & Claire, 1998). Acceptance of the low-literacy stigma may lead people to perceive market interactions as more risky, engage in less extended problem solving, limit their social exposure, and experience greater stress.

## ***Learning and Accounting***

Several other behavioral factors can influence the outcome of consumer decisions in ways that standard analysis is likely to miss. People often are weak 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 & Blumer 1985, Gourville & Soman 1998), and by effects of sequencing and of temporal separation, where high discount rates



for future as compared to present outcomes can yield dynamically inconsistent preferences (Loewenstein & Elster 1992; Loewenstein & Thaler, 1992). Contrary to standard assumptions, the psychological carriers of value are shifting gains and losses, rather than anticipated final states of wealth, and attitudes towards risk tend to shift from risk aversion in the face of gains, to risk seeking for what appear as losses (Kahneman & Tversky, 1979). People are loss averse; that is, the loss associated with giving up a good is substantially greater than the utility associated with obtaining it (Tversky & Kahneman, 1991). This, in turn, leads to reluctance to depart from the status quo, because things to be renounced are valued more highly than comparable benefits to be obtained (Knetsch, 1989, Samuelson & Zeckhauser, 1988).

Moreover, people use intuitive mental accounting schemes, in which they 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 and fairly universal 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. Thus, for example, people often save at a low interest rate and borrow at a higher rate at the same time (Ausubel, 1991).

What is common to many of these patterns is the highly localized and context dependent nature of consumer decisions. Standard thinking envisions preferences that are largely impervious to minor contextual nuances. In contrast, people's choices often result from a heavily context-dependent deliberation, with the option chosen not infrequently being one that would have been foregone had context differed by just a little, and often in rather trivial ways. What this means is that people's choices are often at the mercy of chance forces as well as of conscious manipulation, both of which may merit more careful consideration.

### ***Knowledge, attention, and intention***

A standard assumption is that consumers are attentive and knowledgeable, and typically able to avail themselves of important information. Instead, there appears to be often 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, & Nigro, 1998), and

similar findings describe the understanding shown by pension plan participants (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 own.

Cognitive load, the amount of information attended to, has been shown to affect performance in a great variety of tasks. To the extent that consumers find themselves in situations that are unfamiliar, distracting, tense, or even stigmatizing (say, applying for a loan), all of which tend to consume cognitive and emotional resources, less resources will remain available to process the information that is relevant to the decision at hand. As a result, decisions may become more dependent on situational cues and irrelevant considerations. This is observed, for example, in studies of “low literate” consumers, who apparently struggle with effort versus accuracy trade-offs, show overdependence on peripheral cues in product advertising and packaging, and show systematic withdrawal from market interactions (Adkins & Ozanne, 2005).

More generally, information cannot be equated with knowledge. People often do not fully process data that is imminently available because of limitations in attention, understanding, perceived relevance, or misremembering. This is often under-appreciated by program designers, who are trained to think that people will know that which is important and knowable.

Another theme in behavioral research that has profound consequences for thinking about policy is the systematic discrepancy between intention and action, which is essentially assumed away in rational analyses. Knowing what is the right thing to do, even intending to do it, often do not bring about the intended action. Even when intentions are genuine and strong, self-control problems, poor planning, lack of attention, and forgetting can all intercede. On the flip side, and for similar reasons, actions may be taken that were genuinely unintended, thus violating the notion of revealed preference. A degree of self-knowledge, in turn, leads people to take precautions against such tendencies (i.e., “tying themselves to the mast”), which can lead to unintended consequences when policies are designed with different creatures in mind.

### ***Channel factors***

The pressures exerted by situational factors can constitute restraining forces hard to overcome, or can create inducing forces that can be harnessed to great effect. In contrast with massive interventions that often prove ineffectual, seemingly minor situational changes can have a large impact. Kurt Lewin, who coined the term “channel factors,” (Lewin, 1951) suggested

that certain behaviors can be facilitated by the opening up of a channel, whereas other behaviors can be blocked by the closing of a channel. An illustrative example of a channel factor was documented by Leventhal, Singer, and Jones (1965), whose subjects received persuasive communications about the risks of tetanus and the value of inoculation, and were then invited to go to the campus infirmary for a tetanus shot. Follow-up surveys showed that the communication was effective in changing beliefs and attitudes. Nonetheless, only 3% actually took the step of getting themselves inoculated, compared with 28% of those who received the same communication but, in addition, were given a map of the campus with the infirmary circled, and urged to decide on a particular time and route to get them there. Along these lines, Koehler and Poon (2005) argue that people's predictions of their future behavior overweight the strength of their current intentions, and underweight contextual factors that influence the likelihood that those intentions will translate into action. This can generate systematically misguided plans among consumers, who, reassured by their good intentions, proceed to put themselves in situations which are powerful enough to make them act and choose otherwise.

Behavioral research highlights a simple fact that is both terribly trivial and extremely profound: People choose between, act towards, exercise judgment about not things in the world, but those things as they are mentally represented. And the relationship between extensional outcome and internal representation is rarely one-to-one. Instead, options are construed, elaborated, contextually interpreted in ways that are both systematic and consequential.

Framing, context effects, channel factors are some of the features of the construal process, with important policy implications. The take-up of a program, for example, will depend on whether it is construed as the default or as a departure from the status-quo, whether others are thought to have adopted it, whether it requires even minimal action or happens automatically.

### **The Promise of Behavioral Regulation**

Recent work in savings has shown the promise of behavioral regulation—regulation that is motivated directly by specific psychological insights. Research suggests that individual choices regarding saving are profoundly affected by psychology: mental accounting, anchoring, endowment effects, and other psychological constructs and frames make a big difference to outcomes. Based on these, recent policy innovations have exploited the power of defaults. Default rules, for example, are critical in determining whether and how much individuals will

save. By using default rules, governments might encourage welfare-enhancing behavior without prohibiting other market choices. If employers are required to enroll workers in automatic retirement plans unless the worker affirmatively opts out of participating, enrollment rates will be higher, and net savings may increase.

Behavioral principles have figured prominently in recent attempts at constructive policy applications. *Save More Tomorrow* (SMaRT), a program intended to augment retirement savings, deposits money into savings only out of future salary raises, rather than out of current income, with the added proviso that one can withdraw from the program at any time. It has relied on fundamental behavioral insights – future discounting, nominal loss aversion, and status quo bias – to generate substantial increases in retirement savings, and has been adopted by many employers, affecting the lives of millions in the US and abroad. Attention has been focused on the ways in which retirement savings plans can be made automatic to increase participation and savings rates (Thaler, Thaler & Bernatzi, Iwry & John).

Similar types of policies can be pursued across a range of financial products and services that reach lower-income households. By further extension from the retirement literature, employers could be required to deposit worker income checks directly into a low-cost bank account with an automatic savings plan, unless the employee opts out of the arrangement. Governments could provide for making tax refund and benefit payments through direct deposit into a “safe and affordable” bank account with savings features, again, unless the beneficiary opts out (Barr 2007).

Our starting point, however, is that opt-out rules and other such examples seem to be limited in their scope of application. Consider the common opt-out experience of signing a rental car contract. Individuals “actively” opt-out of many features of a rental contract but do so almost automatically: “Initial here, here and here”. While opt-out may be effective in the lack of a strong market pressure, they are far too easily over-come by the firm who interacts directly with the consumer. This raises the more basic question: what would behavioral regulation look like in a richer context, where we consider the ability of the firm to respond to this regulation (and potentially undo or magnify it)?

## **Industrial Organization: How Market Forces Can Undermine or Reinforce Behaviorally Informed Regulation**

In principle, market forces help push private sector actors to offer the best products at the lowest prices. The theory, however, depends crucially on assumptions of rationality. In the classic economic model, the set up is this: free competition for the provision of goods and services to consumers who obtain full information, understand the information that they receive, and act based on that full information. Market actors are restrained from peddling welfare-reducing products by consumers who will demand better. In practice, as we have seen, in some contexts the market has produced products and services that are sub-optimal. It is easier to see why market forces may sometimes not produce optimal products and services once one relaxes the assumptions underlying the classic model.

Let us return to the case of opt-out regulation. Here, the presumption is that individuals fail to maximize their own utility due to temporal inconsistency—they would like to save but fail to do so. Opt-out regulation eases this problem by facilitating savings even amongst those who do nothing (perhaps because of procrastination). What are firm (e.g. employer) incentives in this case? Employers appear to be largely indifferent or perhaps even motivated to decrease the bias against savings.<sup>23</sup> This incentive is crucial.

Consider another case. As has been argued elsewhere (Laibson et al.), there are markets where firms have incentives to confound consumers. In posting prices, for example, firms have strong market and private incentives to hide certain prices. If consumers sort into those who understand complicated offers and those who do not, it is difficult for firms to compete by offering the most transparent products if such products are less profitable; consumers who understand bad deals already avoid them and will shun the new offer and consumers who do not understand them and go for the new, better off will just lower profits for the firm. (Id.) This result—that transparency does not always pay off for firms, once one recognizes that people are fallible and easily misled—illustrates how firms sometimes have strong incentives to *exacerbate* psychological biases. Regulation in this case faces a much more difficult challenge than in the savings situation.

This distinction is central to our framework and is illustrated in Table 1. In some cases,

---

<sup>23</sup> Note that 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.

the market is either neutral or wants to overcome consumer fallibility. In other cases, the market would like to exploit or exaggerate consumer fallibility. For example, 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 mis-understand compounding in the context of *borrowing*, lenders have little incentive to remove this misunderstanding. It could only decrease the debts they are able to issue.<sup>24</sup> When consumers procrastinate in signing up for the EITC (and hence in filing at all for taxes) private tax preparation firms have incentives to help remove this 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 here in the examples: firm incentives to alleviate or exploit a bias are not an intrinsic feature of the bias itself. Instead, they are a feature of how the bias plays itself out in that particular market structure.

**Table 1: The Firm and the Individual**

<b>Market neutral/wants to overcome consumer fallibility</b>	<b>Market exploit consumer fallibility</b>
Consumers misunderstand compounding in <i>savings</i> → Banks would like to <i>reduce</i> this so as to increase savings base	Consumers misunderstand compounding in <i>borrowing</i> → Banks would like to <i>exploit</i> this to increase borrowing
Consumers procrastinate in signing up for EITC → Tax filing companies would like to <i>reduce</i> this so as to increase number of customers	Consumers procrastinate in returning rebates → Retailers would like to <i>exploit</i> this so as to increase revenues

In the consumer credit market, one worries that many firm-individual interactions are in the second category: firms seeking to exploit rather than alleviate bias. If true, this raises the concern of over-extrapolating from the 401k defaults example to credit products. To the extent 401k 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

<sup>24</sup> This stylized example abstracts from collection issues.

“prey” on human weakness, it is more likely that regulators of such a market will be captured, that market forces will defeat any positive defaults set, and that “low-road” players will continue to dominate. Many observers believe that the credit markets are, in fact, currently dominated by such “low road” firms (see, e.g., 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 policy makers want to attempt to use defaults in such contexts, they might need to deploy “stickier” defaults or more aggressive policy options.

Table 2 illustrates a conceptual 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. Disclosure regulation also fits this case as well. Specifically, regulators change the rules of the game, when they attempt to change the nature of firm-individual interactions, 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. Pension regulation that penalizes firms whose 401(k) plan enrollment is top-heavy with high-paid executives is an example of how firms are given *incentives* to enroll low-income individuals without setting particular rules on how this is done.

**Table 2: Changing the Game**

<b>Rules</b>	Set the defaults in 401(k) savings Organ Donation
<b>Scoring</b>	401(k) top heavy requirements for tax

Table 3 puts these two different dimensions together, illustrating that regulatory choice should be analyzed according to the market’s stance towards human fallibility. In what follows, we will discuss the specific application of both of these forces to the case of mortgage markets, with specific proposals that fall into each bin. What this discussion illustrates is that policies in the top-right-hand corner face a particular challenge. Changing the rules of the game alone will be difficult when firms are highly motivated to find work-arounds. 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 Duncan Kennedy, JCHS/Brookings 2005). For that to work, the default must be sufficiently attractive to consumers based on behavioral research, and sufficiently profitable for “high road” firms to succeed in offering it; and penalties associated with deviations from the default must be sufficiently costly, that the default is “sticky” 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 dead-weight losses given that there will be 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, we believe it is worth exploring whether such “sticky” defaults can help to change the rules of the game.

**Table 3: Behaviorally Informed Regulation**

	<b>Market neutral/wants to overcome consumer fallibility</b>	<b>Market exploit consumer fallibility</b>
<b>Rules</b>	Public education on saving Direct deposit/auto-save Licensing (if reputation cannot be proved)	Sticky defaults (opt-out mortgage product) Information debiasing on debt (where incentives not well aligned)
<b>Scoring</b>	Tax incentives for savings vehicles for the poor	Ex post liability standard for truth in lending Broker fiduciary duty and/or changing compensation (YSP)

The default example is just one of a set of examples we discuss as potential regulatory interventions based on our conceptual framework. Given the complexities involved, the purpose of this chapter is not to champion the specific policies below. Instead, we are illustrating how a behaviorally informed regulatory analysis would lead to a deeper understanding of the costs and benefits of each of these policies.



## **IV. Behaviorally Informed Home Mortgage Regulation**

### **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 (contrast Laibson et al. with Grossman-Hart), 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. Putting aside classic public choice problems, disclosure regulation requires substantial psychological sophistication by regulators.

A behavioral perspective could focus on improving disclosures themselves. For example, such a perspective would suggest that simply adding information is unlikely to work. The goal of disclosure should be to improve the quality of information about contract terms in meaningful ways. The goal of disclosure, furthermore, ought **not** to be to improve the quality of decisions by changing the intentionality of the consumer, as tempting as that might seem at first glance. But there is lots of evidence that focusing on intentionality may be misplaced. For example, if people are overconfident about the ability to repay, disclosure policy should probably not require firms to tell people about their over-confidence and try and convince them to take a smaller loan because such policies will generally fail. Disclosure policies that are effective depend upon presenting a frame that is both well understood and actually conveys salient information that would help the decision-maker act optimally. It is possible, for example, that information about the frequency of losses from a particular product might help (“2 out of 10 borrowers who take this kind of loan default”), but proper framing is quite difficult to achieve.

Even if regulators were sophisticated, it is difficult to determine what constitutes neutral, purely informative regulation and difficult to enforce that frame given that it may vary across situations. It is too difficult to determine all the ways in which frames can confound consumers. What is confusing in a frame is highly context specific, depending on subtle nuances of presentation and what other information is being presented. It is difficult to gauge what the inferred underlying messages are. Moreover, sellers can undermine whatever regulatory disclosure regime is established, in some contexts simply by “complying” with it: “Here’s the disclosure form I’m supposed to give you, just sign here.” In addition, with rules-

based ex ante disclosure requirements, such as TILA, firms (the discloser) move last, after the rule is set up, and whatever gave the discloser incentives to confuse consumers remain in the face of the regulation.

Thus, we propose that policy makers consider shifting away from sole reliance on a rules-based, ex ante regulatory structure for disclosure embodied in TILA and towards integration of an ex-post, standards based disclosure requirement as well. This type of policy intervention would correspond to a change in “scoring,” in the lower right of Table 3. In essence, courts would determine whether the disclosure would, under common understanding, effectively communicate the key terms of the mortgage to the typical borrower. This approach would be similar to ex post determinations of reasonableness of disclaimers of warranties in sales contracts under UCC 2-316 (See White & Summers, 1995).

The debate over whether standards or rules should be preferred,<sup>25</sup> is embodied in three basic approaches: an attempt to identify the philosophical underpinnings of rules and standards,<sup>26</sup> a rejection of formal distinctions between rules and standards;<sup>27</sup> and a search for general principles for deciding when standards or rules are more appropriate.<sup>28</sup> Among the last group, law-and-economics scholars have used transaction-cost economics to argue that the higher cost of articulating rules ex ante is worthwhile when many people engage in the activity being regulated, multiplying the transaction costs of ex post determinations.<sup>29</sup> Kaplow suggests that the cost of rulemaking will be higher ex ante than the cost of developing a standard, but that standards generate higher ex post costs from uncertainty and other factors.<sup>30</sup> However, a standard might have advantages over a rule if the rule is easy to evade, and a rule can become stale over time because it is not easily adapted to changing market conditions. Yet translating transaction-cost theory into application is difficult because it is hard to measure the costs and benefits of alternative rules and standards formulations.

---

<sup>25</sup> See, e.g., FREDERICK SCHAUER, *PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND IN LIFE* 149–55 (1991); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 *DUKE L.J.* 557 (1992); Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 *HARV. L. REV.* 1685, 1688 (1976); Eric A. Posner, *Standards, Rules, and Social Norms*, 21 *HARV. J.L. & PUB. POL'Y* 101, 101–07 (1997); Margaret Jane Radin, *Reconsidering the Rule of Law*, 69 *B.U. L. REV.* 781 (1989); Carol M. Rose, *Crystals and Mud in Property Law*, 40 *STAN. L. REV.* 577 (1988); Pierre Schlag, *Rules and Standards*, 33 *UCLA L. REV.* 379, 382–83 (1985).

<sup>26</sup> See, e.g., Kennedy (1976); Rose (1988).

<sup>27</sup> See, e.g., Radin (1989); Schlag (1985).

<sup>28</sup> See, e.g., Kennedy (1976).

<sup>29</sup> See, e.g., Kaplow (1992), at 562–63. But see Posner (1997); Rose (1988).

<sup>30</sup> Kaplow (1992), at 562–63.

In our judgment, an ex post version of truth in lending based on reasonable person standard rather than fixed disclosure rule 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. Such a standard would also make it difficult to evade. Under the current approach, creditors can easily “evade” TILA, not by failing to comply with its actual terms, but by making the required disclosures regarding the terms effectively useless in the context of the borrowing decision. Given the malleability of people’s decisions and the myriad ways in which specific details of how a loan is presented can affect consumer decisions, there is enough freedom, given any ex ante rules, to present loan information in a way that alters consumer decision-making. TILA does not block a creditor, for example, from introducing a more salient term (“lower monthly cost!”) to compete with the APR for borrowers’ attention. Under a standards approach, 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 much easier to verify *ex post*.

While TILA has significant short-comings, we do not propose abandoning it. Rather, TILA would remain (with whatever useful modifications to it might be gleaned from our understanding of consumers’ emotions, thought processes and behaviors). A modified and improved TILA would still be important in permitting comparison-shopping among mortgage products, one of its two central goals. But some of the pressure on TILA to induce firms to reveal information that would promote better consumer understanding would be shifted to the ex post standard we propose here.

Of course, there would be significant costs to such an approach. Introducing an important role for the generalist courts in assessing compliance with this new ex post disclosure standard—a much more open-ended analysis than currently conducted by the courts in assessing compliance with TILA—might conflict with the role of specialist bank regulators in developing disclosure policies. Moreover, litigation over the reasonableness standard is likely to be costly, at least in the first instance.

The uncertainty surrounding enforcement of the standard ex post would itself impose costs regarding the appropriate form of disclosure, and perhaps more seriously, uncertainty

regarding how to disclose novel or innovative mortgage products might deter innovation in the development of the mortgage products themselves, not just the disclosures. 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 one couples 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 for everyone with respect to cross-loan comparisons, given market complexity. That is, if consumer confusion results mostly from firm obfuscation, then our proposal will likely help a good deal; by contrast, if consumer confusion results mostly from market complexity in product innovation, then our proposal is unlikely to make a major difference.

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. At its most minimalist, the ex post standard for reasonableness of disclosure might provide a (partial) defense to payment in foreclosure or bankruptcy.<sup>31</sup> We suggest that such an approach ought to be the locus of further policy development, although we acknowledge that more interventionist approaches might also be considered depending on one's assessment of the extent of the current problem. For example, a more aggressive posture would be to permit affirmative suits for rescission or cure based on violations of the standard. A still more aggressive approach would be to permit tort suits based on gross deviations from the reasonable disclosure standard. The precise contours of liability are not essential to the design, and weighing the costs and benefits of such penalties is beyond the scope of what we hope to do in introducing the idea in this chapter.

### **Full Information Disclosure**

While further research and experimentation is appropriate, it may be the case that consumers 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

---

<sup>31</sup> For a related concept, see Pottow (2007) (suggesting ex post liability for substantively "reckless lending").

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. Being qualified for a loan means 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 the borrower believes, and the lender does not necessarily behave as the borrower hopes. Moreover, with the advent of nationwide credit reporting systems and refinement of credit scoring and modeling, the creditor and broker know information about the borrower that the borrower does not necessarily know about himself, including not just his credit score, but his likely performance regarding a particular set of loan products. Creditors will know whether the borrower could qualify for a better, cheaper loan, as well as the likelihood that the borrower will meet his obligations under the existing mortgage, or become delinquent, refinance, default or go into foreclosure.

Given the consumer’s probably false background assumptions and the reality of asymmetric information favoring the lender and broker, we suggest that creditors be required to reveal favorable information to the borrower at the time of the mortgage loan offer, including disclosure of the borrower’s credit score, and the borrower’s qualifications for the lender’s products. Brokers would be required to reveal the wholesale rate sheet pricing for loans as to which the applicant qualifies. Such an approach corresponds to the use of debiasing information, in the top right of Table 3.

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, one could view this proposal as simply attempting to remove market frictions from information failures, and move the market competition model more towards its ideal.

## **An Opt-Out Mortgage Product**

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 hidden, costly 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 related 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?

Disclosure along the lines we suggested above might help. By altering the rules of the game of disclosure, and altering the “scoring” for seeking to evade proper disclosure, such approaches may be sufficient to reduce the worst outcomes; however, if market pressures and consumer confusion are sufficiently strong, such disclosure may not be enough. Moreover, we acknowledge that if market complexity is sufficiently disruptive to consumer choice, product regulation might be appropriate. For example, by barring prepayment penalties, one could reduce lock-in to bad mortgages, or by barring short-term bullet ARMs and balloon payments, one 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 price. Price competition would benefit consumers, and consumers would be more likely to understand the terms on which lenders are competing. Product regulation would also reduce cognitive and emotional pressures for bad decision-making. However, as noted in section II, product regulation may stifle beneficial innovation and the government may simply get it wrong.

For that reason, we propose a “sticky” opt-out mortgage to help anchor consumer decision-making among the range of potentially confusing choices. A “sticky” default would fall, in terms of stringency, somewhere between product regulation and our proposed disclosure approaches, such as enhancing the disclosure of key loan terms through ex post standards of reasonableness, or requiring the full disclosure of information favorable to the borrower. Under the proposal, legislation would be enacted requiring firms to offer an opt-out home mortgage product. An opt-out product regulation corresponds to changing the rules of the game, in the top right of Table 3. The proposal is grounded in our equilibrium model of firm incentives and

individual psychology. Lenders may seek to extract surplus from borrowers because of asymmetric information about future income or default probabilities (see Musto 2007), and borrowers may be unable to distinguish among complex loan products and act optimally based on such an understanding (see, e.g., Auzubel 1991). If so, then perhaps the market can be moved through development of an opt-out mortgage product, with a “sticky” default.

In this model, lenders would be required to offer eligible borrowers a standard mortgage (or set of mortgages), such as a fixed rate, self-amortizing 30 year mortgage loan, according to reasonable underwriting standards. Lenders would be free to charge whatever interest rate they wanted on the loan, and, subject to the constraints below, could offer whatever other loan products they wanted. Borrowers would get the standard mortgage offered, unless they chose to opt out in favor of another option, after honest and comprehensible disclosures from brokers or lenders about the risks of the alternative mortgages. An opt-out mortgage system would mean borrowers would be more likely to get straightforward loans they could understand.

But 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 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 costs if the loans did not work out. For example, under one approach, 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. The precise nature of the “stickiness” required and the costs involved in imposing these costs on lenders would need to be explored in greater detail, but in principle, and “sticky” opt-out policy could effectively leverage the behavioral insight that framing matters with the industrial organization insight that credit market incentives work against a pure opt-out policy.

An opt-out mortgage product with “stickiness” might provide several benefits over the current market outcomes. A plain vanilla set of mortgages is, of course, easier to compare across mortgage offers. Consumers are likely to understand the key terms and features of such standard products better than they would alternative mortgage products. Once the alternative products are introduced, the consumer will be made aware that the alternatives represent deviations from the default, and the creditors themselves will be required to make heightened disclosures about the risks of the loan product for the borrower, subject to legal sanction (to be determined) in the event of failure reasonably to comply. Consumers may be less likely to make mistakes. The approach would allow lenders to continue to develop new kinds of mortgages, but only when they can explain the key terms and risks clearly to borrowers.

Moreover, requiring the default to be offered, plus requiring heightened disclosures and increased legal exposure for deviations, may help to make “high road” lending more profitable in relation to “low road” lending. 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) towards 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 distinguish the typical “good” loan, benefiting both lender and borrower, from a wide range of bad loans; for example, those that benefit the lender (taking fees that exceed default costs) but harm the borrower; those that benefit the borrower (duping the lender and escaping high foreclosure/bankruptcy costs) but harm the lender; and those that harm the borrower and lender but benefit third parties (brokers taking fees on loans likely to fail).

As with our ex post disclosure proposal, there will be costs associated with requiring an opt-out home mortgage. For example, the sticky defaults may not be sticky enough, given market pressures. Implementation of the measure may be costly, thus reducing 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.

One could somewhat improve these outcomes in a variety of ways. For example, one might develop “smart defaults,” based on key borrower characteristics, such as income, age, and



education level. With a handful of key facts, an optimal default might be offered. Smart defaults might reduce error costs associated with the proposal; however, smart defaults may add to consumer confusion, given too many choice options. Another approach would be to build in periodic required reviews of the defaults, so that the opt-out product stays current with our knowledge of outcomes in the home mortgage market.

### **Change the Interaction Between Brokers and Borrowers**

An alternative approach to addressing the problem of market incentives to exploit behavioral biases would be to focus directly on the relationship between brokers and borrowers. Mortgage brokers dominate the subprime market. Brokers are compensated for getting borrowers to pay higher rates than those for which the borrower would qualify. Such “yield spread premiums” are used widely.<sup>32</sup> 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.<sup>33</sup>

Brokers cannot be monitored sufficiently by borrowers (See Jackson). We are dubious that additional disclosures would help borrowers to be better monitors (see, e.g., FTC 2007), in part because disclosures about brokers may reinforce borrower trust in them. Disclosing conflicts of interest may paradoxically increase consumer trust (Cain et al. 2005).<sup>34</sup> For example, 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 with her! Moreover, evidence from the subprime mortgage crisis suggests that, while in theory, creditors and investors have incentives to monitor brokers, they do not do so effectively.

---

<sup>32</sup> See Jackson & Berry, *supra*, at 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.

<sup>33</sup> *Id.* at 125; see also JACK GUTTENTAG, ANOTHER VIEW OF PREDATORY LENDING 8 (Wharton Fin. Inst. Ctr., Working Paper No. 01-23-B, 2000), available at <http://fic.wharton.upenn.edu/fic/papers/01/0123.pdf>.

<sup>34</sup> Cain, D.M., Lowenstein, G., & Moore, D.A. 2005, The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest, *Journal of Legal Studies*, 34: 1-25.

Thus, one could alter the incentives of creditors and investors to monitor, or directly regulate mortgage brokers. The ex post disclosure standard we suggest might have a salutary effect by making it harder to evade disclosure duties. Moreover, in addition to licensing requirements that may increase regulator and public scrutiny of broker practices, we also believe it is worth considering treating mortgage brokers as fiduciaries *to borrowers*, similar to the requirements for 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 broker abuses by eliminating a strong incentive for brokers to seek out higher-cost loans for customers.

## **V. Conclusion**

We have explored how existing regulation fails to take account of advances in behavioral research about how people think and act. Existing regulations based on the rational actor model have been shown to have significant short-comings. Our understanding of how human beings understand and act based on regulatory and market “facts” in the world suggest an alternative approach. Behaviorally informed regulation, we suggest, would take account of the importance of framing and defaults, of the gap between information and understanding, and intention and action, as well as of decisional conflict and other psychological factors affecting how people behave. At the same time, we argue, behaviorally informed regulation should take into account not only behavioral insights about individuals, but also economic insights about markets. Markets can be shown to systematically favor overcoming behavioral biases in some contexts, and to systematically favor exploiting those biases in other contexts. We have emphasized as a central illustration of this distinction the contrast between the market for saving and the market for borrowing—in which the same human failing in understanding and acting upon the important concept of compound interest leads to opposite market reactions in the two contexts.

We have developed a model in which outcomes are an equilibrium interaction between individuals with specific psychologies and firms that respond to those psychologies within specific markets. Regulation must then account for the social welfare failures in this

equilibrium. Taking both individuals and industrial organization seriously suggests the need for a range of market-context specific policy options, including both changing the “rules” of the game, as well as changing its “scoring.” We have sketched here what some of these policy options might be, although we have not defended them as optimal. In particular, we have focused on an ex post, standards-based truth in lending law, a requirement of full disclosure of information favorable to the borrower, changing the incentives in the relationship between brokers and borrowers, and a new, opt-out home mortgage system. Further work will be required to explore whether these alternative approaches might merit enactment.

## References

- Adkins, N., Ozanne, J. 2005, *The low literate consumer*. Journal of Consumer Research, Vol. 32 pp.93-105.
- Adkins, N., Ozanne, J. 2005. *The low literate consumer*. Journal of Consumer Research, Vol. 32, pp.93-105.
- Alexander, G., Jones, J., and Nigro, P. 1998. *Mutual Fund Shareholders: Characteristics, Investor Knowledge, and Sources of Information*. Financial Services Review, 7(4), pp. 301
- Arkes, H. R., & Blumer, C. 1985. *The psychology of sunk cost*. *Organizational Behavior and Human Decision Processes*, 35, pp. 124-140.
- Aronson, J.M. (Ed.) 2002. *Improving academic achievement: Impact of psychological factors in education*. San Diego, CA: Academic Press.
- Ausubel, L. M. 1991. *The Failure of Competition in the Credit Card Market*. American Economic Review, March, pp. 50-81.
- Ayres, I. 2001. *Pervasive Prejudice? Unconventional Evidence of Race and Gender Discrimination*, The University of Chicago Press (14)1.
- Baron, J. 2000. *Thinking and Deciding*. Cambridge, UK: Cambridge University press, 3<sup>rd</sup> edition, pp. 43-68
- Bar-Gill, O. 2004. *Seduction by Plastic*. Northwestern Law Review, 98(Summer): 1373
- Barr, M.S. 2005. *Credit Where it Counts*, New York University Law Review, 80(2): 513-652.
- Barr, M.S. 2007. *An Inclusive, Progressive National Savings and Financial Services Policy in* Harv. L. & Pol'y Rev. 1, no. 1: pp. 161-84.
- Bell, D.E. 1982. *Regret in decision-making under uncertainty*. Operations Research, 30, pp. 961-981.
- Benartzi S., and Thaler R. 2001. *Naive Diversification Strategies in Defined Contribution Saving Plans*. American Economic Review, 91: pp. 79–98
- Benjamin, D.J., Choi, J.J., and Strickland, J. 2006. *Social identity and preferences*. Dartmouth College and Institute for Social Research mimeo, September.
- Bertrand, M., Karlan, D., Mullainathan, S., Shafir, E., and Zinman, J. 2005. *What's Psychology Worth? A Field Experiment in Consumer Credit Market*. Yale University Economic Growth Center Discussion Paper. 918.

- Board of Governors of the Federal Reserve System and the Department of Housing and Urban Development. 1998. *Joint Study on the Truth in Lending Act and the Real Estate Settlement Procedures Act* 9, 17, 62. Available at <http://www.federalreserve.gov/boarddocs/RptCongress/tila.pdf>
- Bostic et al. 2007. *State and Local Anti-Predatory Lending Laws: The Effect of Legal Enforcement Mechanisms*, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1005423](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1005423)
- Cain, D.M., Lowenstein, G., & Moore, D.A. 2005. The Dirt on Coming Clean: Perverse Effects of Disclosing Conflicts of Interest, *Journal of Legal Studies*, 34: 1-25.
- Camerer et al. Regulation for Conservatives: Behavioral Economics and the Case for “Asymmetric Paternalism,” 151 U. PA. L. REV. 1211, 1230–37 (2003)
- Carlton, Dennis & Jeffrey Perloff. 2000. *Modern Industrial Organization*, 437–41 (3d. ed.)
- Cohen, G. L., Steele, C. M., & Ross, L. D. 1999. *The mentor’s dilemma: Providing critical feedback across the racial divide*. *Personality and Social Psychology Bulletin*, 25, pp. 1302-1318.
- Crocker, J., Voelkl, K. Testa, M., and Major, B. 1991. *Social stigma: The affective consequences of attributional ambiguity*. *Journal of Personality and Social Psychology*, 60., pp. 218-228.
- Croizet, J.C. and Claire, T. 1998. *Extending the concept of stereotype threat to social class: the intellectual underperformance of students from low socioeconomic backgrounds*. *Personality and Social Psychology Bulletin*, 24, pp. 588-594
- Durkin, Thomas A. 2002. Consumers and Credit Disclosures: Credit Cards and Credit Insurance, 88 *Federal Reserve Bulletin* 201, 208 tbl.9.
- Engel, Kathleen C. & Patricia A. McCoy. 2002. A Tale of Three Markets: The Law and Economics of Predatory Lending, 80 *Texas Law Review* 1255, 1280–81
- Eskridge William N., Jr. 1984. One Hundred Years of Ineptitude: The Need for Mortgage Rules Consonant with the Economic and Psychological Dynamics of the Home Sale and Loan Transaction, 70 *VA. L. REV.* 1083, 1128–30
- Fair and Accurate Credit Transactions Act of 2003, Pub. L. 108-159, §§ 211–12, 117 Stat. 1952, 1968–69 (2003) (codified as amended at 15 U.S.C. § 1681 (2003)).

- Forehand, M.R., Deshpande, R., Reed, A. II. 2002. *Identity salience and the influence of differential activation of the social self-schema on advertising response*. *Journal of Applied Psychology*, 87(6). pp. 1086-1099.
- Gabaix, X. and Laibson, D. 2006. *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*. *The Quarterly Journal of Economics*, MIT Press, vol.121(2), pp.505-540
- Gourville, J.T. and Soman, D. 1998. *Payment Depreciation: The Effects of Temporally Separating Payments from Consumption*. *Journal of Consumer Research*, 25(1), pp. 160-174
- Grossman, S.J. and Hart, O.D. 1980. *Disclosure Laws and Takeover Bids*. *The Journal of Finance*, Vol.35, No. 2, Papers and Proceedings Thirty-eighth Annual Meeting American Finance Association, Atlanta, GA, December 28-30, 1978 (May 1980), pp.323-334
- Guttentag, Jack 2000. Another View of Predatory Lending 8 (Wharton Fin. Inst. Ctr., Working Paper No. 01-23-B), available at <http://fic.wharton.upenn.edu/fic/papers/01/0123.pdf>
- HUD-Treasury Report
- Ho & Anthony Pennington-Cross. 2006.
- Hogarth, Jeanne M. & Jinkook Lee. 2000. Consumer Information for Home Mortgages: Who, What, How Much, and What Else?, 9 *FIN. SERVICES REV.* 277, 283
- Hogarth, Robin M. 1980. Judgment and Choice 4-6.
- Huber, J., Payne, J.W., and Puto, C. 1982. *Adding asymmetrically dominated alternatives: Violations of regularity and the similarity hypothesis*. *Journal of Consumer Research*, 9, pp. 90-98
- Iwry, M.J., and John, D.C. 2006. *Pursuing Universal Retirement Security through Automatic IRAs*, available at [http://www.heritage.org/research/socialsecurity/upload/95858\\_1.pdf](http://www.heritage.org/research/socialsecurity/upload/95858_1.pdf)
- Iyengar, S. S., & Lepper, M. R. (2000) When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79, 995-1006.
- Iyengar, S.S., Huberman, G., and Jiang, W. 2004. *How Much Choice is Too Much: Determinants of Individual Contributions in 401K Retirement Plans* in Mitchell, O.S. and Utkus, S. (Eds.) *Pension Design and Structure: New Lessons from Behavioral Finance*. Oxford: Oxford University Press, pp. 83-95
- Jolls, Christine, et al., 1998. A Behavioral Approach to Law and Economics, 50 *Stanford Law Review*. 1471, 1533–37.

- Jolls, C. and Sunstein, C.R. *Debiasing through Law* (March 2005). U Chicago Law & Economics, Olin Working Paper No. 225; Harvard Law and Economics Discussion Paper No. 495. Available at SSRN: <http://ssrn.com/abstract=590929>
- Jackson, H.E. and Berry, J. 2001. *Yield Spread Premiums and the Trilateral Dilemma in Financial Regulation*
- Johnson, E.J., Hershey, J., Meszaros, J., and Kunreuther, H. 1993. *Framing, Probability, Distortions, and Insurance Decisions*. *Journal of Risk and Uncertainty*, Vol. 7, pp.35-51.
- Johnson, E..J. and Goldstein, D. 2003. *Do defaults save lives?* *Science*, 302. pp. 1338-1339.
- Kahneman, D. 1994. *New challenges to the rationality assumption*. *Journal of Institutional and Theoretical Economics*, 150, pp. 18-36.
- Kahneman, D., & Tversky, A. 1979. *Prospect theory: An analysis of decisions under risk*. *Econometrica*, 47, pp. 313-327.
- Kaplow, Louis. 1992. Rules Versus Standards: An Economic Analysis, *42 Duke Law Journal*. 557
- Kelley, H. H. 1955. The two functions of reference groups. In G. E. Swanson, T. M, Newcomb and E. L. Hartley (eds.), *Readings in social psychology* (2nd ed., pp. 410-414). New York: Holt.
- Kennedy, Duncan. 1976. Form and Substance in Private Law Adjudication, *89 Harvard Law Review* 1685, 1688.
- Knetsch, J.L. 1989. *The Endowment Effect and Evidence of Nonreversible Indifference Curves*. *American Economic Review*, 79(5), pp. 1277-1284.
- Koehler, D.J. and Poon, C.S.K. 2005. *Self-predictions overweight strength of current intentions*. *Journal of Experimental Social Psychology*.
- Laibson, D., Repetto, A., and Tobacman, J. 1998. *Self-control and saving for retirement*. *Brookings Papers on Economic Activity* 1, pp. 91-196
- LeBoeuf, R. A., & Shafir, E. 2006. The long and short of it: Physical anchoring effects. *Journal of Behavioral Decision Making*, 19(4), 393-406.
- Landers, Jonathan M. & Ralph J. Rohner. 1979. A Functional Analysis of Truth in Lending, *26 UCLA L. REV.* 711, 715–16.
- Leventhal, H., Singer, R., and Jones, S. 1965. *Effects of Fear and Specificity of Recommendation Upon Attitudes and Behavior*. *Journal of Personality and Social Psychology*, Issue 2, pp. 20-29.

- Lewin, K. 1951. *Field Theory in Social Science*. Harper and Row, New York.
- Li, W. and Ernst, K.S. *The Best Value in the Subprime Market: State Predatory Lending Reforms*, Durham, NC: Center for Responsible Lending, Feb. 23, 2006
- Loewenstein, G. and Elster, J. (Eds.) 1992. *Choice over Time*. New York: Russell Sage Foundation
- Loewenstein, G. and Thaler, R. 1989. *Anomalies: Intertemporal Choice*. *Journal of Economic Perspectives*, 3(4), pp.181-193.
- 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., Brookings Institution Press 2005.
- Mann, Ronald. Bankruptcy Reform and the Sweat Box of Credit Card Debt, *Illinois Law Review* 2007(1): 375.
- Mendoza-Denton, R., Downey, G., Purdie, V.J., Davis, A., and Pietrzak, J. 2002. *Sensitivity to status-based rejection: implications for African American students' college experience*. *Journal of Personality and Social Psychology*, 83, pp. 896-918.
- Mortgage Reform and Anti-Predatory Lending Act of 2007, H.R. 3915, 110<sup>th</sup> Cong., 1<sup>st</sup> Session.
- Musto, David K. 2007. *Victimizing the Borrowers: Predatory Lending's Role in the Subprime Mortgage Crisis* (Wharton working paper).
- Posner, Eric A. 1997. Standards, Rules, and Social Norms, 21 *Harv. J.L. & Pub. Pol'y* 101, 101-07.
- Pottow, J.A.E. *Private Liability for Reckless Consumer Lending*. *U. Ill. L. Rev.* 2007, no. 1 (2007): 405-65.
- Plous, Scott. 1993. *The Psychology of Judgment and Decision Making*, 107-88.
- Radin, Margaret Jane. 1989. Reconsidering the Rule of Law, 69 *B.U. L. Rev.* 781
- Reed, A. II. 2004. *Activating the Self-Importance of Consumer Selves: Exploring Identity Salience Effects on Judgments*, *Journal of Consumer Research*, 31, (2) 286-295.
- Renuart, Elizabeth. 2003. Comment, *Toward One Competitive and Fair Mortgage Market: Suggested Reforms in a Tale of Three Markets Point in the Right Direction*, 82 *TEX. L. REV.* 421, 43.
- Rose, Carol M. 1988. Crystals and Mud in Property Law, 40 *Stanford Law Review* 577
- Samuelson, W. and Zeckhauser, R. 1988. *Status quo bias in decision-making*. *Journal of Risk and Uncertainty*, 1, pp. 7-59.



- Schauer, Frederick. 1991. *Playing by the Rules: A Philosophical Examination of Rule-Based Decision-Making in Law and in Life* 149–55.
- Schlag, Pierre. 1985. *Rules and Standards*, 33 *UCLA L. Rev.* 379, 382–83.
- Schultz, C. 1995. *Wages and Employment in a Repeated Game with Revenue Fluctuations*. Discussion Papers 95-01, University of Copenhagen, Department of Economics.
- Schwartz, Alan & Louis L. Wilde. 1979. *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 *U. Pa. L. Rev.* 630, 635
- Shafir, E., Simonson, I. and Tversky, A. 1993. *Reason-Based Choice*. *Cognition*, 49, pp. 11-36
- Shafir, E., and LeBoeuf, R.A. 2002. *Rationality*. *Annual Review of Psychology*, Vol. 53, pp. 491-517.
- Shelton, J. N., & Richeson, J. A. 2005. *Intergroup contact and pluralistic ignorance*. *Journal of Personality and Social Psychology*, 88, pp. 91-107
- Simonson, I. 1989. *Choice Based on Reasons: The Case of Attraction and Compromise Effects*. *Journal of Consumer Research*, 16 (September), pp. 158-174.
- Simonson, I. and Tversky, A. 1992. *Choice in Context: Tradeoff Contrast and Extremeness Aversion*. *Journal of Marketing Research*, 29 (August), pp. 281-295
- Steele, C.M. 1997. *A threat in the air: How stereotypes shape intellectual identity and performance*. *American Psychologist*, 52, pp. 613-629.
- Sunstein, C.R. and Thaler, R.H. *Libertarian Paternalism Is Not an Oxymoron*. University of Chicago Law Review, Forthcoming Available at SSRN: <http://ssrn.com/abstract=405940>
- Thaler, R.H. 1985. *Mental accounting and consumer choice*. *Marketing Science*, 4, pp. 199-214.
- Thaler, R.H. 1992. *The Winner's Curse*. New York, W.W. Norton & Co.
- Turner, J.C. 1987. *Rediscovering the Social Group: A Self-Categorization Theory*. Oxford: Basil Blackwell.
- Tversky, A. and Kahneman, D. 1991. *Loss Aversion in Riskless Choice: A Reference Dependent Model*. *The Quarterly Journal of Economics*, pp. 1039-1061.
- Tversky, A., and Shafir, E. 1992. *Choice under conflict: The dynamics of deferred. decision*. *Psychological Science*, 3, 6, 358-361.
- Walton, G. M., & Cohen, G. L. 2007. *A question of belonging: race, social fit, and achievement*. *Journal of Personality and Social Psychology*, 92 (1), pp. 82-96.
- White, J.J. & Summers, R.S. 1995. *Uniform Commercial Code* (4th Edition), Practitioner Treatise Series, West Publishing Corp.