The Behavioral Economics of Consumer Contracts

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Individuals make mistakes. They suffer from imperfect information and imperfect rationality, and consequently might fail to make choices that maximize their preferences. Few people question the truth of this proposition. Even the most insistent critics of behavioral economics acknowledge that individuals "often make serious mistakes in deciding important matters."[1] The question is not whether individuals make mistakes. Sure they do. The question is whether these mistakes merit legal intervention.

Focusing on consumer contracts, the answer follows from a four-step analysis that identifies four subquestions. The first two steps are descriptive. Do consumers suffer from systematic misperception of the costs and benefits associated with certain products? And, do sophisticated sellers respond strategically to consumer misperception? In particular, do sellers design their products, contracts, and pricing schemes in response to consumer misperception? The third step is normative: is consumer misperception and, specifically, sellers' strategic response to consumer misperception welfare-reducing? The fourth and final step is prescriptive: is legal intervention warranted and, if so, what type of legal intervention is desirable? In this Article, I perform the required four-step analysis, elaborating on and extending my previous work on the behavioral economics of consumer contracts.[2]

I conclude that, in certain markets, consumer mistakes and sellers' strategic response to these mistakes are responsible for a substantial welfare loss, potentially justifying legal intervention. Critics of behavioral economics challenge my arguments in each step of the analysis and thus conclude, sometimes categorically, that legal intervention is not war¬ranted. I confront these challenges, focusing on the recent, thoughtful critique by Professor Richard Epstein.[3]

In Part I of this Article, I argue that systematic mispercep¬tion persists in some consumer markets. Critics, like Epstein,maintain that mistakes do not survive in markets thanks to two mistake-correcting forces: consumer learning and educa¬tion efforts by sellers.[4] I begin by arguing that these mistake-correcting forces are not as powerful as the critics suggest. With respect to consumer learning, Epstein argues that mis¬takes about a standardized product are not sustainable.[5] This is probably correct. The problem is that many products are not standardized. In particular, when heterogeneity in use patterns is accounted for, even a product that seems standardized may be subject to individualized use. With respect to education ef¬forts by sellers, I agree with Epstein that sellers in a competi¬tive market may find it profitable to educate consumers about unnoticed flaws in a competitor's product. But when a flaw ispervasive in the industry, each seller must choose

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1 Richard A. Epstein, Behavioral Economics: Human Errors and Market Corrections, 73 U. CHI. L. REV. 111, 111 (2006) [hereinafter Epstein, Behavioral Economics].

2 See Oren Bar-Gill, Bundling and Consumer Misperception, 73 U. CHI. L. REV. 33 (2006) [hereinafter Bar-Gill, Bundling and Consumer Misperception]; Oren Bar-Gill, Seduction by Plastic, 98 NW. U. L. REV. 1373 (2004) [hereinafter Bar-Gill, Seduction by Plastic].

3 Epstein, Behavioral Economics, supra note 1, at 123–32; see also Richard A. Epstein, Second-Order Rationality, in BEHAVIORAL PUBLIC FINANCE 355–56, 365–67, 384–85 (Edward J. McCaffery & Joel Slemrod eds., 2006) [hereinafter Epstein, Second-Order Rationality]. Some of the challenges and responses discussed below echo elements of the general debate over the role of behavioral economics in legal policymaking. See, e.g., Christine Jolls, Cass R. Sunstein & Richard Thaler, A Behavioral Approach to Law and Economics, 50STAN. L. REV. 1471, 1476–88 (1998) [hereinafter Jolls et al., Behavioral Approach]; Christine Jolls, Cass R. Sunstein & Richard Thaler, Theories and Tropes: A Reply to Posner and Kelman, 50 STAN. L. REV. 1593 (1998); Mark G. Kelman, Behavioral Economics as Part of a Rhetorical Duet: A Response toJolls, Sunstein, and Thaler, 50 STAN. L. REV. 1577, 1586–90 (1998); Richard A. Posner, Rational Choice, Behavioral Economics, and the Law, 50 STAN. L. REV. 1551 (1998). This Article, and more broadly, this Exchange—between Professor Epstein and myself—is unique in its focus on the application of behaviorallaw and economics to consumer contracts.

4 See Epstein, Behavioral Economics, supra note 1, at 114–18, 126–27; Richard A. Epstein, Exchange, The Neoclassical Economics of Consumer Contracts, 92 MINN. L. REV. 803, 810–16 (2008) [hereinafter Epstein, Exchange, Neoclassical Economics].

5 See Epstein, Behavioral Economics, supra note 1, at 120; Epstein, Exchange, Neoclassical Economics, supra note 4, at 816–17.

between correcting the flaw and educating consumers, or just going with the flow. It is not at all clear that the former correction strategy will always prevail.

Theory leaves room for both outcomes: disappearing mistakes and persistent mistakes. The answer, therefore, mustcome from an empirical analysis. Moreover, this analysis must be market-specific, because, while learning and competition may well alleviate mistakes in one market, this might not happen in another market. As an example, I summarize evidence from the credit card market suggesting that, in this market, consumers continue to make systematic mistakes. One major piece of evidence suggesting that systematic mistakes persist in the credit card market comes from specific design features of the credit card product. These features, I argue, respond to consumer misperception. If sellers choose to design their products in ways that respond to consumer misperception, then they must believe that misperception is systematic and robust.

This brings me to Part II, where I shift focus from consumer mistakes to sellers' responses to these mistakes. I argue that sellers strategically respond to consumer misperception by redesigning their products, contracts, and pricing schemes. Epstein rejects this argument.[6] His counterargument is that, with one-dimensional, standardized products, sellers operating in a competitive market will set a price equal to cost, regardless of consumer misperception.[7] I agree. But many products are not one-dimensional. Moreover, I argue that sellers have a strong incentive to offer multidimensional products, and to adopt multidimensional pricing schemes.

Epstein also argues that consumer mistakes, if they persist, are not systematic.[8] For example, while some consumers overestimate the benefits associated with a product, other consumers underestimate the same benefits.[9] And, if consumer mistakes are not systematic in one, identifiable direction, then they cannot induce a strategic response from sellers. It may well be the case that some consumers overestimate while others underestimate. But this does not mean that the average mistake is zero. It is an empirical question. And the evidence suggests that, at least in some markets, the average mistake isnot zero. In particular, if sellers design their products and pricing schemes in response to consumer misperception, we can safely assume that the average mistake is not zero.[10] Moreover, the product design itself can often tell us whether the average mistake is an overestimation or an underestimation.

Part III addresses the welfare question: Does consumer misperception entail a welfare cost? Is product design that responds to consumer misperception welfare-reducing? Here Epstein considers a specific market, the credit card market, and concludes that credit card products, as currently designed, are not welfare-reducing.[11] Epstein uses two arguments to support this conclusion. First, he persuasively argues that high bankruptcy rates, even if driven by increased credit card lending, do not prove that credit cards are welfare-reducing.[12] But there are other reasons to believe that the credit card product is unsafe—reasons that Epstein does not challenge. Second, Epstein argues that issuers have no incentive to offer dangerous, bankruptcy-inducing credit card products.[13] This assumes one specific business model that some issuers follow. But there is another business model—the "sweatbox model"—that other is¬suers follow. Under this model, issuer revenues come largely from high interest and fees paid by consumers at the pre-bankruptcy stage, and thus issuers profit even if significant portions of the debt are discharged in bankruptcy (or is otherwise written off). Part III goes beyond these responses to Epstein's arguments, and presents a more systematic account of the welfare costs associated with credit card products, as currently designed.

Finally, in Part IV, I turn to the prescriptive question: should consumer contracts be regulated and, if so, how? Epstein and other critics conclude that regulation, other than perhaps disclosure mandates, is not warranted.[14] Obviously, this conclusion is based in part on the assessment that mistakes are rare and unsystematic, and that they entail little or no welfare costs. But Epstein does more than merely dismiss any potential benefit from regulation. He argues that regulation is both not feasible and would likely do more harm than good.[15] On

6 See Epstein, Behavioral Economics, supra note 1, at 119–20.

7 Id. at 120.

8 Id. at 121–22.

9 See id. ("[B]uyers do not have uniform demands.").

10 A qualification should be mentioned: If sellers can segment the market and offer one product (and one pricing scheme) to overestimators and another product (and another pricing scheme) to underestimators, then a design response to consumer misperception need not be inconsistent with an average mistake of zero. This qualification, however, is largely theoretical. As Epstein himself argues, segmentation according to the type or level of misperception is unlikely. See id. at 121 ("[N]o consumer wears a black or white hat that indicates his or her class [i.e., bias type or bias level]."); see also infra note

11 See Epstein, Behavioral Economics, supra note 1, at 124–25.

12 Id. at 125, 128.

13 Id. at 127 ("Banks know how to live with predictable defaults, but they hardly regard the failure of their borrowers as an advantage to themselves.").

14 See id. at 125, 128 (noting that the Truth in Lending Act (TILA) requires credit card company disclosures and concluding, "I am hard pressed tothink of any form of direct regulation beyond TILA that could do any good").

15 See id. at 131 ("Banning [so-called 'teaser' credit card] rates will do nogood, and it could easily work some anticompetitive harm, by making it more difficult for new banks to pry customers away from established competitors.").

feasibility, Epstein argues that if the direction of the error cannot be predicted, then effective regulation cannot be designed.[16] But, as indicated above, the direction of the error can sometimes be deduced. And some forms of regulation, specifically disclosure mandates, do not depend on an a priori identification of the direction of the error. Epstein also argues that, given consumer heterogeneity, any regulation designed to help one group of consumers will necessarily hurt another group of consumers.[17] This observation, even if accurate, does not mean that no regulation is better than regulation. If regulation helps Group A and hurts Group B, then no regulation helps Group B and hurts Group A. But it is not necessarily the case that regulation will hurt Group B. Here I rely on recent work that identifies forms of regulation designed to help Group A while minimizing the harm to Group B.

Before I proceed it is important to emphasize that, at the end of the day, the conclusions reached by Epstein and myself are not as far apart as would initially appear. Like Epstein, I recognize the costs and risks of legal intervention, and I recognize that in certain cases, perhaps in most cases, these costs and risks outweigh the benefit from regulation. Unlike Epstein, however, I do not believe that the cost-benefit calculus is so loaded on the cost side to justify a strong, perhaps irrefutable, anti-regulation presumption. Rather, I think that a market-bymarket analysis of the costs and benefits is desirable. Drawing an analogy from the related field of antitrust law, while Epstein supports a per se no regulation rule,[18] I argue for a rule of reason analysis.

In addition, Epstein does recognize a possible exception to his no regulation rule.[19] He supports disclosure mandates, [20]even if he deems them generally superfluous. I, too, believe that disclosure mandates should be one of the main regulatory responses to the problem of consumer misperception. The kind of disclosure that I advocate is, however, conceptually different from the traditional disclosure mandates that Epstein endorses. Traditional disclosure rules target imperfect information and misperception with respect to product attributes. Research in psychology and behavioral economics has taught us that consumers misperceive not only objective product attributes but also their own individual uses of the product.[21] Disclosure regulation should be reconceptualized to address this qualitatively different category of missing information and misperception.[22]

I. The Persistence Of Consumer Mistakes

Epstein, while recognizing that "people often make serious mistakes in deciding important matters,"[23] concludes that such mistakes are unlikely "to survive in any public setting."[24] In support of this conclusion, Epstein offers two arguments. First, consumer learning will, in time, eliminate mistakes.[25] Second, sellers will educate consumers and correct any misperception.[26] I take up each of these arguments in turn. Before I do so, how ever, a clarification is in order. I do not deny that consumers learn. Similarly, I do not deny that sellers in a competitive market sometimes invest in correcting consumer misperception. My only goal, on the theory front, is to show that the mistake-correcting forces—consumer learning and education efforts by sellers—that Epstein invokes are not as powerful as he suggests. The conclusion will be that the persistence of consumer mistakes in any given market is an empirical question.[27] And I will present evidence from the credit card market suggesting that, in this market, mistakes in fact persist.

A. Learning By Consumers

Epstein argues that consumers learn from their own mistakes and from the mistakes of others, and learn not to repeat these mistakes.[28] How quickly will

16 See id. at 125, 128 (noting that the Truth in Lending Act (TILA) requires credit card company disclosures and concluding, "I am hard pressed tothink of any form of direct regulation beyond TILA that could do any good").

17 See id. at 131 ("Banning [so-called 'teaser' credit card] rates will do nogood, and it could easily work some anticompetitive harm, by making it more difficult for new banks to pry customers away from established competitors.").

18 See id. at 129 (describing the difficulty in crafting regulations that will satisfy the needs of differing credit card customers).

19 See id. ("[A]ny regulation that slows down the profligate borrower willalso deter the cautious borrower from entering into the market by raising his costs of transaction.").

20 See id. at 128.

21 See id. at 125–26 (discussing the disclosure role of TILA).

22 See id. at 127 ("The general disclosure remedies are shown to have a place.").

23 I define "use" broadly to include the payment of different price components, redeeming rebates, etc.

24 Id. at 118.

25 See id. at 120.

26 See id. (arguing that the competitive, open market corrects consumer misperceptions because a "seller of a somewhat different product will drawaway the customers [of the original, misperceived product] by trumpeting themistake").

27 See Amos Tversky & Daniel Kahneman, Rational Choice and the Framing of Decisions, 59 J. BUS. (CONFERENCE PROCEEDINGS) S251, S275 (1986), reprinted in RATIONAL CHOICE: THE CONTRAST BETWEEN ECONOMICS AND PSYCHOLOGY 67, 91 (Robin M. Hogarth & Melvin W. Reder eds., 1987) ("The claim that the market can be trusted to correct the effect of individual irrationalities cannot be made without supporting evidence . . . .").

28 Epstein, Behavioral Economics, supra note 1, at 120. In this Ex¬change, Epstein cites findings from a recent study by Agarwal et al. showing that consumers do learn. See Epstein, Exchange, Neoclassical Economics, supra note 4, at 811–12 (citing Sumit Agarwal et al., The Age of Reason: Financial Decisions over the Lifecycle 2 (Mass. Inst. of Tech. Dep't of Econ. Working Paper Series, Working Paper No. 07-11, 2007), available at http://ssrn.com/ abstract=973790). I am not arguing that consumers do not learn. I am onlyarguing that learning is imperfect. Indeed, the Agarwal study reveals that asignificant number of consumers make mistakes. See, e.g., Agarwal et al., supra, at 15 (concluding that, in home equity credit lending, "[t]he unconditional average probability of making a . . . mistake [affecting interest rate] is 24[%] for loans and 18[%] for lines [of credit]" and "[y]ounger and older consumers have a greater tendency to misestimate the value of their house . . . which leads them to borrow at an increased APR").

consumers learn? The answer is context-dependent.[29] Context affects the efficacy of both intrapersonal and interpersonal learning. Starting with intrapersonal learning, the speed with which a consumer will learn about a latent risk associated with a product will depend on how frequently she uses the product and how frequently the risk materializes.[30] For example, if a consumer makes toast only once a month and there is a 1/100 chance that the toaster will explode when used, it can take the consumer several years before she learns about the risk of toaster explosion.

This is why interpersonal learning is so important. Foreach consumer it might take a few years before the toaster explodes. But if a million consumers purchase the same toaster, then most likely one of those toasters will explode in the first week. The efficacy of interpersonal learning is also context dependent.[31] And in arguing that interpersonal learning is quick and effective Epstein chooses a learning-friendly context—the standardized product.[32] He forcefully argues that mistakes with respect to the value of a standardized product are unlikely to persist in the marketplace.[33]

But not all products are standardized. And when the product is not standardized interpersonal learning becomes slower.[34] With a standardized good, when a consumer reveals, through use, a certain hidden feature of the product, he can share this information with his family and friends.[35] Since the information pertains to a standardized good, it is relevant to others.[36] But if the good is not a standardized good, such interpersonal learning will be less effective. With a nonstandardized good, the information obtained by one consumer might not be relevant to another consumer who purchased a different version of the nonstandard good. [37]

Moreover, when the nature of the product is more broadly defined to include the potential uses of the product, then the group of standardized products shrinks.[38] The value of a product does not depend only on the product's intrinsic features. It depends also on the potential uses of the product. And if different consumers use the product differently, then an other wise standardized product becomes functionally nonstandardized. And this can inhibit learning. If one consumer uses the product one way and through this use learns some information about the product, there is less reason to believe that another consumer who uses the product in a different way will find this information relevant. [39]

Use-pattern mistakes create another impediment to interpersonal learning. Many people, when thinking about consumer mistakes, think about mistakes regarding some intrinsic feature of the product. But there is another important category of consumer mistakes—mistakes about the consumer's own use patterns.[40] A consumer might underestimate the amount of printing that she will do on her home printer. And, a consumer might underestimate how much money he will borrow on his credit card. Even with an otherwise standardized product, use patterns vary from one consumer to the other. Such variation makes interpersonal learning more difficult.

Another form of learning is based on expert advice. Epstein argues that consumers, recognizing their imperfect rationality, take steps to limit the mistakes that they make.[41] In particular, Epstein argues that consumers seek advice and consult experts before entering the market.[42] Most consumers are probably aware that they are fallible. This does not mean, however, thatthey are necessarily aware of all the potential mistakes that they might make. Consumers surely seek advice before making certain purchase or use decisions. They do not seek advice before each and every purchase or use decision. When faced with a big decision, consumers are more likely to take the time and incur the cost of seeking expert

29 On the conditions for effective learning and on the limits of learning, see Howard Latin, "Good" Warnings, Bad Products, and Cognitive Limitations,41 UCLA L. REV. 1193, 1252–53 (1994) ("[T]he capacity for learning is dependent on the specific product-use context ...."); Tversky & Kahneman, supranote 27, at S274–75 ("Effective learning takes place only under certain condi¬tions .... [A]ny claim that a particular error will be eliminated by experience must be supported by demonstrating that the conditions for effective learning are satisfied.").

30 Cf. Latin, supra note 29, at 1253 ("[M]ost feedback [about the risks of using a product] takes the form of experiences of safe usage.").

31 See Tversky & Kahneman, supra note 27, at S274–75.

32 See Epstein, Behavioral Economics, supra note 1, at 120.

33 See id. (criticizing "the hopeless artificiality of any example that presupposes universal ignorance of the value of any standard commodity" and ar¬guing that "there is no sustainable equilibrium when the mistake in information is about a standardized product that everyone can test and use").

34 On the limits of learning, even by sophisticated decision makers in"real world [situations] that involve high stakes and serious deliberation[,]"see Tversky & Kahneman, supra note 27, at S274. See also Cade Massey & Richard H. Thaler, The Loser's Curse: Overconfidence vs. Market Efficiency inthe National Football League Draft 3 (Mar. 15, 2006) (unpublished manuscript, available at http://ssrn.com/abstract=697121) (documenting persistent bias in NFL draft picks and overestimation of the decision maker's abilities).

35 See Epstein, Behavioral Economics, supra note 1, at 120.

36 See id.

37 However, nonstandardized products may share standardized features, and interpersonal learning about these features can be effective. Cf. id. at 120–21 (arguing that consumers will likewise share information about valuation mistakes even in situations involving nonstandardized products).

38 For another discussion of this issue, see Oren Bar-Gill & Elizabeth Warren, Making Credit Safer 15 (Oct. 4, 2007) (unpublished manuscript, on file with the author).

39 Cf. Latin, supra note 29, at 1253 ("Product risks and accident scena¬rios are very diverse; feedback from one mode of use or product application consequently may not be very useful in minimizing other kinds of harms.").

40 For a similar discussion, see Bar-Gill & Warren, supra note 38, at 14.

41 Epstein, Exchange, Neoclassical Economics, supra note 4, at 813; see also Epstein, Second-Order Rationality, supra note 3, at 361 ("[R]ational people take steps that on average reduce, not increase, the frequency and severity of their errors.").

42 Epstein, Exchange, Neoclassical Economics, supra note 4, at 813; see also Epstein, Second-Order Rationality, supra note 3, at 361–62 ("[T]hey seekadvice from friends, hire experts, attend classes, use MapQuest, and adopt rules of thumb or other tricks of the trade ....").

advice. They are less likely to do so when faced with a smaller decision. For example, consumers are more likely to seek third-party assistance before taking on a substantial home-equity loan. They are less likely to engage in substantial consultations before deciding to buy sneakers with their credit card. In many markets, consumers make many small decisions, rather than a few large decisions. In these markets, reliance on expert advice is probably rare.[43]

B. Correction By Sellers

In addition to learning by consumers, sellers may invest in correcting consumer misperceptions.[44] Consider the following, arguably common, scenario: Seller A offers a product that is better and costs more to produce than the product offered by Seller B. Consumers, however, underestimate the added value from Seller A's product and thus refuse to pay the higher price that Seller A charges. In this scenario, Seller A has a powerfulincentive to educate consumers about her product to correct their underestimation of the product's value.

But what if both Seller A and Seller B and many other sellers offer identical products, or offer different products that share a certain product risk? If Seller A reduces this risk and invests in educating consumers about the benefits of her superior product, then Seller A will attract a lot of business and make a supra competitive profit. But this is not an equilibrium.

After Seller A invests in consumer education, all the other sellers will free-ride on Seller A's efforts.[45] They will similarly reduce the product risk and compete away profit that Seller A would have made. Anticipating such a response, Seller A will realize that if she invests in consumer education she will not be able to recoup her investment. She will thus choose not to improve the safety of her product, and instead will continue to offer a higher-risk product. This collective action problem can lead to the persistence of consumer misperception.[46]

Epstein recognizes that a collective action problem can prevent sellers from correcting consumer mistakes.[47] He argues, however, that this collective action problem can be overcome by branding and product differentiation that will allow the seller to "capture the gains of correction."[48] To evaluate this argument it is useful to distinguish between two pieces of information that the seller of a branded product would have toconvey to consumers. First, the seller will have to correct consumers' underestimation of a certain product risk. Second, the seller will have to convince consumers that her product does a better job in reducing this risk. For example, suppose GeneralElectric (GE) wants to sell better toasters—toasters that do not short-circuit as often. To do so, GE would have to correct consumers' underestimation of the likelihood that toasters might short-circuit, and then convince consumers that its toaster is less likely to short-circuit than the competing toaster.

Bringing the possibility that the toaster will short-circuitto consumers' attention might not be a wise business decision, as it will reduce the demand for toasters (at least if GE's improved toaster does not completely eliminate the risk).[49] Moreover, it will be costly to convince consumers that the probabilitythat the toaster will short-circuit should guide their choice oftoasters (assume that a toaster that short-circuits creates financial, not bodily harm). Finally, if GE is successful in making the risk that a toaster will short-

43 Many small mistakes can be as harmful as a few large mistakes. Credit card borrowing provides an example. See TERESA A. SULLIVAN ET AL., AS WE FORGIVE OUR DEBTORS: BANKRUPTCY AND CONSUMER CREDIT IN AMERICA 178 (1989); Bar-Gill, Seduction by Plastic, supra note 2, at 1399 (describing how consumers make multiple small mistakes that equal a large mistake they would never make at once). Consumers make mistakes even when the decisionis a big one. For example, many consumers take on subprime mortgage loansthat they cannot repay. See, e.g., James H. Carr & Lopa Kolluri, Predatory Lending: An Overview, in FANNIE MAE FOUNDATION, FINANCIAL SERVICES IN DISTRESSED COMMUNITIES: ISSUES AND ANSWERS 31, 37 (2001) (noting that individuals who would otherwise qualify for prime-rate loans nevertheless signed up for high-interest, subprime loans); see also Lauren E. Willis, Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price, 65 MD. L. REV. 707, 731–32 (2006) (summarizing studies that show foreclosure rates ranging between 20% and 30%).

44 See Epstein, Behavioral Economics, supra note 1, at 119–20 (arguing that in a situation in which misinformed consumers underestimate the value of a product, the market will cease unless at least one seller attempts to correct the misinformation).

45 Cf. Howard Beales et al., The Efficient Regulation of Consumer Information, 24 J.L. & ECON. 491, 527 (1981) (describing the lack of an incentive to disclose information if competitors will benefit as free-riders); Epstein, Behavioral Economics, supra note 1, at 119–20 (noting the possibility that no sellerwill invest in correcting consumers' misperceptions if other sellers will subsequently benefit without expending any resources).

46 See Beales et al., supra note 45, at 527 (explaining why sellers might not disclose both positive and negative information); see also R. Ted Cruz & Jeffrey J. Hinck, Not My Brother's Keeper: The Inability of an Informed Minority to Correct for Imperfect Information, 47 HASTINGS L.J. 635, 659 (1996) (detailing reasons why sellers lack incentive to inform consumers). In some markets, the advantage gained by moving first may be large enough to overcomethis collective action problem. For a general discussion of information failuresin consumer markets, see Beales et al., supra note 45, at 503–09. On the limitsof advertising as a mistake-correction mechanism, see Xavier Gabaix & David Laibson, Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets, 121 Q.J. ECON. 505, 507–10 (2006) (describinghow truthful advertising to misinformed consumers does not always increaseprofitability); Russell Korobkin, Bounded Rationality, Standard Form Con¬tracts, and Unconscionability, 70 U. CHI. L. REV. 1203, 1242–43 (2003) (arguing that the costs of changing the way buyers shop will outweigh the small value that marketing is likely to achieve).

47 Epstein, Behavioral Economics, supra note 1, at 120. In his contribu¬tion to this Exchange, Epstein appears to retract his acknowledgment of thecollective action problem. See Epstein, Exchange, Neoclassical Economics, supra note 4, at 818–19. Using a five-seller example, he argues that "[i]f there isonly a 50% chance that any one of these [sellers] will deviate from the cooperative mode [i.e., form the low quality equilibrium], then the odds are only 1 in 32 that the collusive equilibrium will stick." Id. But the odds are not 50%. The collective action problem implies a zero probability of deviation, which, inturn, implies a 100% chance that the low quality equilibrium will stick. Of course, as described below, a sufficiently strong first-mover advantage, together with branding and product differentiation, can solve the collective action problem. The question—and this is an empirical one—is in what markets arethese correcting forces sufficiently strong?

48 Epstein, Behavioral Economics, supra note 1, at 120.

49 Jeff Sovern, Toward a New Model of Consumer Protection: The Problem of Inflated Transaction Costs, 47 WM. & MARY L. REV. 1635, 1680–81(2006) (noting reasons why sellers do not advertise terms that consumerswould like to know); see also Jon D. Hanson & Douglas A. Kysar, Taking Behavioralism Seriously: A Response to Market Manipulation, 6 ROGER WILLIAMS U. L. REV. 259, 336–37 (2000) (describing the possible effects of amanufacturer's effort to educate consumers on product safety, including a reduction in the overall demand for the product).

circuit salient to consumers, then GE's competitors will also offer toasters that will short-circuit less often. The competitors will have to invest in convincing consumers that their toasters are as safe as GE's.There is no free-riding with respect to this brand-specific pieceof information. But the competitors will not have to invest in correcting consumer misperception about the risk that a toaster might short-circuit. They will free-ride on GE's investment with respect to this piece of information. I do not believe that this collective action problem will always prevent sellers like GE from correcting consumer misperception. But, as Epstein suggests, the collective action impediment to mistake correction cannot be dismissed off-hand, based on theory alone.[50] An empirical, market-specific analysis is required.

Finally, even apart from this collective action problem sellers might prefer not to correct consumer mistakes and might even invest in creating misperception. Arguably, manipulation of consumer perceptions, and even preferences, is a main purpose of advertising.[51]

C. Evidence Of Persistent Mistakes

The goal of the preceding Sections was to demonstrate that theory alone cannot tell us whether or not consumer mistakes *will persist in any given* market. I now turn from theory to evidence. There are two categories of evidence that I find most convincing. The first category includes evidence of consumer behavior, and specifically evidence of mistakes in product choice that reveals the existence of systematic misperception. The second category of evidence focuses on seller behavior. In particular, sellers may design their products and pricing schemes in response to consumer misperception. Such product design is evidence that consumers make systematic mistakes (or, at least, that sellers believe that consumers are making systematic mistakes).

I next present evidence of persistent misperception in the credit card market. The evidence presented in this Section is from the first category—product choice evidence. Evidence fromthe second category—product design evidence—will be presented in Part II, where I also provide a theoretical analysis of sellers' strategic reactions, specifically through the design oftheir products and pricing schemes, to consumer misperception.

A series of studies provide evidence that consumers make systematic mistakes in choosing among different credit card products.[52] In a recent study, Haiyan Shui and Lawrence Ausubel identified mistakes in consumers' credit card choices.[53] First, they found that a majority of consumers who accepted a credit card offer featuring a low introductory rate did notswitch out—to a new card with a new introductory rate—after the expiration of the introductory period, even though their debt did not decline after the initial introductory period ended.[54] This is puzzling given that a majority of consumers *in the study received multiple pre-approved credit card offers permonth.*[55] *With a common 10%* margin between introductory and post-introductory interest rates[56] and an average balance of $2500,[57] this mistake costs $250 a year.

Shui and Ausubel also found that when faced with otherwise identical credit card offers, consumers prefer a credit card with a 4.9% teaser rate lasting for an introductory period of six months over a credit card with a 7.9% teaser rate lasting for an introductory period of twelve months.[58] Consumers in this study

50 Epstein, Behavioral Economics, supra note 1, at 120.

51 See Edward L. Glaeser, Psychology and the Market, 94 AM. ECON. REV. (PAPERS & PROC.) 408, 409–11 (2004) ("Markets do not eliminate (and often exacerbate) irrationality.. The advertising industry is the most important economic example of these systematic attempts to mislead, wheresuppliers attempt to convince buyers that their products will yield remarkablebenefits.... It is certainly not true that competition ensures that false beliefs will be dissipated. Indeed, in many cases competition will work to increase the supply of these falsehoods...."). Glaeser argues, however, that government decision makers have weaker incentives than consumers to overcome errors, and thus intervention in markets might make things worse. See Edward L. Glaeser, Paternalism and Psychology, 73 U. CHI. L. REV. 133, 143–44 (2006).

52 The evidence summarized is drawn from the synthesis of existing studies that focus on borrowing behavior in Bar-Gill & Warren, supra note 38,at 19–33. In addition, experimental evidence suggests that credit cards affect spending behavior. See Drazen Prelec & Duncan Simester, Always LeaveHome Without It: A Further Investigation of the Credit-Card Effect on Willingness to Pay, 12 MARKETING LETTERS 5, 11 (2001) (discussing evidence that themethod of payment—credit card or cash—affects people's willingness to pay); see also GEORGE RITZER, EXPRESSING AMERICA: A CRITIQUE OF THE GLOBAL CREDIT CARD SOCIETY 5–7, 13 (1995); Richard A. Feinberg, Credit Cards as Spending Facilitating Stimuli: A Conditioning Interpretation, 13 J. CONSUMER RES. 348, 354–55 (1986) ("[T]he presence of credit card stimuli enhances the magnitude of spending."); Elizabeth C. Hirschman, Differences in Consumer Purchase Behavior by Credit Card Payment System, 6 J. CONSUMER RES. 58, 64–65 (1979) ("[P]ossession of a bank card or store-issued card appears to be positively related to higher levels of in-store expenditures and to a greater incidence of in-store purchasing."); Michael McCall & Heather J. Belmont, Credit Card Insignia and Restaurant Tipping: Evidence for an Associative Link, 81 J. APPLIED PSYCHOL. 609, 612–13 (1996) (showing evidence of increased tipping by consumers using credit cards instead of cash); Dilip Soman, Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments, 27 J. CONSUMER RES. 460, 472–74 (2001) (showing thatconsumers paying by credit cards are more likely to make additional discretionary purchases).

53 See Haiyan Shui & Lawrence M. Ausubel, Time Inconsistency in the Credit Card Market 2–3 (May 3, 2004) (unpublished manuscript, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=586622).

54 Id. at 3. The evidence shows that most consumers do not jump fromone card to another and from one teaser rate to another. See Bar-Gill, Seduction by Plastic, supra note 2, at 1392; see also infra Part III.B.1. But detailed statistics are not necessary to conclude that consumers do not jump from one teaser rate to another; it is evident from the fact that issuers offer teaser rates. Unless issuers have decided to forgo interest revenues altogether issuers would not offer teaser rates if most consumers did not stay beyond the introductory period. And it is clear that most issuers have not decided to forgo interest revenues altogether. In fact, in 2006 interest revenues represented 65% of issuers' total revenues. Cf. CARD INDUSTRY DIRECTORY 11 (Sandra L. Budde ed., 19th ed. 2007) (listing interest revenues as $75.15 billion and issuers' total revenues as $114.99 billion).

55 Shui & Ausubel, supra note 53, at 3 n.4.

56 In the Shui & Ausubel study, the introductory rates were between 4.9% and 7.9%, while the post-introductory rate was 16%. Id. at 2, 7.

57 Id. at 8.

58 Id. at 2–3.

carried an average balance of $2500 over a one-year period.[59] Those who accepted the six-month introductory offer paid a post-introductory rate of 16% during the latter half ofthe year.[60] The results indicate that at least some consumers were making a substantial mistake: consumers preferred the lower rate—shorter duration card even though they paid $50 more in interest on this card than they would have with the longer duration alternative.[61]

What explains this mistake? Why are consumers paying more interest than they must? One possible explanation is that consumers underestimate the amount that they will borrow—or at least borrow on the specific card—in the post-introductory period. In other words, at the time they take out their cards, consumers are optimistic about their future credit needs; about their future will power; about the likelihood that they will switch to a new card with a new, low introductory rate; or all of the above.

A second possible explanation attributes a much higher level of sophistication to consumers. This explanation assumes that consumers are aware of their imperfect self-control and seek credit arrangements that would help them pre-commit to borrow less. A shorter introductory period can serve as a commitment device. If a consumer must borrow today but wishes to commit to borrowing less in the future, he may prefer a credit card that allows interest-free borrowing now but makes borrowing very expensive in the future (after the introductory periodends)—so expensive that the cost of borrowing will overcome any temptation to borrow.

The data used in the Shui and Ausubel study was taken from a randomized experiment conducted by a major credit card issuer in 1995.[62] Such experiments are conducted to help issuers optimize their marketing strategies.[63] The specific experiment analyzed by Shui and Ausubel provides clear guidance to the issuer's marketing department: offer lower introductory rates for shorter durations in order to increase both the number of customers and the total interest revenues. While sophisticated consumers may benefit from the commitment device that the low teaser rate and shorter introductory period provides, less sophisticated consumers clearly lose from such contracts. At a cost of $50 a year per consumer for a simple manipulation of introductory rates and periods, the potential financial harm to less sophisticated consumers from unsafe credit card contracts is substantial.[64]

Another recent study by David Gross and Nicholas Souleles provides further evidence of seemingly irrational consumer behavior.[65] The most striking data show that many consumers pay high interest rates on large credit card balances while holding liquid assets that yield low returns.[66] Specifically, more than 90% of consumers with credit card debts have some very liquid assets in checking and savings accounts.[67] And one-third of credit card borrowers hold more than one month's income in these liquid assets.[68] With a median balance of more than $2000 (conditional on having a balance, i.e., the median balance among consumers who have a positive balance) and a spread of over 10% between credit card interest rates and the interest rates obtained on assets in checking and savings accounts, a typical consumer is losing more than $200 a year in interest payments that could have been easily avoided.

A third study, conducted by Stephan Meier and CharlesSprenger, compares time-preference data from a field experiment with a targeted group of low-to-moderate income consumers with credit report data on these consumers.[69] The authors find that consumers who exhibit hyperbolic discounting and dynamically inconsistent intertemporal choices borrow more, and specifically they borrow more on their credit cards.[70] This result suggests that "individuals borrow more . . . than they actually would prefer to borrow given their long-term objectives."[71]

The studies summarized above, and other studies like them, provide direct evidence of consumer mistakes.

59 Id. at 8.

60 Id. at 7. Note that all the credit cards had a post-introductory rate of16%, though the point at which this rate began differed. Id.

61 Id. at 8. In his contribution to this Exchange, Epstein argues that "[i]t is no surprise that some individuals prefer a steeper discount for a shorter period to a higher one for a somewhat longer period. Thus if people know thatthey can accelerate their purchases—perhaps by timing the acquisition of anew card with large expenditures—then the purchase pattern makes sense." Epstein, Exchange, Neoclassical Economics, supra note 4, at 824. But mostconsumers do not time the acquisition of a new card with large expenditures. Epstein's hypothesis is inconsistent with the data that most borrowing is doneat the high post-introductory rates. See Bar-Gill, Seduction by Plastic, supra note 2, at 1392; see also Lawrence M. Ausubel, Credit Card Defaults, Credit Card Profits, and Bankruptcy, 71 AM. BANKR. L.J. 249, 263 (1997) ("[A] sub¬stantial portion of credit card borrowing still occurs at post-introductory inter¬est rates ....").

62 See Shui & Ausubel, supra note 53, at 7.

63 Id.

64 See id. at 8–9 (finding that the average borrower can pay as much as $50 more a year by choosing the low teaser rate and continuing to borrow after the introductory period ends).

65 See David B. Gross & Nicholas S. Souleles, Do Liquidity Constraints and Interest Rates Matter for Consumer Behavior? Evidence from Credit Card Data, 117 Q.J. ECON. 149 (2002).

66 Id. at 180.

67 Id.

68 Id.

69 See Stephan Meier & Charles Sprenger, Impatience and Credit Behavior: Evidence from a Field Experiment (Fed. Reserve Bank of Boston, Working Paper No. 07-03, 2007), available at http://www.bos.frb.org/economic/wp/ wp2007/wp0703.pdf.

70 Id. at 5.

71 Id. at 3. The authors also find that high levels of impatience, represented by a low long-run discount factor, explain account delinquenciesand slow debt repayment patterns. Id. at 2–3.

These studies show that in many cases consumers systematically err in deciding which product to choose and how to use their chosen product.

II. Sellers' Strategic Response To Consumer Mistakes

If consumers make systematic mistakes, these mistakes can be expected to induce a reaction from sellers because any factor that affects the demand for a product can be expected to induce a reaction from sellers. I have argued in previous work that sellers design their products and pricing schemes in response to consumer misperceptions.[72] Epstein challenges this argument and asserts that sellers are unlikely to adjust the design of their products and prices in response to consumer mistakes.[73]

In Part II.A, I respond to Epstein's challenge. I reject his arguments and conclude that product design is in fact sensitive to consumer misperception. I proceed in Part II.B to summarize and further develop my theory of market reactions to consumer misperceptions. In Part II.C, I turn from theory to evidence. I describe various design features of products and prices in the credit card market, which confirm my proposed theory.

Understanding how sellers respond to consumer misperception is of both descriptive and normative importance. Such understanding also generates a new category of evidence in addition to the product choice evidence described in Part I, which may be used to prove the persistence of consumer mistakes. Since sellers will only alter the design of their products and prices in response to robust, systematic mistakes, observing such product and price adjustments is powerful evidence of persistent consumer mistakes.

A. Epstein's Challenge

Epstein argues that consumer misperception will not invoke a strategic response by sellers.[74] His main argument is simple: consumers are heterogeneous and their misperceptions are heterogeneous.[75] While some consumers might overestimate the value of a certain product, others might underestimate the value of the same product. Epstein claims that "the increased variance has no direction."[76] He seems to be arguing that if some consumers overestimate and some underestimate, the average estimate is unbiased and the mean of the error is zero. Since the mean of the error is zero, then there is no systematic misperception to which sellers can respond.[77]

I agree that different consumers will generally suffer from different misperceptions or from different levels of misperception. I also accept that for any given product some consumers will overestimate the value of the product while others will underestimate the value of the product. But the existence of both overestimators and underestimators does not mean that the average estimate is unbiased; and neither does it mean that the average bias is sufficiently close to zero that it can be safely ignored. It is an empirical question. The evidence suggests that, at least in some cases, the average estimate is biased and consumers suffer from a systematic misperception in an identified direction. In particular, evidence of adjustments in product design and pricing, summarized in Part II.C, suggests that sellers are responding to systematic biases with a direction that, at least on average, is very clear.[78]

Epstein notes the importance of product design and pricing as evidence of the absence of consumer mistakes.[79] In particular, Epstein brings evidence of home mortgage pricing to support his claim that myopia

72 Bar-Gill, Bundling and Consumer Misperception, supra note 2 (showing bundling as a response to consumer misperception); Bar-Gill, Seduction by Plastic, supra note 2 (focusing on the credit card market).

73 See Epstein, Behavioral Economics, supra note 1, at 120–22; see also infra note 74. A different critique, not mentioned by Epstein, argues that sellers will not respond to consumer mistakes as long as there are enough consumers that do not make these mistakes. See 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, 638–39 (1979) (providing this "informed minority" argument for the first time in legal and economic literature). This argument does not apply when sellers can screen for sophisticated consumers. And, of course, it is not at all clear that there is a sufficiently largenumber of sophisticated, informed buyers in all markets. See Sovern, supra note 49, at 1668–72 and sources cited therein.

74 See Epstein, Behavioral Economics, supra note 1, at 120–22. Epstein's critique focuses on my theory of misperception-based bundling. Id. at 120–21 & n.28 ("[B]ecause 'sellers get the same total price under [different] pricing schemes,' they will rationally choose to give the tying product away for free and charge above the marginal cost for the tied product to offset losses." (citing Bar-Gill, Bundling and Consumer Misperception, supra note 2, at 39)). But hiscriticism applies generally to any argument that sellers adjust the design oftheir products and prices in response to consumer misperception.

75 See Epstein, Behavioral Economics, supra note 1, at 121. Epstein makes another argument that is specific to the bundling response that I study in Bar-Gill, Bundling and Consumer Misperception, supra note 2, at 34–35. Inthat paper I discuss the example of home printing and show that when consumers underestimate the amount of printing that they will do, sellers willbundle together printers and ink, give away printers for free, and set a high price for ink. Id. Epstein argues that this strategy is vulnerable to exploitationby savvy consumers. Epstein, Behavioral Economics, supra note 1, at 121.These savvy consumers will take two free printers from two different suppliers and play each supplier against the other, reducing the price of ink to its unit cost. Id. First, it is not clear that there are enough savvy consumers to "break"the free printer/expensive ink equilibrium. Second, the savvy consumers willnot affect the identified equilibrium, if sellers can screen for them. Third, Epstein's argument explains why printers are not free; it is not an argument that printers are priced at cost. The main goal of my analysis was to show that printers will be sold below cost while ink will be sold above cost. Bar-Gill, Bundling and Consumer Misperception, supra note 2, at 34–35.

76 Epstein, Behavioral Economics, supra note 1, at 121.

77 See id. (stating that since some consumers are optimistic while othersare pessimistic "it may well be that the best strategy is to ignore these biases altogether").

78 If market segmentation based on the level or type of misperception is possible, then sellers will design their products and pricing schemes in response to consumer misperception even when the average bias is zero. In particular, sellers will offer one product design to the overestimators and another product design to the underestimators. Epstein does not consider the segmentation option. Id. He implicitly dismisses it by arguing that "no consumerwears a black or white hat that indicates his or her class [i.e., bias type or bias level]." Id. But even when the bias type is not directly observable it may be correlated with a trait that is observable, thus enabling market segmentation.

79 Id. at 130.

and hyperbolic discounting exist in the laboratory but not in the real world.[80] Epstein's evidence—"home mortgage interest tables show no trace of [hyperbolic] discounting, but a predictable yield curve in which the annual cost of money varies between, say, 5.78[%] and 6.22[%]"[81]— comes from the prime loans market.[82] Indeed, consumer misperception is probably not a major problem in the prime market.

But the fact that consumers make few mistakes in one market does not imply that they make few mistakes in all markets. Staying with home equity loans, product design, and pricing in the subprime market are qualitatively different from the product design and pricing that Epstein describes in the prime market.[83] This difference suggests that consumer misperception may well play an important role in the subprime market.[84] Comparing these two sets of data highlights the importance ofa market-by-market empirical analysis. Epstein accepts that particular product designs can serve as evidence for the absence of consumer mistakes.[85] To be consistent he must also accept that different product designs can serve as evidence for the persistence of consumer mistakes. The challenge is, therefore, to identify design features that can be explained only as a strategic response to consumer misperception.[86]

Before these design features can be identified, however, a theory of market reaction to consumer misperceptions must be developed. I have begun to develop such a theory in my previous work. Part II.B summarizes this work and extends it.

B. Consumer Misperceptions And Market Reactions: Theory

The proposed theory of seller reactions to consumer misperceptions builds on the multidimensionality of products and prices. To emphasize the central role of multidimensionality consider the benchmark case of a one-dimensional product and a one-dimensional price. In this case the price will be set equal to the cost of the product regardless of any consumer misperception with respect to the value of the product, which leaves no room for adjustment in the design of either product or price.[87]

Adding multidimensionality, however, opens the door to strategic responses by sellers to consumer misperceptions by way of product and price design. In fact, the option of such a strategic response to consumer misperception gives sellers a strong incentive to create multidimensionality.[88] Moving gradually away from the one-dimensional product and a one-dimensional price benchmark, I first relax the one-dimensional price assumption, and analyze misperception-based, multidimensional pricing strategies. I then relax the one-dimensional product assumption, and analyze more complex, misperception based designs of products, contracts, and pricing schemes.

1. Misperception-Based Pricing

a. Rebates

The best example of misperception-based pricing is the rebates strategy.[89] Consider a kitchen table with a per-unit cost of $100. If price is one-dimensional, in a competitive market the seller of this table will set a price of $100. With consumer misperception, however, the seller is likely to have a strong incentive to set a two-dimensional price. For instance, the seller canset a pre-rebate price of $110 and offer a $20 rebate.[90] Focusing consumers' attention, through advertising, on the post-rebate price of $90, this seller will attract business from other sellerswho offer a one-dimensional, no-rebate price of $100.

However, attracting many consumers is not enough. If all consumers send in rebate coupons and end up paying $90 on a table that costs the seller $100, the rebate-offering seller willlose money. But, not all consumers redeem their rebates. If only 50% of consumers send in their rebate coupons, then the seller will not lose money. On average she will get $100 for each table, since 50% of consumers will pay the pre-rebate price, $110, and 50% of consumers will pay the post-rebate price, $90 ((50% x $110) + (50% x $90) = $100).

Thus, partial rebate redemption explains why the rebate-offering seller will not lose money. And it also reintroduces the basic question: why offer two-dimensional, pre-rebate and post-rebate prices? If consumers on average pay the same price, $100, for the

80 Id.

81 Id. at n.58 (citing evidence of fifteen- and thirty-year fixed-rate prime mortgage loans).

82 Id.

83 Id.

84 See Bar-Gill & Warren, supra note 38, at 29–30.

85 Epstein, Behavioral Economics, supra note 1, at 121.

86 This is not an easy task. Most design features that appear to respond to consumer misperception can also be rationalized using alternative theorieswhich cannot be rejected in the abstract. Only a market-specific inquiry can determine the source of the identified product and price design. I conducted such an inquiry in the credit card market. See Bar-Gill, Seduction by Plastic, supra note 2. The evidence suggests that rational choice theories cannot explain the observed pricing scheme in that market. I therefore concluded that the observed pricing scheme was designed in response to systematic consumer misperception. See id. at 1408–11.

87 The assumption, of course, is that the misperceived value is higherthan the cost. Epstein analyzes an example of a one-dimensional product and a one-dimensional price and reaches the same conclusion. See Epstein, Behavioral Economics, supra note 1, at 120.

88 See Bar-Gill, Informing Consumers, supra note 22, at 2–3.

89 Id. at 13.

90 See Sovern, supra note 49, at 1638 ("[O]nly a handful of consumers obtain rebates . . . .").

same table, why would they prefer to buy their tables from the rebate-offering seller? Misperception provides the answer. If all consumers are perfectly rational, then indeed the rebate-offering seller will enjoy no competitive advantage. But if some consumers are less than perfectly rational, specifically, if some consumers overestimate the likelihood of redeeming their rebate, then offering rebates becomes a winning strategy.[91]

Assume, for example, that while the actual probability of redeeming the rebate is 50%, the consumer, when purchasing the table, thinks that she will send in the rebate for sure. This consumer will mistakenly focus on the low post-rebate price of $90, and thus will prefer to buy her table from the rebate-offering seller. The seller, on her part, knows that she will obtain an average price of $100 ((50% x $110) + (50% x $90)),enough to cover her costs. Misperception draws a wedge between the actual price, $100, and the perceived price, $90. Ofcourse, the seller can exploit this misperception only when two-dimensional, rebate pricing is employed.[92]

b. Credit Cards

Credit card pricing is multidimensional. The credit card contract includes numerous interest rates and fees. Focusing on the financing dimension of the credit card, the single-price benchmark would include a single interest rate reflecting the issuer's cost of funds adjusted upward for the risk of default. Issuers, of course, do not offer a single price. To take a specific example, issuers charge a separate fee for late payment in addition to the interest rate. Arguably, such multidimensional pricing responds to consumer misperception.[93]

As with rebates, late fees draw a wedge between the actual price paid by the consumer and the perceived price. If consumers underestimate the likelihood of paying late (or are otherwise insensitive to late fees), they will most likely prefer a credit card with a lower interest rate and a late fee over a card with a higher interest rate and no late fee. Accordingly, profit-maximizing issuers will choose a two-dimensional pricing scheme with an interest rate and a late fee, rather than a one-dimensional, interest-rate-only scheme.[94]

More generally, multidimensional pricing allows credit card issuers to minimize the perceived total price by reducing price components that are more salient to consumers, and increasing price components that are less salient to consumers.The evolution of pricing patterns in the credit card market can be explained as the adjustment and readjustment of multidimensional pricing in response to changing perceptions and misperceptions. When consumers focused on annual fees, issuers charged high interest rates.[95] When interest rates became salient, issuers began adding late fees and other less relevant prices.[96] With a one-dimensional price, however, there is little room for price misperception. The single price will always be salient to consumers. With multidimensional pricing some price components will generally be less salient than others. A seller or issuer that adjusts its pricing strategy in response to consumers' relative sensitivity to different price dimensions will enjoy a competitive advantage. [97]

2. Misperception-Based Bundling

Moving beyond multidimensional pricing of a one-dimensional product, I now extend the analysis to allow for multidimensionality on both the product space and the price space. Adding another level of multidimensionality enhances sellers' ability to profitably respond to consumer misperception. Accordingly, sellers will have a strong incentive to create multidimensional products. One way to do this is by bundling together two separate products.[98]

91 See id. at 1639 ("Manufacturers apparently employ rebates chiefly because they increase sales by creating an illusion of a lower price, while the transaction costs generated by rebate offers permit manufacturers effectively to charge the unrebated price to most consumers.").3

92 An alternative explanation for rebates, which does not rely on consumer misperception, views rebates as a mechanism for price discrimination. See Bar-Gill, Informing Consumers, supra note 22, at 40 (noting that rebates can be used to charge some customers more than others because, for instance, wealthier consumers may be less likely to turn in the rebate (citing YuxinChen et al., Price Discrimination After the Purchase: Rebates as State-Dependent Discounts, 51 MGMT. SCI. 1131, 1131 (2005))). This alternative explanation is plausible in some markets and less plausible in others.

93 Late payment may impose an extra cost on the issuer, but this cost surely does not amount to $40 or more for a two-day delay in making a minimum payment of $40.

94 See infra Part II.C. As with rebates, there is an alternative, rationalchoice explanation for late fees: if consumers with higher default risk are morelikely to pay late (before defaulting), then late fees provide a screening mechanism that can prevent a "lemons" problem. While theoretically valid, the practical explanatory power of this rational choice account is limited. First, it relies on the assumption that borrowers have superior information about theirdefault risk. This assumption is questionable given issuers' sophisticated risk assessment methods. See, e.g., DAVID S. EVANS & RICHARD SCHMALENSEE,PAYING WITH PLASTIC 105–07 (2d ed. 2005). Second, the rational choice/asymmetric information theory assumes that late payment providesvaluable, new information to the uninformed issuers—again a questionableassumption. See, e.g., RONALD J. MANN, CHARGING AHEAD 161–63 (2006) (stating that late fees are often incurred because of mistakes, but that these late payments provide no new information on the consumer's default risk). Finally, the data do not support this rational choice account. If issuers wish toscreen for high risk borrowers, they have other means at their disposal. For example, they can use default interest rates triggered by late payment. Indeed, since such default rates are commonly used, why are late fees needed? Specifically, why did late fees rise substantially after they were exempt from state-level regulation by the Supreme Court's Smiley v. Citibank decision in 1996? 517 U.S. 735 (1996) (finding that credit card fees could be defined as"interest" for regulatory purposes); see also TAMARA DRAUT & JAVIER SILVA,BORROWING TO MAKE ENDS MEET: THE GROWTH OF CREDIT CARD DEBT IN THE '90S, at 35 (2003), available at http://www.demos.org/pubs/borrowing_to_ make_ends_meet.pdf (discussing the increase in fee usage after Smiley). Therise of late fees after Smiley would make sense under the rational choice model if default interest rates triggered by late payment where reduced, but they were not. See Mark Furletti, Credit Card Pricing Developments and Their Disclosure 8 (Fed. Reserve Bank of Phila., Discussion Paper 03-02, 2003), available at http://www.philadelphiafed.org/pcc/papers/2003/CreditCardPricing_012003.pdf (stating that issuers only started using default interest rates in thelate 1990s).

95 See Lawrence M. Ausubel, The Failure of Competition in the Credit Card Market, 81 AM. ECON. REV. 50, 72 (1991).

96 See infra Part II.C.

97 See infra Part II.C.

98 See generally Bar-Gill, Bundling and Consumer Misperception, supra note 2 (discussing bundling as a seller's response to consumer misconception).

a. Printers and Ink

Consider two products: printers and ink cartridges.[99] Assume that the per-unit cost of a printer is $1000 and the per-unit price of an ink cartridge is $10. If sold separately in two separate competitive markets by two separate sellers, then a printer will be priced at $1000 and an ink cartridge will bepriced at $10. With consumer misperception, however, it makes little sense to sell these two products separately.[100] And, in fact, the same seller often sells both printers and ink for its printers.

Why is bundling—of printers and ink—a profitable strategic response to consumer misperception? Assume that a representative consumer will purchase 100 ink cartridges over the life of the printer. Supplying printing services to this consumer costs $2000: the printer itself costs $1000 to produce, and 100ink cartridges cost the seller another $1000 to produce (at $10per cartridge). Absent bundling, when printers and ink are sold separately, the printer seller will have to set a price of $1000, and the ink seller will have to set a price of $10. With bundling, however, a seller that offers both printers and ink enjoys much greater pricing flexibility. For example, a bundling seller can offer printers for $500 and ink cartridges for $15. The seller's revenues will still be $2000: $500 for the printer and $1500 for ink (100 cartridges at $15 per cartridge). With bundling, competition only requires that total revenue equal total cost; revenues from one product need not equal the cost of that product. In this example, part of the cost of producing the printer is covered by ink sales. [101]

The added pricing flexibility obtained through bundling would be irrelevant if all consumers were perfectly rational. A rational consumer realizes that she will end up paying $2000 for printing. She does not care how she pays this $2000: $1000 for the printer and $1000 for ink or $500 for the printer and $1500 for ink. Not so for the imperfectly rational consumer. In particular, assume that the imperfectly rational consumer mistakenly believes that she will buy 50, not 100, ink cartridges over the life of the printer. This consumer will prefer the bundling seller.

To see this, recall that the price of a printer without bun¬dling is $1000 and the price of ink is $10 per cartridge. For the imperfectly rational consumer the perceived total price is $1500: $1000 for the printer and $500 for ink (50 cartridges at$10 per cartridge). The bundling seller, who sets a printer price of $500 and an ink cartridge price of $15, will offer a lower perceived total price. The bundling-sellers' offer translates, in the eyes of the imperfectly rational consumer, into a perceived total price of $1250: $500 for the printer and $750 for ink (50 cartridges at $15 per cartridge).

Again, misperception draws a wedge between the actual price and the perceived price. Even without bundling, such a wedge exists: when a printer is priced at $1000 and an ink cartridge is priced at $10, the imperfectly rational consumer perceives a price of $1500, which is significantly lower than the actual price of $2000. But bundling broadens the wedge. With bundling, the imperfectly rational consumer perceives an even lower price: $1250. To take advantage of this increased wedge sellers will find it profitable to create product multidimensionality through bundling.[102]

b. Health Clubs

Another common form of bundling, intertemporal bundling, is prevalent in many subscription markets. Consider the health club market. Health clubs can, and some do, offer one-time access with a per-visit price. Many health clubs, however, prefer to sell year-long access with a single subscription price.[103] In essence, a subscription bundles together access to the health club's facilities across multiple periods.

Such intertemporal bundling with its accompanying subscription pricing is attractive to consumers who overestimate the number of times that they will visit the health club. Assume that the average consumer will visit the health club ten times in one year, but mistakenly thinks that she will visit the health club one hundred times in one year.[104] The health club can set a per-visit price, equal

99 The following example is taken from id. at 38–39.

100 Id. at 45; see also Bar-Gill, Informing Consumers, supra note 22, at 21.

101 This pricing flexibility requires that ink for a seller's printer be pur¬chased only from the same seller. This is in fact the meaning of bundling. Suchbundling can be achieved through patent protection of the printer-ink cartridge interface. A recent threat to the printer and ink bundle comes from sellers offering to refill consumers' ink cartridges. But the refill option is still limited. Questions about the quality, reliability, and ease of operation of the refill option remain. See, e.g., ConsumerReports.org, Do-It-Yourself Refills Are Cheap, But Be Prepared for a Mess, July 2006, http://www.consumerreports .org/cro/electronics-computers/computers/computer/printers/printer-inks-7-06/ do-it-yourself-refills/0607_printer-inks_do-it-your-self-refills.htm; Consumer¬Reports.org, Printer Inks: More Choice & Value, July 2006, http://www.consumerreports.org/cro/electronics-computers/computers/computer/printers/printer-inks-7-06/overview/0607_printer-inks_ov.htm. But more sophisticatedand effective ink refill options are emerging. See, e.g., Tom Mainelli, Inke Unveils Clean, Cheap Ink Jet Refills, PC WORLD, Jan. 8, 2006, http://www .pcworld.com/article/id,114170-page,1/article.html. Printer manufacturers, inan effort to sustain using the bundle, are trying to convince consumers thatthe refill option is inferior. For example, the HP website refers to a commissioned study finding that ink cartridges score lower on both quality and reliability. See HP, The Truth About Ink Refills and Remanufactured Ink, http://h71036.www7.hp.com/hho/cache/546038-0-0-225-121.html?jumpid=reg_ R1002_USEN (last visited Nov. 30, 2007) (directing users to QUALITYLOGIC,RELIABILITY COMPARISON STUDY: HP INKJET PRINT CARTRIDGES VS. REFILLED BRANDS: CARTRIDGE RELIABILITY, PRINT QUALITY (2005), http://www.hp.com/united-states/consumer/inkjet/qualitylogic_study.pdf). These efforts are at least partially successful—ink cartridge sales are a multibillion dollar busi¬ness for HP. See John Lui, HP Holds Patent for Ink-Refill Device, ZDNET.CO.UK, Oct. 20, 2003, http://news.zdnet.co.uk/emergingtech/ 0,1000000183,39117220,00.htm.

102 In his contribution to this Exchange, Epstein argues that there aresophisticated, business buyers of printers and ink and that less-sophisticated consumers free-ride off the expertise of these more-sophisticated buyers. See Epstein, Exchange, Neoclassical Economics, supra note 4, at 830. Such free-riding is possible, however, only if sellers cannot segment the market and differentiate between the sophisticated business buyers and the less-sophisticated consumers. While further empirical investigation is necessary, casual observation suggests that the printers market is at least partially segmented.

103 See Stefano Della Vigna & Ulrike Malmendier, Paying Not to Go to the Gym, 96 AM. ECON. REV. 694, 714 (2006) ("[F]lat-rate contracts are on averagemore profitable for the health clubs than pay-per-visit contracts. Health clubemployees, therefore, have incentive to persuade consumers to sign flat-ratecontracts.").

104 For evidence of the large disparity between the expected and the actual number of health club visits, see id.

to the per-visit cost (to the health club), of, say, $10. Alternatively, the health club can offer year-long access at a subscription price of $100 (this will cover the health clubs cost since the average attendance is ten times a year; $100 divided by 10 equals $10, which is the per-visit cost to the health club). With per-visit pricing the consumer expects to pay a total price of $1000 (100 visits multiplied by $10 per visit). With subscription pricing the consumer pays, and expects to pay, $100. So clearly, the consumer will prefer to purchase a subscription. Accordingly, the health club will offer the intertemporal bundle with its accompanying subscription pricing.

c. Credit Cards

Credit cards also exhibit intertemporal bundling.[105] Many credit card products bundle together short-term borrowing and long-term borrowing. Short-term borrowing is often priced below cost through introductory periods and introductory interest rates that can be as low as zero. Long-term borrowing, beyond the introductory period, is commonly priced much higher.[106] Bundling is necessary to maintain this pricing scheme. Specifically, a sufficiently large number of short-term borrowers must also borrow in the long term and, in particular, they must borrow in the long term from the same issuer. Jumping from one card with a 0% introductory rate to another card with another 0% introductory rate must be avoided. Otherwise the issuer will lose money. The bundle is sustained through switching costs, both economic and psychological switching costs.[107] And issuers design their products to increase the cost of switching,[108] for instance, with the use of rewards programs.

This bundled product with its accompanying pricing scheme is more attractive to many consumers than the alternative, nonbundled product with a single, common interest rate for both short-term and long-term borrowing. This is because many consumers underestimate the extent of their future borrowing or overestimate the likelihood of switching cards at the end of the introductory period.

C. Consumer Misperceptions And Market Reactions: Evidence

The consumer behavior evidence described in Part I suggests that in the credit card market at least some consumers suffer from imperfect information and imperfect rationality. If consumers make systematic mistakes, then according to the theory presented in Part II.B these mistakes should lead to strategic adjustments in the design of the credit card product and in how this product is priced. The product design and pricing evidence summarized in this Section confirms my theoretical predictions. This evidence also lends further support to the conclusion that systematic mistakes persist in the credit card market.

Several features of the credit card as a product, including the way it is priced suggest that credit card issuers are responding to systematic consumer misperception. These features are outlined below.

1. Long-Term Interest Rates

Changes in the credit card contract reflect changing perceptions among consumers. Until recently, credit card interest rates (standard annual percentage rates (APRs)) were exceptionally high.[109] The reason, as admitted by economists who worked as Visa consultants, was that issuers felt that demand for their product was not sensitive to this price dimension.[110] Consumers, at the time, were focusing on annual fees, not on long-term interest rates.[111] One explanation is that consumers optimistically believed that they would not borrow, or would not borrow as much, in the long run.[112] More recently, long-term interest rates have become more salient to consumers, perhaps reflecting their growing concern over rising balances on credit cards. The design of the credit card product changed in response. Long-term interest rates were reduced to attract and retain customers.[113]

2. Penalty Fees and Rates

When interest rates became salient, competition focused on the interest rate dimension, and revenues from finance charges dropped

105 Cf. Joseph Farrell & Paul Klemperer, Coordination and Lock-In: Competition with Switching Costs and Network Effects § 2.3.1 (unpublished manuscript, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id= 917785) ("[F]irms are willing to price below cost in period 1 to acquire the customer who will become a valuable follow-on purchaser in period 2 . . .").

106 See, e.g., Shui & Ausubel, supra note 53, at 7–8.

107 Cf. Farrel & Klemperer, supra note 105, § 2.4.5.

108 See id. § 2.8.3.

109 See Furletti, supra note 94, at 2.

110 See EVANS & SCHMALENSEE, supra note 94, at xii, 164–67 ("[Creditcard issuers] have chosen to collect a larger portion of their revenues fromfinance charges. This pattern may arise in part because of their view that theoverall demand for credit is relatively insensitive to interest rates, a view supported by at least one empirical study and considerable folklore within the industry.").

111 See Ausubel, supra note 95, at 72 ("[T]he experience of credit cardmarketers is that consumers are much more sensitive to increases in the annual fee than to commensurate increases in the interest rate . . . .").

112 See Bar-Gill, supra note 2, at 1401–02.

113 See Furletti, supra note 94, at 2–3.

accordingly.[114] But credit card issuers did not simply forego revenues. Instead, they began to increase penalty fees and rates,[115] which remain largely invisible to consumers.[116] For example, the average late fee rose from $12.52 in 1994 to $35.05 in 2006.[117] Penalty fees quickly became a major source of revenue for issuers.[118] In 2005, penalty fees accounted for .2% of issuers' revenues, totaling $7.88 billion a year.[119]

The cost to consumers of penalty fees rose significantly with the advent of "universal default." Universal default clauses cause cardholders' rates to increase to 30% or more[120] when the cardholder takes certain actions, such as applying for a mortgage or inquiring about a car loan.[121] Consumers are imperfectly aware of the range of events that can trigger universal default and of the magnitude of the default interest rates.[122] Moreover, when getting a new credit card consumers might underestimate the likelihood of ever triggering universal default.[123] Universal default increases the disparity between the real and perceived costs of penalties to consumers. Accordingly, the inclusion of universal default clauses is a rational response to consumers' imperfect rationality.

3. Introductory Rates

The introductory teaser rate is another example of product design that targets consumers' imperfect rationality. Assuming that the costs of switching from one credit card to another are small, teaser rates would not be offered by an issuer that facesperfectly rational consumers. These consumers would transfer their balance to a new card with a low teaser rate as soon as the old card reverted to the high post-introductory rate.[124]

Issuers offer teaser rates because they are attractive to consumers who think they will switch, or pay off their balance, after the introductory period ends, but end up staying and paying the high post-introductory rates.[125] There are two parts to this story. The first part focuses on the ex post stage. Ex post consumers do not switch after the teaser rate ends; instead, they borrow at the high post-introductory rates.[126] A recent study estimated that effective switching costs must be approximately $150 to explain the limited switching observed.[127] There is clearly a psychological inertia component reflected in such high switching costs. Moreover, issuers design their products to increase switching costs,[128] for example, through rewards programs.

The second part of the story focuses on the ex ante stage. Not only do consumers fail to switch ex post, but also they fail to anticipate this effective lock-in ex ante.[129] Alternatively, consumers simply believe that they will not need to borrow beyond

114 See id.

115 See id. at 10–14. In Beasley v. Wells Fargo Bank, 1 Cal. Rptr. 2d 446 (Ct. App. 1991), the bank's "Credit Card Task Force" proposed increasing "late" and "overlimit" fees as a "good source of revenue." Id. at 448.

116 Penalty fees are perceived as a good source of revenue, because the industry perceives that "there (are) very few cardholders that switch cards because the late fee is too high." Credit Card Fees Soar Again, CNNMONEY.COM, Aug. 18, 1998, http://money.cnn.com/1998/08/18/banking/q_bankrate (quotingPeter Davidson, Executive Vice President, Speer & Associates) (internal quo¬tation marks omitted).

117 See Fee Income, CARDFLASH, Jan. 10, 2007 (subscription-restrictedInternet source, on file with the author).

118 Penalty fees began their rapid growth in 1996 when the SupremeCourt, in Smiley v. Citibank, 517 U.S. 735, 735 (1996), exempted late and over-limit fees from state-level regulation. See also DRAUT & SILVA, supra note 94, at 35.

119 See CARD INDUSTRY DIRECTORY, supra note 54, at 11.

120 See U.S. GOV'T ACCOUNTABILITY OFFICE, CREDIT CARDS: INCREASED COMPLEXITY IN RATES AND FEES HEIGHTENS NEED FOR MORE EFFECTIVE DISCLOSURES TO CONSUMERS 49 (2006).

121 See 2005 Credit Card Survey, CONSUMER ACTION NEWS (Consumer Action, San Francisco, Cal.) Summer 2005, at 1, available at http://www .consumer-action.org/downloads/english/CC_Issue_2005.pdf (detailing the most prevalent triggers of universal default rate hikes).

122 See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 120, at 49–50.

123 Compare Bar-Gill, Seduction by Plastic, supra note 2, at 1407 (describing how consumers underestimate "the probability of paying late or exceeding their credit limit"), with 2005 Credit Card Survey, supra note 121, at 1 (stating that paying late and going over the credit limit are important factors contributing to a universal default rate hike). Another recent innovation also magnifies the cost of penalty fees. Some issuers are dividing up credit extensions between multiple cards so that a customer with a $2500 credit limit will beissued five cards with five $500 limits (instead of a single card with a $2500limit). Five cards mean five opportunities to pay late fees, overlimit fees, etc. See Robert Berner, Cap One's Credit Trap, BUS. WK., Nov. 6, 2006, at 35, 35.

124 Epstein argues that introductory periods with low introductory ratesare a reasonable mechanism for providing valuable information to rational consumers. Epstein, Behavioral Economics, supra note 1, at 129–31. In making this argument, Epstein relies on the free samples in a bakery analogy: "So what is wrong with teaser rates anyhow? Go into any bakery and there are free samples that are intended to entice customers into purchases." Id. at 131. This analogy is inapt. There is significant uncertainty about the quality of the baker's product. But money is money. Epstein himself argues that issuers are offering a standardized good. See id. at 131. Epstein also asserts that a consumer needs the introductory period to evaluate the bank's customer service. See id. at 129–131. This is unconvincing, however, as survey evidence suggests that customer service is not among the product attributes that attract most consumers. See EVANS & SCHMALENSEE, supra note 94, at 225.

125 See Bar-Gill, Seduction by Plastic, supra note 2, at 1405–07.

126 See Ausubel, supra note 61, at 263 ("[A] substantial portion of creditcard borrowing still occurs at post-introductory interest rates.... Thus finance charges paid to credit card issuers have not dropped as much as the introductory offers might suggest."); David I. Laibson et al., A Debt Puzzle, in KNOWLEDGE, INFORMATION, AND EXPECTATIONS IN MODERN MACRO¬ECONOMICS: IN HONOR OF EDMUND S. PHELPS 228, 228–29 (Philippe Aghion et al. eds., 2003) (finding that consumers pay high effective interest rates "[d]espite the rise of teaser interest rates").

127 Shui & Ausubel, supra note 53, at 25–26.

128 Cf. Farrel & Klemperer, supra note 105, § 2.8.3.

129 Cf. Bar-Gill, Seduction by Plastic, supra note 2, at 1406 (describinghow rational consumers would anticipate the lock-in effect, but that most con¬sumers are not rational in this respect).

the introductory period.[130] The ex ante part of the story is necessary to explain why consumers are more sensitive to introductory rates than they are to long-term rates, despite the fact that most of the borrowing is done at the high long-term rates.[131] In fact, a recent study found that "consumers are at least three times as responsive to changes in the introductory interest rate as compared to dollar-equivalent changes in the post-introductory interest rate."[132] Also survey evidence suggests that more than one-third of all consumers consider an attractive introductory interest rate to be the prime selection criterion in credit card choice.[133]

4. Additional Design Features

Other features of the credit card contract are also designed to exploit consumers' imperfect information and imperfect rationality. In particular, many "technical" features of the credit card contract provide benefits to issuers, while imposing under-appreciated costs on consumers. These features include pro-issuer payment allocation methods[134] and balance computation methods.[135]

III. The Social Cost Of Consumer Mistakes: Credit Cards

Parts I and II dealt with the descriptive questions: Are consumers making systematic mistakes? And are sellers responding strategically to these mistakes? After answering these questions in the affirmative, I turn, in Part III, to address the welfare question: Does consumer misperception entail a welfare cost? This question cannot be answered in the abstract. Therefore, following Epstein, I focus on one specific market: the credit card market.

Epstein argues that credit cards do not harm consumers.[136] I begin, in Part III.A, by agreeing with Epstein's argument that increased bankruptcy rates, even if caused by credit card debt, do not prove that credit cards are bad for consumers. I then argue, however, that there is other evidence—evidence of consumer mistakes and evidence of a special link between credit card debt, as distinct from debt in general, and bankruptcy—that Epstein should confront. In Part III.B, I take on Epstein's more general argument that issuers have no incentive to offer dangerous, bankruptcy-inducing credit card products.[137] I argue that this view presumes one business model, when there is evidence that at least some issuers are following another business model. After responding to Epstein's challenges, I turn, inPart III.C, to present a more systematic account of the welfare costs generated by the market failure in the credit card market.

A. Credit Cards and Consumer Bankruptcy

Credit cards have been blamed for the recent increase in consumer bankruptcy filings.[138] For many critics of the credit card industry, a causal link between credit cards and bankruptcy rates, if established, would provide powerful support for increased regulatory intervention in the credit card market.[139] Epstein does not argue that there is no causal link between credit cards and bankruptcy rates. Rather, he argues that even if credit cards are responsible for the higher bankruptcy rates, this does not mean that credit cards are welfare-reducing. [140]

Epstein argues that higher bankruptcy rates are "an expected outgrowth of the wider dissemination of credit."[141] The implied presumption is that wider dissemination of credit is welfare-enhancing. Accordingly, even if more credit generates some cost in the form of higher bankruptcy rates, the net effect is positive.[142] If consumers are perfectly informed and perfectly rational, then more credit is definitely good for consumers.[143]The question, however, is whether most consumers are, in fact, sufficiently informed and sufficiently rational.

Epstein answers this question in the affirmative.[144] He correctly emphasizes that "bankrupt parties [are not] necessarily victims of some underlying

130 Id. at 1407.

131 Id. at 1405–07.

132 Lawrence M. Ausubel, Adverse Selection in the Credit Card Market 21(June 17, 1999) (unpublished manuscript, available at http://www.ausubel .com/creditcard-papers/adverse.pdf).

133 See EVANS & SCHMALENSEE, supra note 94, at 225.

134 See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 120, at 27 (notinghow in most cases "cardholder payments [are] allocated first to the balancethat is assessed the lowest rate of interest").

135 Id. at 27–28 (describing the two-cycle billing method).

136 See Epstein, Behavioral Economics, supra note 1, at 127–28.

137 Id.

138 Bar-Gill, Seduction by Plastic, supra note 2, at 1385–86.

139 See MANN, supra note 94, at 66–68 (arguing that a causal link exists between credit card debt and bankruptcy filings). But see Todd J. Zywicki, The Economics of Credit Cards, 3 CHAP. L. REV. 79, 82, 166–70 (2000) (arguing that such a causal link does not exist).

140 See Epstein, Behavioral Economics, supra note 1, at 128.

141 Id.

142 Id.

143 Consumers who are perfectly informed and perfectly rational will take advantage of the available credit only when the benefit of credit exceeds the expected cost of credit, specifically, the costs of financial distress that might lead to bankruptcy.

144 See Epstein, Behavioral Economics, supra note 1, at 128.

cognitive bias."[145] Epstein further argues that "ex post failure need not signal an ex ante mistake in judgment," and that "[p]eople lose rational bets all the time."[146]

I agree. Bankruptcy does not necessarily imply imperfect rationality. That is why independent evidence of consumer mistakes is needed. Such evidence was provided in Parts I and II of this Article. And, if many consumers are imperfectly rational, as this evidence suggests, then for these consumers bankruptcy might not be a rational bet lost. Moreover, if many consumers are imperfectly informed and imperfectly rational, then the presumption that more credit is good for consumers becomes more difficult to defend.

There is more direct evidence to counter Epstein's argument that credit cards are generally welfare-enhancing, even if they increase bankruptcy rates. Essentially, Epstein argues that more credit is good, even if it entails some cost, and accordingly that credit cards are good because they provide more credit.[147] But the "credit cards are good" conclusion does not follow from the "more credit is good" argument. If there are several sources of credit and "more credit is good," then the additional credit should come from the source of credit that imposes minimal cost. And there is evidence suggesting that credit cards are not the least-cost source of credit. In particular, Professor Ronald Mann recently found a causal link between creditcard debt and bankruptcy filings while controlling for overall debt.[148] This finding implies that, among the different sources of consumer credit, credit cards are especially likely to cause financial distress and bankruptcy.[149] Of course, credit cards may still be the superior source of credit if, in addition to their higher costs, they also provide greater benefits. But Epstein does not perform the required cost-benefit analysis.

B. Will Market Forces Protect Consumers?

Epstein argues that market forces will protect consumers and prevent issuers from offering welfare-reducing terms.[150]

This argument has already been challenged in Part II, where largued that even in a competitive market sellers often choose to design their products in response to consumer misperception. Still, Epstein makes several specific arguments that merit discussion.

1. Does Switching by Consumers Restrain Issuers?

Epstein recounts the facts and ruling in Rossman v. Fleet Bank (R.I.) National Association,[151] and argues that Fleet's behavior in this case exemplifies reasonable behavior by an issuer constrained by market forces.[152] In Rossman, Fleet issued a "no annual fee" credit card and six months later imposed a $35 annual fee, invoking a provision that allowed the bank to unilaterally change the terms of the contract.[153] The Third Circuit interpreted the contract to require a zero annual fee for one year.[154] The court intervened to restrain Fleet's behavior in Rossman, and Epstein commends the court for its "sensible" resolution of the case.[155]

But Epstein then proceeds to portray Rossman as an example of reasonable, self-restraint by the card issuer.[156] Fleet, Epstein argues, reserved broad powers to raise any and all fees and interest rates right after the original contract had been signed; yet it only raised the annual fee from $0 to $35, and only because, higher interest rates from the Federal Reserve made "it difficult for credit card issuers to maintain products and services at current rates."[157]

The economic justification for Fleet's rate increase aside, Epstein's main argument is that Fleet behaved reasonably because it was constrained by market forces: "the fear of the loss of competitive position was a powerful constraint on the bank's behavior. And why? Because most people who carry a Fleetcard will have a second or third card as well. Any increase in rates is likely to generate a migration of business elsewhere."[158] If consumers readily switch cards in response to changes in terms, then, as Epstein argues, competition will prevent any welfare loss.[159] But, in fact, consumers switch less often than Epstein suggests.

Shui and Ausubel, analyzing data from a large-scale experiment in the credit card market, found that switching is limited and that consumers' implied average switching cost is $150.[160] Similarly, David Gross

145 Id.

146 Id.

147 Id.

148 See MANN, supra note 94, at 66–68.

149 Cf. id. at 67 (contrasting credit card debt with other types of consumerdebt such as mortgages and loans).

150 See Epstein, Behavioral Economics, supra note 1, at 127.

151 280 F.3d 384 (3d Cir. 2002).

152 See Epstein, Behavioral Economics, supra note 1, at 125–27.

153 Rossman, 280 F.3d at 387–89.

154 Id. at 394–95.

155 See Epstein, Behavioral Economics, supra note 1, at 126.

156 Id. at 127.

157 See id. at 126–27 (quoting Rossman, 280 F.3d at 388) (internal quotation marks omitted).

158 See id. at 127.

159 See id.

160 See Shui & Ausubel, supra note 53, at 25–26.

and Nicholas Souleles, analyzing a large proprietary data set, found only limited switching.[161] In addition, with the popularity of rewards programs based on the accumulation of points or frequent flyer miles it may well be rational not to switch cards in response to even a significant rise in fees or interest rates. Finally, the success of the teaser-rate tactic provides powerful evidence that switching is limited.[162] If most consumers were quick to switch cards, specifically, to switch away from a card at the end of the introductory period, the teaser-rate tactic would be a nonstarter. [163]

I do not deny that consumers switch cards. Also, I do not deny that consumers switch cards in response to increased interest rates and fees. The tendency to switch cards is, however, more limited than Epstein suggests. And the disciplinary force of the fear from switching is similarly limited.

2. Do Issuers Want to Limit Borrowing?

Epstein argues that there is no need to worry about welfare-reducing credit card products because issuers operating in a competitive market will have no incentive to offer such products.[164] In particular, Epstein argues that it is in the self-interest of the profit-maximizing issuer to limit borrowing by consumers and to prevent defaults in payment.[165] Why? Because "defaults in payment hurt the banks and merchants, whocollect little or nothing in bankruptcy."[166]

Epstein's observation is correct. Issuers collect little in formal bankruptcy proceedings.[167] They also collect little from financially distressed consumers who have stopped paying without filing for bankruptcy protection.[168] The inability to collect from defaulting consumers clearly affects issuers' strategy. Specifically, it affects the business model that issuers choose.[169] Epstein assumes that issuers follow one specific business mod-el—a model that relies on full (or near full) repayment of the principal plus interest. According to this business model, issuers have a strong incentive to make sure that consumers do not borrow more than they can repay. Also, under this model, issuers have a strong incentive to avoid onerous terms that might lead consumers to default on their loans.

But issuers may be following a different business model. In particular, they may be following the "sweat box" model.[170] When a consumer stops paying, then, with or without formal bankruptcy proceedings, beyond this point the issuer will collect little.[171] This does not mean, however, that the issuer did not collect substantial amounts of money before the consumer stopped paying. According to the sweat box model issuers extract most of their revenues at the pre-default stage.[172] The high interest and fees that the consumer pays while in the sweat box compensates the issuer for the lost post-default revenues.[173]

I am not arguing that all issuers follow the sweat box model all of the time. I am arguing that the sweat box model provides an important, economically viable alternative to a business model that relies on full (or near full) repayment of the principal plus interest. By considering only one possible business model, Epstein overstates the ability of market forces to protect consumers and prevent issuers from offering welfare-reducing products.

C. The Welfare Costs of the Market Failure in the Credit Card Market

The previous Sections challenged Epstein's arguments that in the credit card market consumer mistakes do not lead to a welfare loss. In this Section, I present a more systematic account of the welfare costs generated by the market failure in the credit card market.

I do not offer a comprehensive cost-benefit comparison between credit cards and alternative sources of consumer credit. Accordingly, I cannot say that credit cards are, on net, welfare-reducing. In fact, I do not believe that they are. The purpose of this Section is to lay a foundation for legal intervention in the credit card market, not to argue for the abolition of credit cards.

1. Harm to Consumers

The data on credit card choice and use, summarized in Part I above, show that consumer mistakes cost hundreds of dollars a year per consumer. Failure to switch cards at the end of the introductory period costs

161 See Gross & Souleles, supra note 65, at 171.

162 Bar-Gill, Seduction by Plastic, supra note 2, at 1392–93.

163 See id. (noting that most borrowing is done at high post-promotionrates rather than at low teaser rates).

164 See Epstein, Behavioral Economics, supra note 1, at 127 (noting that because most people have multiple credit cards, an increase in rates on one card will likely generate a migration of business elsewhere).

165 See it ("Banks") self-interest is a powerful market constraint against borring).

166 Epstein, Behavioral Economics, supra note 1, at 127.

167 See Ausubel, supra note 61, at 251–57 (analyzing bankruptcy dataalongside credit card delinquency and credit card chargeoff data).

168 See id.

169 See Ronald J. Mann, Bankruptcy Reform and the "Sweat Box" of Credit Card Debt, 2007 U. ILL. L. REV. 375, 386–90.

170See id. at 384–86 (describing the sweat box model as one in which lenders profit from borrowers who become financially distressed, generating profits on late fees, over-limit fees, and the borrower's ever growing balance).

171 See Ausubel, supra note 61, at 251–57.

172 See Mann, supra note 94, at 385–86 ("For the credit card lender, the first hint of sustained profitability comes when the cardholder (now borrower) stops regularly paying her balance in full each month.").

173 See id. at 201–03 (discussing the ability of lenders to optimize theirdefault rates and externalize losses to other parties).

$250 a year.[174] Choosing lower introductory rates lasting for shorter introductory periods instead of higher introductory rates lasting for a longer introductory periods costs $50 a year.[175] Paying high interest rates oncredit card balances while holding liquid assets that yield lowreturns costs $200 a year.[176]

These numbers suggest that harm to consumers is substantial. And yet these numbers underestimate the full magnitude of the harm caused by unsafe financial products. Specifically, these numbers do not include the cost of financial distress caused by unsafe financial products.[177] Moreover, the per consumer costs must be multiplied by the large numbers of consumers who bear these costs. For example, the $250 cost of failing to switch cards at the end of the introductory period isborn by 35% of borrowing consumers who chose cards with introductory offers—1.4 million consumers each year.[178] This implies an aggregate annual cost of $350 million. And this for a single mistake triggered by a single design feature of the credit card product.[179]

2. Externalities

Consumer mistakes, especially when coupled with product design aimed at exploiting these mistakes, hurt consumers. But the welfare costs of these mistakes are not limited to the direct harm suffered by the mistaken consumers. Unsafe financial products generate a series of negative externalities.

a. The Cost of Financial Distress

Unsafe financial products, and specifically credit cards, contribute to financial distress, which, at the extreme, can lead to bankruptcy.[180] Financial distress captures another category of harm suffered by the mistake-prone consumer, as noted in Part III.C.1 above. Financial distress can also impose substantial costs on third parties.

An individual in financial distress will often require support from family, friends or from the state. Such transfers from one individual to another, including transfers mediated by the state, involve transaction costs. These transaction costs are especially large when the bankruptcy system is involved.[181]

Perhaps even more costly, from a social welfare perspective, are the ex ante distortions caused by the prospect of financial distress. A lender will have an added incentive to offer an unsafe financial product if it can recover not only from the borrower but also from the state, via welfare, social security, unemployment, and pension payments made to the borrower, when the borrower is in financial distress.[182]

Finally, recent evidence collected by the Department of Defense (DOD) shows that employees (or in the DOD's case, military personnel) become less productive when in financial distress.[183] This finding should not come as a surprise. An employee concerned about debt repayment and about protecting her family from abusive debt-collection practices is clearly less able to focus on work.[184]

b. Market Distortions

Consumer mistakes also lead to market distortions, preventing markets from attaining allocative efficiency. Consider two financial products, a close-end bank loan and a credit card. The bank loan is better suited for some consumers and for certain purposes. And the credit card is better suited for other consumers and for

174 See Shui & Ausubel, supra note 53, at 8. The $250 cost of failing to switch cards post-introductory period was calculated by multiplying the average balance on credit cards ($2500) by the common margin between introductory and post-introductory interest rates (10%).

175 See id.

176 See Gross & Souleles, supra note 65, at 178–80. More than 90% of consumers with credit card debts have some liquid assets in checking and savingsaccounts, and one-third of credit card borrowers hold more than one month's income in these liquid assets. Id. With a median balance of more than $2000 (conditional on having a balance, i.e., the median balance among consumers who have a positive balance) and a spread of 10% between credit card interestrates and interest rates on checking and savings accounts, a typical consumer is losing more than $200 a year in interest payments. See id.

177 Recent evidence shows a causal link between unsafe financial products and financial distress, including bankruptcy. See MANN, supra note 94, at 66–68.

178 This number is based on the following data: about seventeen million households open a new general purpose credit card account each year andabout 50% of new accounts include introductory rates. Fixed Rate vs. Intro Rate, CARDFLASH, July 29, 1999 (subscription required Internet source, on filewith the author) (reporting findings from a 1999 study of account acquisition and attrition conducted by PSI Global). Additionally, at least 50% of cardholders carry a balance. See Gross & Souleles, supra note 65, at 151 (discussingthe number of households that carry a balance on their cards). I recognize that cards with introductory offers might be issued at different rates to borrowing and nonborrowing consumers/households. Nevertheless, the preceding calculation probably yields a conservative estimate, if issuers are more likely to target introductory offers to borrowers and/or if borrowers are more likely to be attracted by introductory offers.

179 In his contribution to this Exchange, Epstein correctly points out thatthe $350 million figure is not a direct social cost. See Epstein, Exchange, Neoclassical Economics, supra note 4, at 825. Rather, it is a transfer from consumers to issuers or, in a competitive market, from one group of consumers—those who make mistakes—to another group of consumers—those who do not makemistakes. Still, such a transfer from a weaker group to a stronger group constitutes a social cost.

180 MANN, supra note 94, at 66–68.

181 See, e.g., Adam Feibelman, Defining the Social Insurance Function of Consumer Bankruptcy, 13 AM. BANKR. INST. L. REV. 129, 162–63 (2005); Melissa B. Jacoby, Bankruptcy Reform and Homeownership Risk, 2007 U. ILL. L. REV. 323, 330–31; Robert M. Lawless & Stephen P. Ferris, Economics and the Rhetoric of Valuation, 5 J. BANKR. L. & PRAC. 3, 8 n.22 (1995).

182 See Eric A. Posner, Contract Law in the Welfare State: A Defense of the Unconscionability Doctrine, Usury Laws, and Related Limitations on the Freedom to Contract, 24 J. LEGAL STUD. 283, 307–08 (1995).

183 U.S. DEP'T OF DEFENSE, REPORT ON PREDATORY LENDING PRACTICES DIRECTED AT MEMBERS OF THE ARMED FORCES AND THEIR DEPENDENTS 35– 36, 45, 86–87 (2006), http://www.usa4militaryfamilies.dod.mil/dav/lsn/LSN/BINARY_RESOURCE/BINARY_CONTENT/2141721.pdf.

184 The DOD report also describes how military personnel in financialdistress become more vulnerable to extortion and, consequently, can lose their security clearance. Id. at 35–36, 45.

other purposes. Now assume that the credit card, by its nature or by specific design, triggers more consumer mistakes. And because of these mistakes the relative attractiveness of the credit card increases. The result would be that consumers, who absent mistakes and misperception would take a close-end bank loan, opt for credit card financing instead.

So far this is a story of financial harm to the mistake-proneconsumer (the domain of Part III.C.1 above). But there is more. The increased demand for credit cards and the reduced demand for bank loans affect the relative prices of these two financial products. As a result, mistakes by imperfectly informed and imperfectly rational consumers distort the financing choices of informed, rational consumers as well.

3. Distributional Concerns

In addition to efficiency losses, consumer mistakes and issuers' response to these mistakes raise distributional concerns. Specifically, consumer mistakes and market reactions can lead to regressive redistribution.[185] There are several reasons for this distributional effect: First, not all consumers have identical information and not all are equally rational. Better-educated consumers are less likely to make mistakes. Richer consumers are also less likely to make mistakes, if only because they have the means to hire experts that will prevent them from making mistakes. Second, as a consequence of these differences in information and rationality, lenders targeting less-educated, poorer consumers will offer more products that are designed to exploit consumer mistakes.[186] Third, if poor consumers are generally in greater need of financing than rich consumers, then poor consumers will suffer more from mistakes related to the choice and use of consumer credit products. Finally, since poor consumers lack the financial cushion that rich consumers have, they are more vulnerable to the unexpected costs of financial products and are more likely to stumble into financial distress.

Consumer mistakes and sellers' strategic responses to these mistakes reduce social welfare. The consumer who makes the mistake is harmed. Mistakes generate negative externalities that harm third parties. And mistakes lead to regressive redistribution, which further reduces welfare. These costs of consumer mistakes provide a prima facie case for regulatory intervention.

IV. Regulation

Legal intervention should be based on robust evidence of consumer mistakes leading to substantial welfare costs. Such evidence must be market specific. Accordingly, I do not attempt to make a general case for regulating consumer contracts. I do not believe that such a case can be made. On the other hand, I do not believe that a general case against legal intervention in consumer contracts can be made. To the extent that Epstein is making such a general case against regulation, it is important, I think, to challenge his arguments. I do so in Part IV.A. But even though Epstein makes several general anti-regulation arguments, he does not reject all forms of regulation.[187] In particular, Epstein supports antifraud and disclosure regulation.[188]

Therefore, his anti-regulation arguments should be read as arguments against any legal intervention beyond antifraud measures and disclosure regulation. In my response to Epstein's anti-regulation arguments, I will explore the application of these arguments to disclosure regulation and to other forms of regulation. In Part IV.B, I focus on disclosure regulation. I argue that Epstein's view of current disclosure regulation, and specifically of current disclosure regulation in the credit card market, is overly optimistic. I then propose a conceptual shift in disclosure regulation—from disclosure of objective product attributes to disclosure of information about the individual consumer's use of the product. I argue that this new form of disclosure regulation can more effectively counter the adverse effects of consumer misperception.

A. Anti-anti-regulation[189]

1. Mistakes and Ex Ante Incentives

Epstein concludes that the law should not intervene in mistake cases.[190] He reaches this conclusion based on two arguments concerning the adverse ex ante effects of a rule that provides relief for the mistaken party. First, such a rule would frustrate the reliance interest of the nonmistaken party and will reduce this party's willingness to enter transactions in the first place.[191] Second, a rule that provides relief for the mistaken party would dilute the mistaken party's incentives to avoid mistakes.[192] Put differently, Epstein presumes the mistaken party is the least-cost avoider, and thus should bear responsibility for the mistake.

185 For a similar discussion, see Bar-Gill & Warren, supra note 38, at 36–37 (arguing that unsafe credit products skew the distribution of resourceswithin society, resulting in regressive redistribution).

186 See, e.g., U.S. DEP'T OF DEFENSE, supra note 183, at 10–22 (describing predatory lending to enlisted military personnel who often lack the experience and education to avoid such pitfalls).

187 See Epstein, Behavioral Economics, supra note 1, at 116–18, 128.

188 See id. at 125, 128.

189 Cf. Jolls et al., Behavioral Approach, supra note 3, at 1541 (engaging in a normative analysis of anti-anti-paternalism).

190 See Epstein, Behavioral Economics, supra note 1, at 115–18.

191 See id. at 116.

192 See id. at 116–17.

Epstein's concerns about the adverse ex ante effects of legal relief for mistake are justified in the classic contractual interaction between two symmetrically situated parties. They are not justified in consumer contracts, where sophisticated sellers with superior information engage in form contracting with imperfectly informed and imperfectly rational consumers. When neither party knows, or has reason to know, of the mistake, it makes sense to presume that the mistaken party is the least-cost avoider and to make this party bear the cost of her mistake.[193] But in many consumer contracts the seller knows, or has reason to know, about the consumer's mistake. This is surely the case when sellers design their products and pricing schemes in response to consumer mistakes.[194] When the non-mistaken party knows about the other party's mistake, it is the nonmistaken party, not the mistaken party, who is the least-cost avoider.[195]

Similarly, when the seller knows, or has reason to know, about the consumer's mistake, concerns about the seller's reliance or the seller's fear of entering into the transaction are completely misplaced. In fact, in many consumer contracts the situation is less akin to classical mistake cases and more closely resembles the fraud—false or misleading statements—cases that Epstein agrees should be regulated.[196]

2. Unpredictable Errors

Epstein argues that the direction of consumer errors, such as overestimation versus underestimation of a product's value, cannot be predicted and, therefore, policy recommendations cannot be made.[197] Epstein correctly notes that for every documented bias pulling in one direction there is another documented bias pulling in the opposite direction.[198] But this does not mean that in a given market policymakers cannot identify the direction of the distortion. Moreover, policymakers can free-ride on sellers. As argued above, in many cases sellers identify the direction of the distortion and design their products accordingly.[199] Policymakers can look to product design and pricing structure for information about the direction of the distortion.

I am not arguing that identifying the direction of the dominant bias in any given market is an easy task. I am arguing that making such an identification is theoretically possible and, at least in some cases, practical and socially desirable. The behavioral market failures considered here are not different, in this respect, from the traditional market failures, specifically monopoly and collusion, considered in antitrust law.[200] In both cases a detailed factual inquiry is required to identify the source of the distortion and its adverse implications.[201] Why is legal intervention welcomed in response to one type of market failure and completely rejected when another type of market failure is involved?

3. Consumer Heterogeneity

Epstein invokes consumer heterogeneity as another reason why regulation, other than mandated disclosure, should be avoided.[202] Given consumer heterogeneity, Epstein argues, it is difficult to design regulation that, while helping some consumers, does not hurt other consumers.[203] In particular, some consumers are sufficiently rational to take care of themselves. Restrictive regulation would limit the range of choices available to these consumers. [204]

Epstein's heterogeneity argument poses a valid concern. But this concern should not be overstated. And it should not create an anti-regulation presumption. At some level any regulation has its winners and losers. The real question is whether the total benefit of the regulatory intervention outweighs the total cost of the regulation. The problem, of course, is that in many cases policymakers have little information with which to perform a

193 See, e.g., Anthony T. Kronman, Mistake, Disclosure, Information, and the Law of Contracts, 7 J. LEGAL STUD. 1, 4–5 (1978).

194 See supra Part II.C.

195 See Kronman, supra note 193, at 4–5. One of the exceptions to the contract law rule refusing to recognize an excuse for unilateral mistake is the case of an accounting or a clerical error, where the nonmistaken party is in abetter position to detect the mistake and prevent the potential allocative inefficiency that might follow from it. See, e.g., Boise Junior Coll. Dist. v. MattefsConstr. Co., 450 P.2d 604, 609 (Idaho 1969).

196 See Epstein, Behavioral Economics, supra note 1, at 115–17. The facts in Rossman provide an example of such misleading statements. Rossman v. Fleet Bank (R.I.) Nat'l Ass'n, 280 F.3d 384, 387–89 (3d Cir. 2002).

197 See Epstein, Behavioral Economics, supra note 1, at 121–22 ("But atthis point the behavioral critique loses much of its bite, because it can no long er predict any systematic direction to the market errors .... [I]t is hard to make policy recommendations in the absence of information as to which effectis likely to be most profound in any given setting. The behavioral critiquelacks real bite."); see also Epstein, Second-Order Rationality, supra note 3, at364 ("Dwelling on imperfections of ordinary individuals carries no clear impli¬cation as to the appropriate policy choice because there is no directionality to these cognitive errors.").

198 See Epstein, Behavioral Economics, supra note 1, at 121.

199 See supra Parts II.B–C.

200 See, e.g., HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 13–20 (2005).

201 See, e.g., id. at 77–91 (describing the complex fact-finding process for antitrust suits).

202 See Epstein, Behavioral Economics, supra note 1, at 128–29.

203 Id.

204 See id. ("One key difficulty with all prophylactic legislation is that it tends to ignore striking differences by treating persons, even within narrow socioeconomic groupings, as part of some homogeneous mass.").

meaningful cost-benefit analysis.[205] Epstein's argument is most powerful in this set of cases.[206]

In response to this argument, proponents of behavioral law and economics have studied an important category of regulatory mechanisms that are designed to help the less sophisticated consumer while minimizing the harm to the more sophisticated consumer.[207] First among these regulatory mechanisms is mandatory disclosure, which Epstein endorses.[208] I will discuss this mechanism in greater detail in the next Section. But there are other mechanisms that respond to the heterogeneity concern.[209]

One such mechanism is based on the optimal design of default rules. A proconsumer default would protect less sophisticated consumers, while imposing only a minimal cost on more sophisticated consumers who wish to opt out of the default.[210] Epstein rejects the default rules mechanism.[211] He argues that sellers "could vary the terms that they offer" even without such specially designed defaults.[212] Presumably Epstein means that sellers will offer different terms to different consumers, tailoring their contracts in response to consumer heterogeneity. But this is part of the problem. If some consumers are imperfectly informed and imperfectly rational and sellers design their contracts in response to mistakes made by these consumers, the resulting contracts might be welfare-reducing.[213] A carefully designed, proconsumer default can prevent this undesirable outcome. [214]

4. Summary

Epstein lists other valid concerns about legal intervention in consumer contracts. There is the political economy concern: the "proposed legislation [might be] hijacked as a result of political and factional risks."[215] There is the imperfect regulators concern: policymakers are not immune to "the cognitive and emotional errors that plague the rest of us."[216] Agreed on all counts. The impediments to welfare-enhancing regulation are numerous and substantial. These impediments caution against any regulation, not only against regulation motivated by consumer mistakes. Still, despite all the costs and risks and imperfections, the optimal level of regulation is not zero. Some regulation is welfare-enhancing.

The valid concerns that Epstein raises should affect the type of regulation considered. In particular, I agree with him that disclosure mandates should be tried before more obtrusive regulation is considered. I now turn to examine Epstein's position on mandatory disclosure.

B. Disclosure Regulation

Epstein supports existing disclosure mandates. In particular, Epstein supports the Truth in Lending Act (TILA) disclosures governing credit card transactions.[217] I begin by questioning the efficacy of TILA-type disclosure mandates that require disclosure of objective features of the product or service. I then turn to consider a different kind of disclosure mandates that require disclosure of individualized information about how the product or service will be used by the specific consumer.

1. Disclosing Product Features

Epstein argues that existing TILA disclosures sufficiently protect consumers in the credit card market.[218] Epstein's

205 Cass R. Sunstein & Richard H. Thaler, Libertarian Paternalism Is Not an Oxymoron, 70 U. CHI. L. REV. 1159, 1190 (2003) ("If feasible, a comparison of possible rules should be done using a form of cost-benefit analysis, one that pays serious attention to welfare effects. In many cases, however, such analyses will be both difficult and expensive.").

206 Epstein, Behavioral Economics, supra note 1, at 129 ("Who is confident enough to decide which error counts for more, and to spend public money on the strength of their speculations?").

207 See generally Colin Camerer et al., Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism," 151 U. PA. L. REV. 1211 (2003); Sunstein & Thaler, supra note 205.

208 See Epstein, Behavioral Economics, supra note 1, at 125, 128.

209 A regulatory mechanism, which is somewhat similar to mandatory disclosure, uses public information campaigns to undo consumer misperception. Epstein argues that public information campaigns are unnecessary, since"[a]nyone can enter the market on information. . . . And by putting the government into the fray, there is always the risk that debiasing will take theform of rebiasing, by overstating credit card risks to individuals who would dowell to have them." See Epstein, Behavioral Economics, supra note 1, at 131. While Epstein is right that anyone can enter the market for information, non-government entities might not have sufficient incentives or sufficient funding to mount effective information campaigns. The risk of rebiasing is also a validconcern—one that needs to be weighed against the benefits of debiasing. See generally Christine Jolls & Cass R. Sunstein, Debiasing Through Law (U. Chi.Law Sch. John M. Olin Law & Econ. Working Paper Series, Paper No. 225 (2dseries), 2005), available at http://ssrn.com/abstract=590929.

210 See Camerer et al., supra note 207, at 1224–30; Sunstein & Thaler, supra note 205, at 1162–67.

211 See Epstein, Behavioral Economics, supra note 1, at 131.

212 Id.

213 See supra Parts II–III.

214 Another way to address the heterogeneity concern is by screening forsophistication. For example, under Regulation D, the SEC proscribes all butthe very wealthy, who qualify as "accredited investors," from investing in hedge funds. See 17 C.F.R. § 230.501 (2007) (defining the term "accredited investor"). One reason for this regulation is that the rich have a greater tolerance for risk. Another reason is that wealth can serve as a proxy for sophistication, especially since money can buy expert advice. By the same token perhaps some consumers should be denied access to mortgage loans or credit cards. The financial risk imposed by these products is substantial. Evidence suggests that not all consumers are sufficiently informed and sufficiently rational to understand the risk and protect against it. See, e.g., Korobkin, supranote 46, at 1209–44. The problem, of course, is that accurate proxies forscreening consumers are hard to come by, and using wealth as a proxy might result in denial of valuable products and services to poor consumers.

215 See Epstein, Behavioral Economics, supra note 1, at 128.

216 Id.; see also Stephen J. Choi & A.C. Pritchard, Behavioral Economics and the SEC, 56 STAN. L. REV. 1, 5–6 (2003) ("[I]f everyone suffers from cognitive defects, doesn't that also include [the regulators]?").

217 See Epstein, Behavioral Economics, supra note 1, at 125, 128; see also Truth in Lending Act, 15 U.S.C. §§ 1601–1667 (2000).

218 See Epstein, Behavioral Economics, supra note 1, at 125, 128.

mainexample of TILA's success is Rossman v. Fleet Bank (R.I.) National Association.[219] Rossman concerned the application of TILA disclosure requirements with respect to the annual fee dimension of the credit card contract.[220] TILA requires salient disclosure of key dimensions of the credit card contract through the "Schumer Box."[221] Fleet, in its card solicitations, included the word "none" in the annual fee row of the box.[222] In the fine print, however, Fleet reserved broad powers to unilaterally change the terms of the contract, including the annual fee term.[223] Indeed, some six months after the card was issued to Rossman, Fleet, invoking this unilateral change provision, increased the annual fee from zero to $35.[224]

It would seem that, if anything, Rossman demonstrates the weakness of TILA disclosure requirements. How can TILA disclosures protect consumers, if each and every term that is saliently disclosed in the Schumer Box can be unilaterally changed by the issuer using a fine-print provision that need not be saliently disclosed? Epstein uses Rossman as proof that "the prohibition against false and misleading statements has somepop in the truth-in-lending context,"[225] because the Third Circuit, in Rossman, ruled that Fleet must maintain a zero annual fee for one year. The court held, in essence, that the "Annual Fee: None" disclosure overrides, for a limited period of time, the unilateral change provision.[226] This limited period of time was deemed to be one year, because the fee was an annual fee. But what about other contract dimensions disclosed in the Schumer Box? What about other fees, like late fees and overlimit fees, that are not annual fees? Can issuers change the magnitude of these fees immediately? Rossman does not provide an answer.

Moreover, why is an "Annual Fee: None" disclosure good for only one year? Epstein, in commending the Rossman ruling, argues that the "no annual fee for one year" interpretation "comport[s] with the reasonable expectations of both parties to the transaction."[227] But does it? Did Rossman expect, or reasonably should have expected, that an annual fee would be imposed after one year? And if so, did he expect the annual fee tobe $35? What if Fleet had imposed an annual fee of $350?Would that too have been expected? It is not at all clear that Rossman even knew about the provision that allows Fleet tochange any term of the contract unilaterally. The raison d'etre of the salient Schumer Box is the understanding that provisions buried in fine print, like the unilateral change provision, are not salient to consumers.[228]

The unilateral change provision, common in many credit card contracts, could render all TILA disclosures meaningless. Rossman prevents such an outcome in the case of annual fees. But, as argued above, even after Rossman a prudent consumers hould not place too much weight on TILA disclosures.

2. Disclosing Use Patterns

One conclusion that could be drawn from the preceding discussion is that the short comings of current TILA disclosures can be remedied by more comprehensive disclosure requirements. For example, the issuer should be required to disclose not only the magnitude of the fees charged, but also its reserved power to unilaterally change these fees. More comprehensive disclosure may reduce the incidence of consumer mistakes.[229] But even perfectly effective disclosure of all product attributes would not solve the problem. The reason is that in many cases consumers are not mistaken about product attributes; they are mistaken about their future use of the product.

Consider another important attribute of the credit cardcontract featured in the Schumer Box—the late fee. Assume that disclosure is perfectly effective and consumers understand not only the magnitude of the late fee, but also the precise meaning of "late" as defined in the contract's fine print.[230] Assume further that a unilateral change provision does not exist or that consumers are fully aware of the provision and its repercussions. All this information is completely useless if the consumer mistakenly believes that she will never be late.

219 280 F.3d 384 (3d Cir. 2002).

220 See id. at 387–89.

221 Id. at 387–88.

222 Id.

223 Id.

224 Id. at 388–89.

225 See Epstein, Behavioral Economics, supra note 1, at 126.

226 See Rossman, 280 F.3d at 394 ("[W]e believe a reasonable consumer would . . . be entitled to assume upon reading Fleet's solicitation that the issuer was committed to refraining from imposing an annual fee for at least oneyear. The statement 'no annual fee,' in other words, is fairly understood to contain an implied term of a year.").

227 See Epstein, Behavioral Economics, supra note 1, at 126.

228 Rossman's "no annual fee for one year" interpretation does not comport with Fleet's expectations either. Fleet did not think that it had to wait a year before imposing an annual fee. See Rossman, 280 F.3d at 388–89. Epsteinacknowledges that "the bank had planned from the outset to impose an annualfee before the end of the year." See Epstein, Behavioral Economics, supra note 1, at 126.

229 More comprehensive disclosure might not reduce the incidence of consumer mistakes, because of the risk of information overload. Imperfectly rational consumers can process only a limited amount of information. See, e.g.,Korobkin, supra note 46, at 1209–44. Therefore, more disclosure does not necessarily mean better-informed consumers. See U.S. GOV'T ACCOUNTABILITY OFFICE, supra note 120, at 46 (finding that credit card disclosures contain toomuch information); Richard Craswell, Taking Information Seriously: Misrepresentation and Nondisclosure in Contract Law and Elsewhere, 92 VA. L. REV. 565, 578 (2006) (arguing that provision of additional information dilutes the effectiveness of existing disclosures); Furletti, supra note 94, at 19 (concluding that it is not clear that requiring more details in regulatory disclosures would be useful for consumers).

230 See DRAUT & SILVA, supra note 94, at 35 (finding that most major issuers consider a payment late if it arrives after 2:00 p.m. on the due date).

TILA disclosures, especially disclosures in card solicitations, are supposed to help consumers make an informed choice among the many competing credit card products.[231] The efficient operation of the credit card market depends on these informed choices. A consumer who underestimates the likelihood of paying late and triggering a late fee will not make a truly informed choice, even if she has perfect information about the magnitude of the late fee and all related contract terms.

Informed choice assumes two distinct categories of information: information about product attributes and information about how the product will be used. The current paradigm in disclosure regulation focuses almost exclusively on the former category.[232] To be effective disclosure regulation must evolve beyond this paradigm. Use patterns should be added to the list of required disclosures. [233]

An immediate objection to this prescription is that sellers know their products; they do not know how consumers will use their products. Or, a more refined version: sellers have better information than consumers about the attributes of their product; they do not have better information than consumers about consumers' use patterns. This is surely true about some products. It is not true about all products.

In particular, it is not true about credit cards. Credit card issuers often have more information about how a consumer will use the credit card than the consumer herself.[234] First, issuers have detailed statistics about card use; this includes statistics about card use in the consumer's demographic and socioeconomic group.[235] Second, issuers have information on the individual consumer from the credit card application and from credit bureaus.[236] Third, and most importantly, since issuer soften maintain long-term relationships with consumers, they quickly obtain information about how this specific consumer uses this specific card.[237]

Consumers can access a great deal of this information.[238] But many consumers may not know or remember all the relevant information. Also, most consumers do not consolidate information from these different sources and lack sophisticated algorithms to analyze the information and predict future use based on this information. Issuers, on the other hand, consolidate all relevant information, store it in databases, update it regularly, and analyze it using sophisticated algorithms that can also predict future use.[239]

The TILA disclosure apparatus can and should be amended to include use patterns. For example, issuers can disclose the amount that an average consumer pays in late fees and, more importantly, how much the individual consumer has paid in late fees over the last year.

Reducing mistakes in product use can also help achieve informed choice. If a consumer chooses a credit card with a high overlimit fee, anticipating and preferring not to exceed the credit limit, disclosure of information on product use can help the consumer avoid inadvertently exceeding the credit limit. Specifically, Professor Ronald Mann proposed that issuers be required to disclose, through merchants at the point-of-sale, when a purchase would take the consumer over her credit limit, triggering an overlimit fee. Such a disclosure could help the consumer avoid unintentionally exceeding her credit limit, perhaps by switching to another card or to another payment system.[240]

Disclosure at the point-of-borrowing can be similarly effective.[241] For example, a consumer may choose a credit card with high-penalty interest rates anticipating and preferring never to trigger these high rates by paying late. To reduce the incidence of late payment, issuers can be required to disclose—on the monthly statement or on the payment stub itself—the increase in finance charges, based on the consumer's past and predicted future use, if she pays late.

Finally, a consumer might realize that she will borrow on her card but anticipates and prefers to quickly pay off theirbalance. Accordingly, this consumer might attribute little weight to interest rates (and to the minimum payment provision) in card choice. Individualized disclosure, again at the point-of-borrowing, can reduce procrastination in debt repayment. Specifically, issuers could add the following warning on the credit card bill:

231 See 15 U.S.C. § 1601(a) (2000) (discussing the purpose of the disclosures).

232 See MANN, supra note 94, at 131–32 (describing the current disclosures in credit card agreements).

233 There are examples of existing disclosure regulations that mandate use-pattern disclosures. See, e.g., 15 U.S.C. § 2056 (2000) (providing the Consumer Products Safety Commission with authority to promulgate "requirements that a consumer product be marked with or accompanied by clear and adequate warnings or instructions" in order to ensure products are used correctly). Still, in many consumer markets use-pattern disclosure is missing.And, where use-pattern disclosure is required, the use-pattern information disclosed is often insufficient. See Bar-Gill, Informing Consumers, supra note 22, at 46–53 (providing examples of such inefficiencies).

234 Cf. Thomas A. Durkin, Requirements and Prospects for a New Time to Payoff Disclosure for Open End Credit Under Truth in Lending 25 (Fed. Reserve Bd., Fin. and Econ. Discussion Series, Paper No. 2006-34, 2006), available at http://www.federalreserve.gov/pubs/feds/2006/200634/ ("Beyond the consumer surveys, specific information on consumers' payment patterns has heretofore been available only to the creditors who issue the cards.").

235 See id. at 40–41 (explaining a sample of credit card account information "assembled in 2001 from the portfolios of five of the fifteen largest credit card issuers").

236 See id.

237 See id. at 41 (detailing the consumer specific information retained by credit card issuers).

238 For instance, consumers can easily access their own credit information via credit reports on the Internet. See, e.g., Experian, Free Credit Report andCredit Score, http://www.experian.com/ (last visited Nov. 30, 2007). Additionally, consumers can access reports and statistical data on government and nongovernmental organizations' websites, as well as through the use of free research databases. See, e.g., Social Science Research Network, http://www.ssrn.com/ (last visited Nov. 30, 2007).

239 See Furletti, supra note 94, at 6–9 (discussing card issuers' use of collected information to adjust rates).

240 MANN, supra note 94, at 192 ("[A] point-of-sale reminder of the account balance might cause a consumer to respond differently. The consumer could switch to another payment device or discontinue the sales transaction entirely.").

241 See id. at 160 ("[T]he most obvious point to focus a disclosure would be at the point of borrowing.").

"Debt Increasing—at your current repayment rate, it will take you thirty-four years to repay your debt and you will end up paying 300% of the principal."[242]

Conclusion

Should the law account for mistakes that consumers make when contracting with sophisticated sellers? Epstein's answer is "no." He maintains that these mistakes are not systematic and not robust. He rejects the idea that sellers respond to these mistakes by adjusting the design of their products and pricing schemes. He denies any adverse welfare implications arising from consumer mistakes. And, finally, he argues that regulation, attempting to respond to consumer mistakes, would do more harm than good.

In this Article, I have questioned the validity of this position—a position according to which the law of consumer contracts should feel free to ignore consumer mistakes. I have provided evidence that systematic mistakes persist in the marketplace. I have argued that sellers respond strategically to these systematic mistakes by redesigning their products andprices. I reviewed evidence of the welfare costs incurred because of consumer mistakes and the market's response to these mistakes. And I have argued that welfare-enhancing regulation is feasible.

What I did not argue is as important as what I did argue. I did not argue that systematic mistakes persist in every market. I did not argue that all sellers respond strategically to consumer mistakes. I did not argue that substantial welfare costs are incurred in every consumer market. And I surely did not argue for broad, intrusive regulation of consumer contracts. The evidence that I provided was market specific. Regulation should only be considered where such specific evidence proves the existence, in the specific market, of a behavioral market failure that generates significant welfare costs. Indeed, my view is that any legal intervention must be based on a detailed, market-specific inquiry.

The regulatory response must be market-specific as well. Like Epstein, I believe that generally the starting point for regulation should be disclosure mandates—the mildest form of legal intervention, legal intervention that facilitates rather than obstructs the efficient operation of markets. Obviously, the type of disclosure required should be tailored to the specific product and to the specific market conditions. Moreover, and here is where I part company with Epstein, I do not believe that current disclosure requirements are sufficient. I advocate a reconceptualization of disclosure regulation that would recognize the importance of disclosing use patterns in addition to product attributes.

This Article developed a four-step framework for studying the behavioral economics of consumer contracts, starting from a descriptive account of consumer mistakes and market responses to these mistakes, continuing with a welfare analysis of market outcomes driven by consumer mistakes, and ending with the prescriptive question: should the law intervene and, if so, how? This framework provides a powerful tool for evaluating the need for regulation in consumer markets and for designing optimal regulation when needed

242 Bar-Gill, Seduction by Plastic, supra note 2, at 1419; see also MANN, supra note 94, at 160–61 (arguing for individual reports on debt repayment time and cost at the point of borrowing); Thomas A. Durkin, Credit Cards: Use and Consumer Attitudes, 1970–2000, 86 FED. RES. BULL. 623, 629 (2000) ("Many holders of bank-type cards in 2000 said that it would be helpful to include on their billing statement information about the length of time it would take to pay off the balance if only the minimum payment were made each month."). Such an individualized warning, tailored to the consumer's actual repayment record, should be more effective than the general warning thatCongress recently enacted as part of the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005. See Pub. L. No. 109-8, § 1301, 119 Stat. 23, 204–08 (2005). A more individualized version of § 1301 was soundly defeated by the issuers' lobby in the House of Representatives. See H.R. 1052, 107th Cong. (2001).